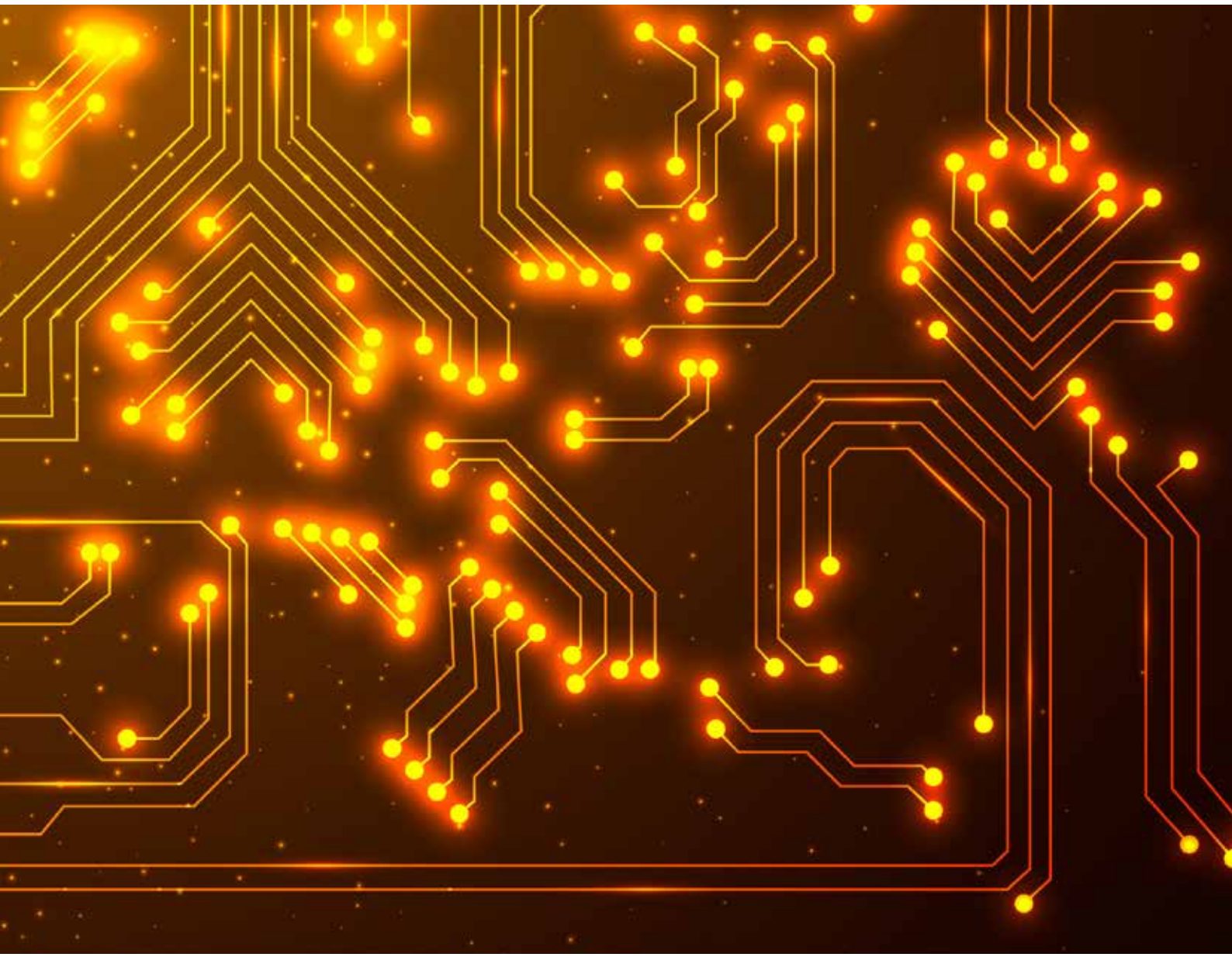
AWARENESS ON ENVIRONMENTAL HAZARDS OF E-WASTE – PHASE II

Report

A programme of the Ministry of Electronics and Information Technology

Implemented by: Manufacturers' Association for Information Technology



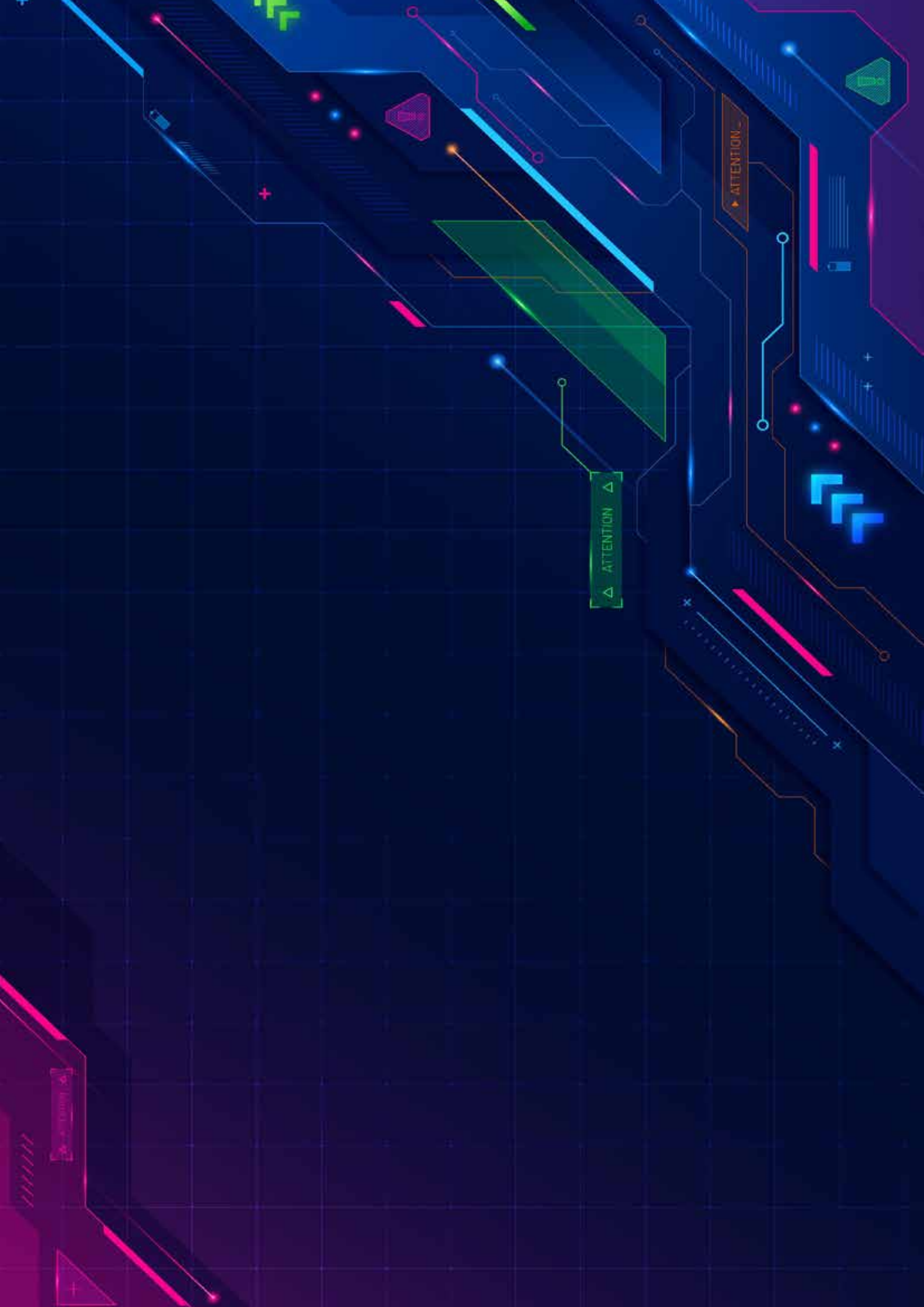
Ministry of Environment, Forest and Climate Change
Government of India

Ministry of Electronics and Information Technology
Government of India

MAIT

cpcb

Digital India
Power To Empower


ATTENTION
ATTENTION

Report

AWARENESS ON ENVIRONMENTAL HAZARDS OF E-WASTE – PHASE II

Ministry of Environment, Forest and Climate Change
Government of India

MAIT

cpcb

Ministry of Electronics and Information Technology
Government of India

Digital India
Power To Empower

CEREBRA
Total I.T. Solutions
An ISO 9001 : 2015 Company

CEAMA

SANSHODHAN
AN e-WASTE EXCHANGE
A Social Enterprise

About MAIT

Established in 1982, MAIT is the apex body representing India's ICT sector. Headquartered in New Delhi, with key affiliates across the globe MAIT offers a wide range of programs and services to its members, as well as the entire ICT industry in the country. MAIT works in multiple areas for public advocacy: Cloud & Analytics, IPR, Skill Development, Component Trading Hub, State IT/ ESDM Policies, Import/ Export Policy, GST, Procurement Reforms, e-Governance, SMEs, E-waste, Innovation & Start-up, Industry 4.0, IoT Devices, Smart Cities Solution and Standards, amongst others.

Our membership spans across manufacturers, system integrators, solution & service providers, e-Waste recyclers, testing labs, IT park developers, consulting organizations, companies in the areas of cloud and IoT, etc… MAIT, an influential and dynamic body which is committed to collect, process and disseminate information and knowledge pertains to development of the information industry, with government agencies and professional bodies.

Message

रविशंकर प्रसाद
RAVI SHANKAR PRASAD

सत्यमेव जयते

मंत्री
विधि एवं न्याय, संचार
एवं
इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी
भारत सरकार
MINISTER OF
LAW & JUSTICE, COMMUNICATIONS
AND
ELECTRONICS & INFORMATION, TECHNOLOGY
GOVERNMENT OF INDIA



Message

India is the fastest growing economy, wherein electronics play the key driver., The rapid innovation in technology has resulted in improved electronic products, besides faster obsolescence of old products, thereby creating unmanageable volume of electronic waste (e-waste). E-waste when dumped in landfill impacts the human and environmental health. Besides, recycling of e-waste in informal sector by unscientific means also creates significant damage.

I am happy that the Ministry of Electronics and Information Technology has taken the initiative to create awareness on the ill effect of e-waste recycling in informal sector and suggesting the best practices on alternative safe methods for environment friendly disposal of e-waste through industry associations. The programme, implemented across various cities of 31 identified states/UTs, has created awareness among the public through workshops/activities and cinema.

There is a responsibility and immense potential in augmenting e-waste recycling through various initiatives in the country. However, lots of ground has to be covered through awareness campaigns, skill development, capacity creation and introduction of indigenous technology, while adopting adequate safety measures in the country for the informal sector.

I appreciate the efforts of the Ministry, and all the industry associations including MAIT, NASSCOM, CEAMA, PHDCCI etc. and participants in this endeavour.

(Shri Ravi Shankar Prasad)

Digital India
Power To Empower

Electronics Niketan, 6 C.G.O. Complex, Lodhi Road, New Delhi-110003
Phone: 011-24369191, 24362626 FAX : 011-24366070

स्वच्छ भारत
एक कदम स्वच्छता की ओर

Message

संजय धोत्रे
SANJAY DHOTRE



D.O./ MoS (E&IT) /2019/14

राज्य मंत्री
इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी, संचार एवं
मानव संसाधन विकास मंत्रालय
भारत सरकार
Minister of State
Electronics & Information Technology,
Communications and
Human Resource Development
Government of India

27th November, 2019

Message

I am glad to know that MAIT has been selected as the lead implementation partner in the "Awareness Program on Environmental Hazards of Electronic Waste" under Digital India initiated by Ministry of Electronics & Information Technology (MeitY) in association with the Ministry of Environment, Forest and Climate Change (MoEFCC) along with industry associations towards creating awareness among the various stakeholders about the hazards of e-waste, its proper handling and to educate them about safe methods of disposing their e-waste.

I am also happy to note that MAIT has developed an on-line course on e-waste for the school children. Children, "GreenE" champions, as we may call them, are prime movers in sensitization and heralding change in social behaviour.

I hope the efforts of the MeitY and its lead implementation partner MAIT, the Industry Body for Electronic Hardware Manufacturing in India, in achieving the above are worth appreciating and I am sure that the vast pool of `e-waste aware' resources created during the programme will be utilized in sustaining the awareness campaigns across the country.

(SANJAY DHOTRE)

कार्यालय : इलेक्ट्रॉनिक्स निकेतन, 6, सी.जी.ओ. कॉम्प्लेक्स, नई दिल्ली–110003, दूरभाष : 011.24368757.58 फैक्स : 011.24360958
Office : Electronics Niketan , 6, C.G.O. Complex, New Delhi-110003, Tel. : 011-24368757-58, Fax : 011-24360958
Website : www.meity.gov.in

Message

सत्यमेव जयते

अजय साहनी, आई.ए.एस.
AJAY SAWHNEY, I.A.S.

सचिव
इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी मंत्रालय
भारत सरकार
Secretary
Ministry of Electronics &
Information Technology (MeitY)
Government of India

MESSAGE

Today, electronic waste poses a significant challenge for the society, due to fast discarding old devices with its improved version. In India, lack of awareness about ill effect of improper managing the end-of-life products, is also a major concern. An effective collection, scientific recycling and appropriate disposal of e-waste are important for protecting the health and environment. E-Waste Rule is exhaustive, where EPR clause as well as PRO has helped manufacturers in streamlining the waste into formal channel. Mass balancing of the material from PRO to recyclers is, however, not foolproof and leakage of material remains a big challenge.

Informal sector plays an important role in collection of e-waste since they are well networked; however, their processing of e-waste in unscientific manner needs to be restricted. Affordable processing infrastructure needs to be created for environment-friendly recycling in the country. Indigenous recycling technology could play an important role. Various labs in the country have developed affordable technologies for e-waste recycling. Efforts are needed to handhold with those R&D labs to reach the informal sector for upgrading their operations. Formalisation of informal sector is essential for streamlining the environment friendly recovery of precious metals from e-waste and thereby ensuring resource efficiency. Private sector should also join hands with Government for creating the infrastructure.

Electronic products are continuously changing, thus, continuous R&D efforts are required to develop recycling technology for these varied products, their components including printed circuit board, rare earth element from components, Li-ion battery, various categories of plastics etc. Government could prioritise the research areas for evolving affordable technology with dedicated funding. Research outcomes should be linked to end-users industries and start-ups with viable business plan. In this direction, this ministry has already initiated a project on creating the Centre of Excellence on E-Waste Recycling at C-MET, Hyderabad, with co-funding from State Government and industry.

I am glad that the outreach of the Awareness Programme, initiated by MeitY, has taken an impact to the grass-root level of the society and the programme is now being carried out by the industry houses. Local champions would be required to take it forward. The collection drive should be taken up by RWAs as well. I feel that the manufacturers should put their collective efforts to continue the programme in sustainable manner for long term effects. Stringent implementation of the E-waste Rule, creating awareness about the hazards associated to unscientific e-waste processing and creation of affordable infrastructures are important to address the present challenges.

(Ajay Sawhney)

Place: New Delhi
Dated: 13th December, 2019

इलेक्ट्रॉनिक्स निकेतन, 6, सी.जी.ओ. कॉम्प्लेक्स, नई दिल्ली–110003 / Electronics Niketan, 6, C.G.O. Complex, New Delhi-110003
Tel. : 011-24364041 • Fax : 24363134 • email : secretary@meity.gov.in

Message

सी.के.मिश्रा
C.K.Mishra

सचिव
भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
SECRETARY
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE



MESSAGE

The world is undergoing a digital revolution through rapid advancement and path-breaking work in Electronics and Information Technology. India is one of the leading electronics markets in the world particularly with the launch of the Digital India Program which is aimed at transforming the country into a knowledge-based economy and digitally empowered society. However, the tremendous growth and development in this sector has caused electrical and electronic waste (e-waste) to become one of the fastest growing waste streams in the world.

E-waste, if not recycled and disposed of in scientific and sound manner can cause major environmental pollution endangering human health. The Ministry of Environment, Forest and Climate Change has notified the E-waste (Management) Rules, 2016 in order to channelize e-waste into formal sector to ensure its safe handling and disposal. Recognizing that e-waste can be a valuable source of secondary resources such as precious and rare earth metals, the Government is in the process of developing recovery and recycling strategies to utilize the e-waste generated in the country. This would be a major step towards sustainable consumption and production enabling the transition of the Indian economy into a circular economy.

As consumers of electrical and electronic components it is our responsibility to dispose the e-waste generated by us in accordance to the E-waste (Management) Rules, 2016. There is a need to create awareness among the general public about the hazards of e-waste recycling by the unorganized sector and to educate them about environmentally sound methods of disposing such waste.

I am happy to note that the efforts of the electronics industry and the lead role played by MAIT in the e-waste awareness programme under Digital India. GreenE champions have been created along with the state pollution control boards, across the country which will be useful in spreading the awareness further.

We recognize the positive engagements of the electronics industry with the CPCB and SPCBs which will create the necessary momentum in strengthening the implementation of the E-waste (Management) Rules, 2016 for environmentally sound management of such waste.

[C. K. Mishra]

New Delhi
1st February, 2020

इंदिरा पर्यावरण भवन, जोर बाग रोड, नई दिल्ली-110 003 फोन : (011) 24695262, 24695265, फैक्स : (011) 24695270
INDIRA PARYAVARAN BHAWAN, JOR BAGH ROAD, NEW DELHI-110 003 Ph. : (011) 24695262, 2465265, Fax : (011) 24695270
E-mail : secy-moef@nic.in, Website : moef.gov.in

Message

अमिताभ कांत
Amitabh Kant
मुख्य कार्यकारी अधिकारी
Chief Executive Officer



भारत सरकार
नीति आयोग, संसद मार्ग,
नई दिल्ली-110 001
Government of India
NATIONAL INSTITUTION FOR TRANSFORMING INDIA
NITI Aayog, Parliament Street,
New Delhi-110001
Tel. : 23096576, 23096574 Fax : 23096575
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Message

The e-waste in India is estimated at about 18 lakh metric tonne. Industry bodies claim that the electronic waste would increase to about 50 lakh metric tonne in next three years. As per Government sources, not even 10 per cent of the e-waste is being collected.

At Niti Aayog, we are exploring the possibilities to address the issue of waste in general in the country. Not only electronic waste, but all kinds of garbage (solid waste) need a comprehensive intervention.

Municipalities have a key role to play in waste management. Municipalities have enough resources to not just ensure cleanliness but also segregate waste at source, in the areas under their jurisdiction.There is a need to use waste as a secondary source, collaborate with corporate, rethink business model, and create a digital platform where the entire supply chain can be traced.

Meanwhile, the Ministry of Electronics and Information Technology, MeitY, has initiated an E-waste Awareness programme under Digital India initiatives, along with industry associations, to create awareness among the public about the hazards of e-waste recycling by the unorganised sector, and to educate them about alternate methods of disposing of their e-waste. The programme stresses the need for adopting environmentally friendly e-waste recycling practices.

I wish all the best to MAIT.

(Amitabh Kant)

Place: New Delhi
Dated: 27-12-2019

Message

Arvind Kumar
Scientist 'G' &
GC(R&D-E and Cyber Security)
Tel: 011-24364754

भारत सरकार
Government of India
इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी मंत्रालय
Ministry of Electronics & Information Technology
इलेक्ट्रॉनिक्स निकेतन / Electronics Niketan
6, सी जी ओ कॉम्प्लेक्स / 6, C G O Complex
नई दिल्ली-110003 / New Delhi-110003
Website: www.meity.gov.in

दूरभाष / Tele:
अ॰ स॰ पत्र स॰
D.O.No. .....

दिनांक / Dated.....



Electronic waste (E-waste) possesses a serious challenge during past few decades in India due to environmental and health hazards associated in to it. The issue is going to bother us more in near future as increase in consumption of electronics products in every facet of life and their disposal are rampant. On the positive side, E-waste is very large resource of valuable and semi-valuable materials such as gold, copper, silver, platinum, palladium, rare earth elements, plastic etc. The question is then how to tap these resources to our benefit averting environmental and health hazards. Comprehensive solution is possible with implementable policy measures, providing infrastructures with affordable and market viable technology, adequate awareness among stakeholders to channelize materials to those infrastructures.

MoEF&CC is engaged in framing policy framework, E-waste Rule 2016, enforced under Environmental Protection Act 1986, is exhaustive to address the legislative issues adequately. Providing suitable e-waste recycling technology, MeitY has already developed and established demonstration plants of various capacities suitable for SMEs to large industries to set-up e-waste recycling plants. MeitY's initiative on creating awareness program on hazardous effect of e-waste has already impacted the outreach of the society significantly since 2015 in pan India basis. The programme was able to provide standard stakeholder specific content which are disseminated through various outreach workshops, training programs and social & mass media. However, reaching entire population in sustained manner, concerted efforts would be required, for which manufacturers have an important role to play. The adequate knowledge only can ensure materials flow in formal channel and inculcating mindset scientific recycling of e-waste to ensure resource efficiencies and in long term circular economy.

India has a unique advantage, having presence of well networked informal sector, who are the best collectors of end-of-life products. On the other hand, indigenous technologies are available in various labs in the country. Efforts would be needed to handhold these technologies with informal units so that they can be transformed into formal fold, which could be the game changer in the society.

Mission mode effort, like Swatch Bharat, would be needed to address the issue like lack of infrastructures in the country for processing e-waste in sustainable manner, where private public partnership should be encouraged. Aware citizen, stringent implementation of the law, affordable processing infrastructures is imperative to achieve safe environment, resources efficiency and circular economy.

(Arvind Kumar)

Place: New Delhi
Date: 16.12.2019

Digital India
Power To Empower

स्वच्छ भारत
एक कदम स्वच्छता की ओर

ELECTRONICS INDIA
Billion Needs Million Chips

Message

डॉ. वी.के. सारस्वत
Dr. V.K. Saraswat
सदस्य
Member
Tele : 23096566, 23096567
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सत्यमेव जयते

भारत सरकार
नीति आयोग, संसद मार्ग
नई दिल्ली–110 001
Government of India
NATIONAL INSTITUTION FOR TRANSFORMING INDIA
NITI Aayog, Parliament Street
New Delhi-110 001

MESSAGE

Ministry of Electronics and Information Technology (MeitY) has pioneered in initiating pan-India awareness programme on e-waste management since March 2015. Through this programme, MeitY has already reached one city each in 31 States and UTs since March 2015. The total beneficiaries of participants are nearly 13,27,420 from various stakeholder groups through 1923 workshops. I am happy to learn that, MeitY, in collaboration with MAIT, have concluded a Project on E-Waste Awareness among various stakeholders and a Report is being brought out, which is to be presented to the Hon'ble Prime Minister.

Electronics waste (e-waste) is a global challenge and India is also facing this problem. E-waste generation in the country was estimated to 1.8 million metric tonnes (MT) in 2016 and expected to grow to 5.2 million MT by 2020 with a compound annual growth rate (CAGR) of about 30%. E-Waste (Management) Rules 2016 has adequate provision for effective implementation of e-waste management in the country. The E-Waste Amendment Rules, 2018 has laid down commensurate penalties on those who contravene the relevant provisions. However, awareness among the stakeholders is the key challenge in implementation of the E-waste Rules in the country.

In spite of these initiatives, the recycling of E-waste in the country is in infancy stage. Unorganized sector is recycling the E-waste in the most hazardous way, deploying children. If all this has to improve, a robust policy and regulatory framework needs to be evolved. It is suggested that the responsibility should lie with the OEM or its distributors to collect the E-waste through some incentive schemes and disposing the same at the E-waste storage, distribution and re-cycling centres. Unorganized collection should also be encouraged to deposit the same at these centres. Multiple clusters of E-waste recycling centres, using modern techniques to extract precious metals and rare earths should be set up by Government through PPP model. Technology developed in academic institutions and CSIR Laboratories should be harnessed.

It is hoped Report being brought out will address all the above issues effectively and sensitize all the stakeholders about the criticality of the E-waste menace and the remedial measures called for. I wish the organizers of the Project all success in this endeavour.

(Dr. V.K. SARASWAT)

New Delhi
27.01.2020

स्वच्छ भारत
एक कदम स्वच्छता की ओर

Message

TAMILNADU POLLUTION CONTROL BOARD

From

Thiru A.V. Venkatachalam, I.F.S.,
Chairman,
Tamil Nadu Pollution Control Board,
76, Mount Salai, Guindy,
Chennai – 600 032.

To

Mr. George Paul
Chief Executive Officer
Manufactures Association for Information Technology (MAIT)
PHD House, 4th Floor,
Ramakrishna Dalmia Wing
4/2, Siri Institutional Area,
August Kranti Marg, New Delhi - 110016

Letter No.T5/F.25308/2018 Dated: 31.10.2019

Dear Sir,

Sub: TNPCB – e-waste Management – Awareness Programme conducted by MAIT – Letter of Appreciation – Reg.

Manufactures' Association for Information Technology (MAIT) has conducted two days programme on 'Awareness on Environmental Hazards of E-Waste' to the Trainer of Trainers on 24.10.2018 & 25.10.2018 in Tamil Nadu Pollution Control Board, Guindy, Chennai – 32. The programme was conducted by MAIT under the aegis of Ministry of Electronics and Information Technology (MeitY) and the Ministry of Environment, Forest & Climate Change (MoEF&CC). This programme was attended by the stake holders including e-waste refurbishes, dismantlers, recyclers, bulk consumers, informal sectors and NGOs and covered on the hazard of e-waste recycling by the unorganized sector, best practices in e-waste recycling, salient features of e-waste management rules etc. There ~~are~~ were 25 participants attended the programme and got benefited.

On behalf of TNPCB, I here with appreciate the MAIT for conducting the above programme in TNPCB, We look forward for similar programme in other cities of Tamil Nadu.

-Sd.-
Thiru A.V. Venkatachalam
Chairman

04/11/2019
For Chairman

Message

☎: General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
E-mail: ms.kspcb@gov.in FAX: 0471 – 2318134, 2318152 web: www.keralapcb.nic.in

KERALA STATE POLLUTION CONTROL BOARD
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
Pattom P.O., Thiruvananthapuram – 695 004
പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/E-WASTE/GEN/4/2018 Dated: 28.11.2019

CERTIFICATE OF APPRECIATION

Sub: E-waste Awareness Programme

Ref: 'Awareness of Health Hazards of E-waste' led by held from 29/10/2018 to 03/11/2018.

This certificate is issued to Manufacturer's Association of Information and Technology (MAIT) as a token of appreciation for conducting a training programme on "awareness of health hazards of e-waste" during the period 29/10/2018 to 03.11.2018 at Head Office, Kerala State Pollution Control Board,Thiruvananthapuram, Kerala District. KSPCB hopes continued support, if needed, in future awareness programmes.

CHAIRMAN

Message



The hazardous nature of e-waste is one of the rapidly growing environmental problems of the world. The adoption of electronic devices across industries and in society is creating an increasing volume of electronics waste which needs to be managed scientifically and systematically.

Thus, it is very critical that we take steps to create awareness and knowledge in society on the hazards of e-Waste, how to deal with e-Waste that one generates, and the rules applicable by an individual or an industry.

On behalf of the Electronics Industry, we thank MEITY,Ministry of Electronics and Information Technology for this opportunity given to MAIT of undertaking the task of creating Awareness on the Environmental Hazards of E-Waste & its safe handling and disposal.

MAIT is happy to share with all of you that this project has reached out to more than 1.3 million among six stakeholder communities. Further the Project has developed an informative well-structured online course for school children of classes Seven to Nine.

MAIT thanks the Ministry of Human Resource & Development and NCERT for their support in this endeavor and the uploading of this course on the DIKSHA online platform for access by the school teachers and the students.

We thank the Industry for their support and our fellow Industry association CEAMA, as well as Industry partners RLG India, Karo Sambhav, Sanshodhan E-Waste Exchange, and Cerebra Computers for their participation without which the project would have not succeeded.

Regards

George Paul
Chief Executive Officer
MAIT

Message

ELECTRONIC INDUSTRIES ASSOCIATION OF INDIA

(Formerly ELCINA ELECTRONIC INDUSTRIES ASSOCIATION OF INDIA)

ELCINA House, 422 Okhla Industrial Estate, Phase III, New Delhi 110 020, India (CIN: U74899DL1967NPL015218)
Tel: +91-11-41615985, 26928053, 26924597 Fax: +91-11-26923440 E-mail: info@elcina.com www.elcina.com



Top-notch electronic products have become an essential element of our lives and the demand for them is increasing due to the advances in technology and cheaper Internet access. Electronics is now the world's fastest growing sector and plays a prominent role in all other verticals too.

The component manufacturing in India should aim to grow by at least 25-30 per cent to reach a turnover of US$ 40 billion by 2025. This is required to establish a sustainable electronics eco-system. One of the challenges the Indian electronic components manufacturing sector faces is e-waste.

We are happy to note that the "Awareness Program on Environmental Hazards of Electronic Waste" being undertaken by Ministry of Electronics & Information Technology (MeitY) in association with the Ministry of Environment, Forest & Climate Change has been able to spread awareness country-wide across various stake holders and that the Industry has participated in the same in a big way.

The industry needs to find better solutions for how the products will be disposed of when they reach the end of their lives. This industry needs advanced e-waste recycling facilities which do not pose a threat to both workers and to the environment. The industry should also work towards finding solutions via product design – free of toxic content – lead free!

With best wishes,

Amrit Manwani
President

Dated: 28th April 2020

Message

ELCINA 50 years of dedicated service

NABET GOLD Grade Accreditation

ELECTRONIC INDUSTRIES ASSOCIATION OF INDIA

(Formerly ELCINA ELECTRONIC INDUSTRIES ASSOCIATION OF INDIA)

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Reuse, Recovery and Recycling of Electronic Waste (E-Waste) is the need of the hour. The development of the global economy should not be at the cost of unjustified and unregulated wasteful exploitation of our natural resources. The sustainable character of our development can only be ensured by adopting environment friendly processes at all stages.

The waste from electrical and electronic equipment (WEEE) is a major concern for the world and it has become imperative to develop technology and establish infrastructure to minimise generation of E-Waste and its safe disposal. Electronics has become an essential input for all our sectors and facets of human life thereby demand for the same has been soaring. This has made electronics one of the fastest growing sectors in the world.

I am delighted to learn about this initiative taken up by Ministry of Electronics & IT and MAIT's active role supporting the same for creating awareness about the hazards of E-Waste and its safe disposal. There is a need for all countries and societies to cooperate in this initiative and develop an international standard to enable us to take a unanimous approach to addressing this challenge and ensuring sustainable development.

Demand for Electronic products and components in India has been growing rapidly exceeding US$ 130 Bn and this has accelerated in recent years with rapid growth in demand of Mobiles, Auto Electronics, Lighting and more. With the wide variety of materials used in manufacturing electronics including chemicals, E-Waste has become a growing issue with an adverse impact on health and environment.

We complement MAIT for this initiative supporting this "Awareness Program on Environmental Hazards of Electronic Waste" being undertaken by Ministry of Electronics & Information Technology (MeitY) in association with the Ministry of Environment, Forest & Climate Change. We believe this will have a salutary effect in engaging various stake holders and encourage Industry to take suitable steps ensuring safe treatment and disposal of E-Waste.

With best wishes.

Rajoo Goel
Secretary General

Dated: 30th April 2020

Promoting Manufacturing & Business Expansion in Electronics & IT/Hardware Since 1967

Message



Awareness Program

Electronic waste is the fastest growing waste stream that is highly complex to manage on account of highly toxic constituents. India currently generates approximately 2 million metric tonnes and significantly large portion is being handled in the informal sector thus aggravating the environmental concerns associated with the issue. The government notified a revised E waste rules 2016 with an aim to improve the current state of e waste management in the country, however two years down the road regulatory compliance still poses a serious challenge. One of the reasons for this gap in compliance is public awareness on issues connected with E waste management.

The Ministry of Electronics in association with MOEFCC have initiated measures to plug this gap and identified MAIT for taking on this challenge. Under this program MAIT has already conducted a series of such awareness events covering 20 states and would now cover an additional nine states. This exercise is expected to raise public awareness on environmental concerns associated with E waste and trigger behavioral change thus altering the ground situation. MAIT possesses required knowledge and technical capacity to handle this challenge and I wish them great success in changing the e waste landscape in the country.

Satish Sinha
Associate Director
Toxics Link

Message



I would like to take the opportunity to congratulate MAIT for successfully executing the E-Waste Awareness Project awarded by the Ministry of Electronics & IT and the Ministry of Environment, Forests & Climate Change.
The program is indeed a novel initiative to create awareness across various levels of society, to adopt responsible measures and promote sustainable electronics that takes into consideration the paramount importance of addressing the compelling issue of environment protection through E-Waste Management
The awareness created by the project among targeted stakeholders across 30 states and Union Territories in an outreach to 12 Lakh stakeholders is indeed commendable and will go a long way to promote environment sustainability.

I am happy that MAIT is coming out with a Coffee Table Book along with the report, that will help in creating an atmosphere of amplifying the environment protection message the report seeks to give and sensitize the community on importance of protecting the environment through their routine.

The Electronics Sector Skills Council of India (ESSCI), which is focussed on establishing an effective and efficient ecosystem for developing and imparting of outcome oriented skills for the Electronics Systems, Design and Manufacturing Industry (ESDM), would be happy to support the initiative going forward.

The awareness exercise has given us a deep insight into E-waste management and ESSCI would be happy to undertake the initiative of effective capacity building for all skilling requirements around E-Waste management lice cycle in a structured manner and ensure a robust skill development program on E-Waste management in the country.

I wish MAIT all the best in their future endeavours.

N K Mohapatra
CEO,
Electronics Sector Skills Council of India

Message



E-waste treatment and management remains a huge challenge in India with almost a twenty-five per cent annual growth! However, as a developing nation like ours, we should leverage on the situation through our efforts by more productively reusing and recycling for catering to the domestic demand at a cheaper cost and thus generating employment for our youth too! It could be a successful case of circular economy model and thus would make considerable contribution to the process of sustainable development!

Professor Manipadma Datta
VC
Teri School of Advanced Studies

Message



Rapidly growing volumes of E-waste in country like India not only is a challenge but also an opportunity for Indian Recyclers to leapfrog and develop and adopt technologies which set up benchmark for improved resource efficiency in the sector thus providing secondary raw material for use. I congratulate MEITY and MAIT for spearheading this effort.

Dr Suneel Pandey, Director
Environment and Waste Management Division
The Energy and Resources Institute

Message



Congratulations to MOEF&CC and MeitY for continuing to build awareness among key stakeholders on the perils related to e-waste. The humungous challenge that India faces in managing e-waste will require communities to step up and actively participate in disposing waste in a responsible manner. At an individual level, consumers should check the website of all electronic products that they own, or call the helpline, to ascertain the drop-off points or collection mechanism that the company has set up for end-of-life items, and use only the company's channel to ensure that the discarded product is recycled in an environmentally sound manner. Consumers must put environment before self and not seek monetary compensation for the discarded product; this small sacrifice is a noble contribution towards protecting the environment that future generations of our country will inhabit.

Glad that the programme went off well and that CEAMA was able to contribute to it.

Shri Rohit Kumar Singh
Secretary General
CEAMA

Foreword

MAIT is delighted to present the report on the recently-concluded Project on E-Waste Awareness.

The challenges emanating from E-waste are well estimated and documented. That flags the need for an effective ecosystem to address the problem which impacts, among other things, environment and climate change.

The Project conducted by MAIT under the aegis of the Ministry of Electronics & IT and the Ministry of Environment, Forests & Climate Change takes stock of the extent of the problem, steps needed for addressing the problems, particularly by creating E-waste awareness among the stakeholders, identifies skills and technologies that are needed to treat the waste and to convert them to locally-useful products.

The Project was taken by MAIT in response to the clarion call made by the Hon'ble Prime Minister, Shri Narendra Modi, on the importance of creating awareness on the responsible management of E-waste.

Eight stakeholders' communities were covered in the project, namely, schools, colleges, RWAs, bulk consumers, dealers, refurbishers, informal sector and manufacturers to evolve the optimal awareness strategy to contain the growing menace of the E-waste.

The programme stresses the need for adopting environment-friendly E-waste recycling practices. The report catalogues the best practices for e-waste recycling available globally. The objective is to dovetail containment of the E-waste with job creation by way of recycling to produce locally-viable and relevant products.

Successful and feasible E-waste handling for the informal sector is a major highlight of the study. The informal sector, due to its very nature, can create more E-waste due to higher penetration of digital products. The comprehensive MAIT project covered 30 States and Union Territories, and reached out to 1.3 million stakeholders.

E-waste recycling should be central to India's development process and form an integral part of a responsible governance system. There are various initiatives that have been taken in this direction. Yet, a lot of ground has to be covered through awareness campaigns, skill development, capacity building and introduction of indigenous technologies while adopting adequate safety measures for recycling.

I wish all the best to all stakeholders in their endeavours in this area.

Nitin Kunkolienker
President
MAIT

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ABBREVIATIONS

Introduction

The Ministry of Electronics and Information Technology (MeitY) in 2015 had initiated an awareness programme on electronic waste (E-waste). The programme was conceptualized in response to the clarion call made by the Hon'ble Prime Minister, Shri Narendra Modi, for spreading outreach and advocacy on E-waste management in India. The 5-year programme was named "Awareness on Environmental Hazards of E-waste" and was targeted to reach a large number of stakeholders across the country, appraise the challenges posed due to indiscriminate disposal of the E-waste and its management by the informal sector. The project has been implemented in two phases and the first phase was completed in August 2017.



OVERVIEW

In the Phase I of the project, 10 cities were identified in 10 different states across the country. Along with zeroing in on the cities, key stakeholders were identified based on the application of the E-waste Management and Handling Rules, 2011. These included groups responsible for managing E-waste, but did not fall within the ambit of the rules. The stakeholders identified were:



Importantly, the government and the public sector undertakings were identified as separate stakeholders since they are being the largest bulk consumers in the country. A separate work package was designed to enhance awareness among these sectors.

The scope of work in Phase I covered the following:

1. Develop curricula for training of trainers for different stakeholders identified under the project

2. Develop a website and mobile application for the project
3. Segregate identity of the project by developing insignia, logo, mascot, posters, leaflets, banners, etc
4. Conduct workshops and other activities with the stakeholders.
5. Inventorization of E-waste in 10 states covered under Phase I to arrive at the actual quantum of E-waste generated
6. Conduct training of trainers and with identified ambassadors who would then spread the message of E-waste and create awareness



7. Conduct advertisement campaigns on E-waste using cinema halls in 10 cities to enhance awareness on E-waste disposal and its proper management.

The 10 Cities Identified in Phase I of the Project were:

01 Bhubaneshwar
02 Guwahati
03 Imphal
04 Indore
05 Kolkata
06 Moradabad
07 Panjim
08 Patna
09 Puducherry
10 Ranchi

Major Outcomes

The Phase I of the project managed to create an awareness among 1.3 million stakeholders in ten identified cities. Apart from these, more than 2,000 government officials were trained by the National Institute of Electronics and Information Technology (NIELIT) across these 10 States. The inventory of 10 States was also shared with the Central Pollution Control Board (CPCB). Advertisement campaigns on E-waste were also shown in more than 815 cinema halls across these 10 cities, which resulted in mass-scale awareness being created on the environmental impacts of E-waste.

The project in Phase I was completed in August 2017 and its final reports were submitted in October 2017.





Snapshot of activities conducted in Phase-I (Chart 1)

Phase II

E-WASTE AWARENESS PROGRAMME

Genesis



In January 2018, the Ministry of Electronics and Information Technology (MeitY) advertised the request for proposal for Phase II. In Phase II, the project was extended to 20 more states across the country. The project design of Phase II looked specifically at the need to make this programme sustainable once the support from the Government was withdrawn. The overarching principle was to draw the support of the private sector to make the programme sustainable. Many factors contributed to this, including the advent of the E-waste (Management) Rules, 2016, the institutionalization of Extended Producers Responsibility (EPR) and the enhanced compliance from the State Pollution Control Boards (SPCBs) and the Central Pollution Control Board (CPCB).

In the second phase of the programme, MeitY had initiated an **"Awareness Programme on Environmental Hazards of Electronic Waste, Phase-II"** under the aegis of Software Technology Parks of India (STPI). In this phase, 20 more States/ UTs , namely, Andhra Pradesh, Andaman and Nicobar Island, Chhatisgarh, Daman and Diu, Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Lakshadweep, Maharashtra, Meghalaya, Punjab, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura and Uttarakhand were covered. The programme stressed the need for adopting environment-friendly E-waste recycling best practices.

Objectives

The lessons learnt from Phase I of the project were used to design Phase II. The project design incorporated the tenets of sustainability in them by incorporating work packages which would look at creating capacities at the state level for creating awareness and advocacy even after the project was completed. The seven work packages which were designed were aimed at maximizing outreach, creating capacities and also ensuring that the same was monitored and evaluated by an independent agency.

The programme was, more or less, extension of the Phase 1 focussing on the same set of stakeholders, such as schools, colleges, RWAs and localities, bulk consumers, dealers, refurbishes, informal sector, manufactures and government employees to reduce the adverse impact on environment and health due to the polluting technologies for recycling of E-waste, used in the unorganized sector. The **"Awareness**

Programme on Environmental Hazards of Electronic Waste through Digital India Initiative" is divided into following stages:

- **Content Development**
- **Awareness**
- **Inventory**

Work Packages

The seven work packages that were designed and their scope of work is as follows:

- **Work Package I:** This work package had two constituents. The first one focussed on the development of content for the SWAYAM platform which was operated by the Ministry of Human Resource Development, Government of India. The platform was extensively used for higher education and runs different kinds of courses, both credit and non-credit, at the schools and university level for students. The online platform was also mobile enabled so that learning was being made accessible for different kinds of hardware.

  The second constituent of the package focussed on Social Media and PR components. It was important that the activities on advocacy and outreach conducted at the stakeholder level were widely publicized. The PR component had been used to specifically get news published in the leading and local newspapers across all cities and states which were part of Phase II of the project. The social media component used platforms like Facebook and Twitter to spread the message on activities and workshops which were conducted so that a large audience could access the benefits of the programme and the project the way they were outlined.

- **Work Package II:** During the first phase of the project, the content developed included: website, mobile application, training of trainers manuals, videos, radio jingles, posters, banners, wall paintings, etc. In Phase II of the project, the content in the above mediums were upgraded to incorporate the changes that had occurred in the information during this period.

- **Work Package III:** This package was designed with an intent to create resources and build capacities at the local level so that they could be used in the future for conducting capacity building exercises with support from private partners and the state departments. Training of trainers were being conducted in the identified 20 cities so that trainers could be developed for different stakeholders, including, schools, colleges, RWAs, informal sector, refurbishers and bulk consumers. The names of these trainers were put up on the project website (http://greene.gov.in/) which would allow different sets of stakeholders, including the State Pollution Control Boards (SPCBs), bulk consumers, PROs, Producers, etc to look up and employ them for conducting on-ground activities and workshops with their respective stakeholders, locally. At least, 10 such personnel were to be trained for each set of stakeholders in each of the cities to be able to work and find themselves an avenue for employment.

- **Work Package IV:** This work package focussed on creating awareness with stakeholders through conducting activities and workshops at the local level in 20 cities across the country. Follow-up activities were also to be conducted in 10 cities where the programme had been conducted in

Phase I of the project. The key stakeholders involved with whom the activities were conducted are mentioned earlier in this report.

- **Work Package V:** This work package focussed on providing inventory number for E-waste generation across the 20 states identified in Phase II. These numbers were shared with the Central Pollution Control Board (CPCB) and the Ministry of Environment, Forests and Climate Change (MoEFCC) to enable them to take action in accordance with the E-waste (Management) Rules, 2016.

- **Work Package VI:** This work package focussed on creating awareness through advertisement campaigns on the environmental hazards of E-waste in cinema halls, as had been done in Phase I. These campaigns were featured right after the National Anthem and before commencing the movies in cinema halls across 20 cities.

- **Work Package VII:** The package was designed to conduct monitoring and evaluation of all packages stated above by an independent agency so that the impact of the project could be measured.

The project design also looked at seeking proposals from agencies that would be willing to participate in the project by bringing in financial contribution. The specific agencies targeted included Producers and PROs who were supposed to create awareness under the mandate of Extended Producers Responsibility of the E-waste (Management) Rules, 2016.

The project design ensured that the key stakeholders in Phase I were kept the same under Phase II as well.

The cities that were identified in the 20 States/Union Territories were:

1. Delhi	**2. Jaipur**	**3. Ahmedabad**	**4. Mumbai**
5. Bengaluru	**6. Thiruvananthapuram**	**7. Chennai**	**8. Lakshadweep**
9. Port Blair	**10. Hyderabad**	**11. Vijayawada**	**12. Raipur**
13. Gangtok	**14. Agartala**	**15. Shillong**	**16. Shimla**
17. Gurgaon	**18. Dehradun**	**19. Daman & Diu**	**20. Mohali**

Involvement of NIELIT

The National Institute of Electronics and Information Technology (NIELIT), an autonomous scientific society under the administrative control of the Ministry of Electronics and Information Technology (MeitY), was also awarded a project to ensure that public-sector bulk consumers and government officials were trained on E-waste management so that all possible stakeholders were connected through the programme in a major part of the country in Phase II.

Targeted Deliverables

As per published Request for Proposal for Phase-II, following were the targeted deliverables:

No.	Work Package (WP)	Remarks
1	Training of Trainers	- Min. 40 attendees per event - Max. 5 events/ State - 5-Day event
2	Awareness activities and/or workshop for stakeholder/s in Phase II cities	- Min. Attendees 3,000 per State - Merchandise to be distributed - TA/DA for trainers to be provided
3	Inventory of E-waste generation in Phase II States	- In selected States
4	E-waste Awareness Campaigns through Cinemas in Phase II States	- Screening of E-waste awareness advertisement campaigns in selected States
5	Capacity Building of Government officials	- Workshops for Government officials in selected States
6	Feedback and Monitoring of Projects	- For WP2 and WP5

MAIT's Role

MAIT applied for 4 different Work Packages of the project in Phase II. These were:

- **Work Package I: SWAYAM content development and Social media & PR**
- **Work Package II: Upgradation of existing content**
- **Work Package III: Training of trainers in 20 cities and creation of GreenE champions**
- **Work Package IV: Activities and workshops as part of creating awareness in 20 cities listed above**

MAIT collaborated closely with other agencies, including RLG India, Karo Sambhav, Cerebra Computers, Sanshodhan e-waste exchange and CEAMA to develop and enhance the scale that the programme could achieve. This was also done to achieve the targets set by the Ministry during Phase II in terms of the industry contribution that had to be generated from the private sector, which was mandated to be at least 20 per cent of the overall size of the project.

MAIT provides leadership in terms of the development of content and its dissemination for the creation of GreenE champions across 20 cities in the country. These champions were to be used for the execution of the project by partners so that large-scale awareness could be carried out at the local level at the least possible cost. The target was to create an outreach with 600,000 stakeholders across different categories in the cities mentioned above.

MAIT to collect and maintain data in a manner such that it could be shared with the agency which was supposed to do monitoring and evaluation of the project. This was done through creation of a Project Management Unit within MAIT, which was spearheaded by the CEO. Regular updates were provided to the Ministry in the Expert Review Committee (ERC) meetings which were called to understand and review the progress of the project.

MAIT to use its expertise in the area of content development so as to upgrade the content that had been

developed in Phase I of the project. The content development for the SWAYAM platform was to follow similar methods as used in the development of Training of Trainers manuals in Phase I.

Achievements in Phase II

Work Package I

The WP1 (Preparation of suitable content from existing content) was implemented under MeitY's "Awareness Programme on Environmental Hazards of E-Waste Phase-II" by Manufacturers' Association for Information Technology (MAIT).

Objectives of the Work Package:

- **To develop the content for the SWAYAM platform, operated by the Ministry of Human Resource Development, Government of India**
- **To create the content for online non-credit courses for standards 7-9 in schools and training of teachers for Swayam Platform**
- **To create the content for informal sector to formalize them**
- **To create social media platform for more outreach of the project**

Deliverables of the Work Package:

- **Interviews with celebrities, ministers and key officials from the Government of India, which were used to create outreach through social media platforms of the project, including Facebook, Twitter, etc. The content was also uploaded on www.greene.gov.in and be readily available for viewing and downloading for all the stakeholders.**
- **Content was created for online courses for standards 7-9 in schools and training of teachers for Swayam Platform**
- **The processes used by informal sector and their formalization was specially displayed in the content developed for the SWAYAM platform**

S. No.	Targeted deliverables	Achieved deliverables
A.	**Development of the content for SWAYAM Platform**	
1.	Creating the content for online courses for standards 7-9 in schools	The content is developed in 4 quadrants, which include: Quadrant 1: 4 animated films, 1 Handbook for teachers Quadrant 2: 5 Blocks (PDF and Video), 5 E-learning scripts Quadrant 3: Discussion forum (Personnel responsible for supporting in feedback and query) Quadrant 4: 5 Assessments with assessment keys

2.	Develop the content for informal sector to formalize by going through the process	1 block (Block 4) is dedicated for the content for informal sector to formalize by going through the process
B.	**Dissemination of Programme Activities and Content across Social Media**	
	Updation of the activities and workshops through the awareness programme	WhatsApp group was created, all the activities in the standard format were shared in the group
	Interviews with celebrities, key officials and Ministers from the Government of India (15 Nos.)	Messages from Ministers and key officials from the Government of India and Experts (16 Nos.)
	Upgradation of content of manuals	Manuals for 9 stakeholders were updated
	Collateral revision for GreenE website	Website Banner and other collaterals were developed

Impact of the Work Package:

This Work Package had two constituents. The first one focussed on the development of content for the SWAYAM platform which is operated by the Ministry of Human Resource Development, Government of India. The platform is extensively used for higher education and conducts different kinds of courses, both credit and non-credit, at the schools and university level for students. The online platform is also mobile enabled so that learning can be made accessible for different kinds of hardware.

The second constituent of the package focussed on Social Media and PR components. It was important that the activities on advocacy and outreach conducted at the stakeholder level were widely publicized. The PR component had been used to specifically get news published in the leading and local newspapers across all the cities and states which were part of Phase II of the project. The social media component used platforms like Facebook and Twitter to spread the message on activities and workshops which were conducted so that a large audience could access the benefits of the programme and the project the way they were outlined.

Work Package II

The WP2 (Upgradation of the content for GreenE website) was implemented under MeitY's "Awareness Programme on Environmental Hazards of eWaste Phase-II" by the Manufacturers' Association for Information Technology (MAIT).

Objectives of the Work Package:

- **To upgrade the content developed under the E-waste Awareness Programme of Phase I**
- **To develop the content for conducting interviews of celebrities, Ministers and key officials from the Government of India**
- **To develop the standardized content (Presentations and social media content) for awareness activities, social media and print media**

Deliverables of the Work Package:

a) Upgradation of the content:
   - Updates in the manuals, videos, audios and creatives for all stakeholders
   - Presentations used for ToT under WP3 and ToT conducted for capacity development of Govt. employees, carried out by NIELIT, to be updated.

b) Development of the additional content through interviews of key officials from the Government of India:
   - 9 interviews were conducted for the project as per suggested names

c) Development of standardised content (Presentations and social media content):
   - Awareness activities details were provided for all stakeholders across cities
   - Updated calendars for social media were shared
   - Print media inputs on the subject matter were updated in social media

d) All the content was provided by MAIT to MeitY and updated by NIC.

S. No.	Targeted deliverables	Achieved deliverables
C.	**Upgradation of the content**	
1.	Upgradation of the content developed under the E-waste Awareness Programme of Phase I Presentation used for ToT under WP3 and ToT conducted for capacity development of Government employees, carried out by NIELIT	Manuals, videos, audios and creatives for all stakeholders, as per the requirement and additional information were added regarding E-waste (Management) Rules, 2016 Updated the presentations used for ToT under WP3 and ToT conducted for capacity development of Government employees, carried out by NIELIT
2.	Development of the additional content through interviews of key officials of of Government of India	The content was created to conduct the interviews of key officials of Government of India. The content consisted of questionnaire, formats for taking the notes and messages, strategy to approach key officials. 9 interviews were successfully achieved.
D.	**Development of standardized content (Presentations and social media content):**	
	• **Awareness activities details** • **Updated calendars for social media** • **Print media inputs on the subject matter for project website and GreenE social media pages**	• **Awareness activities calendar was shared and updated calendar was shared from time to time** • **Print media inputs were shared and updated from time to time** • **All the content was shared with MeitY to update on the project website and GreenE social media pages**
E.	All the content to be shared with MeitY	All the content was provided by MAIT to MeitY and updated on project website and GreenE social media pages by NIC

Impact of the Work Package:

The collaterals that have been developed for the Project are now under creative commons and are free to be used for stakeholders across the cities and States where E-waste awareness programmes are being conducted. Organizations including PROs and producers, have been using these collaterals for the same.

The content that was developed in Phase I of the Project follows trusted methods of pedagogy and has been designed by experts in their respective areas. The "Harvard Case Method" has been used to enhance learning through the use of real-life case studies. These case studies have been picked up from conversations that can take place between stakeholders who have been covered under the Rules. Furthermore, content has been created for the informal sector as well, which, although not mentioned as a stakeholder under the Rules, is one of the largest stakeholders when it comes to management of E-waste. The case studies have been used in Phase I of the project to conduct activities like street plays which have left an impact on youth and other stakeholders. PROs and Producers have also been able to use these case studies in their awareness programmes which have been conducted during the course of programme.

The website of the Project has been a major source of awareness. With more than 6 million visits till date, it has helped to provide access to all resources which have been developed in this Work Package, to different sets of stakeholders. With 11 manuals, multiple posters, films, radio jingles, wall paintings, other creatives and reading material including research, it is a powerhouse of information which can equip stakeholders with knowledge on E-waste and also help them to be sensitized to the subject and spread knowledge accordingly.

The E-waste (Management) Rules, 2016 went through a revision in 2018. In Phase II of the project, the content of the website and other collaterals available on the same were updated to reflect the changes in the Rules.

The website was also adopted by the Government of India and its URL changed from www.greene.net.in to www.greene.gov.in. Changes were also made in the mobile application of the project which is available on both Play Store and App Store.

- **Social Media coverage:**
  - Dedicated website created: www.greene.gov.in
  - GreenE mascot was created
  - Dedicated YouTube account: IamGreene
  - Dedicated Twitter account: @follow_GreenE
  - Dedicated Facebook account: mygreene
  - Dedicated mobile app: GREENE
- **Print Media coverage:**
  - No. of cities covered through Print Media: 29
  - No. of newspapers covered: 243
  - Total circulation of newspapers: 1,38,27,168
  - Total Ad Value: Rs.61,33,850
  - Total PR Value: Rs.1,84,01,550



Work Package III

The WP3 (Training of Trainers) was implemented under the MeitY's "Awareness Programme on Environmental Hazards of eWaste Phase-II" by the Manufacturers' Association for Information Technology.

Objectives of the Work Package:

- **To conduct ToTs in 20 selected States (1 city in each State) for 8 selected stakeholders**
- **To create around 1,600 Green-E champions across different states and cities**
- **To conduct ToTs in 10 selected cities of Phase I based on the financial contribution received from States and industries.**

Deliverables of the Work Package:

- **ToTs in 20 selected states (1 city in each state) for 8 selected stakeholders**
- **Around 1,600 Green-E champions across different States and cities would be generated.**
- **The minimum number of participants for each stakeholder session is estimated at 20, depending upon the size of the city.**
- **ToTs in 10 selected cities of Phase I would be based on the financial contribution received from States and industries.**

S. No.	Targeted deliverables	Achieved deliverables
1.	ToTs in 20 selected States (1 city in each State) for 8 selected stakeholders	ToT was conducted in all the selected States (20 States) and 1 additional State through industry participation
2.	Create around 1,600 Green-E champions across different States and cities	A total number of 1,231 of trainers participated and at the end of the course they were certified as "GreenE Champions" and were presented with a certificate each. 8 Master Trainers, who were identified basis their subject-matter expertise, were also trained and used their experience in conducting workshops on E-waste.
3.	ToTs in 10 selected cities of Phase I based on the financial contribution received from States and industries	Many of the trainings were conducted through industry participation

Impact of the Work Package:

Across the 21 cities where these Training of Trainers programmes were conducted, a total number of 1,231 of trainers participated and at the end of the course they were certified as "GreenE Champions" and were presented with a certificate each.

A list of these GreenE champions with their contact details has been shared across the Industry and Regulators at the State level and is also available for free download on the project website. The same is presented in Annexure III.

For each of these trainings that were conducted, a report was prepared and shared with the Project Management Unit at MeitY. A copy of the report is presented in Annexure III.

Training for Dealers and Manufacturers over Webinar

In order to ensure that all stakeholders were covered under the Work Package, it was important that trainings were conducted with Dealers and Producers as well. However, Dealers and Producers were incapacitated within their daily rigour to physically attend the two-day training programmes and qualify to be pronounced as GreenE champions. To ensure that knowledge on the subject of E-waste management is disseminated to these stakeholders too, MAIT proposed that webinars be conducted wherein the participants could join from their respective workplaces using computer systems and laptops. For this, a course specific to each of the stakeholder was designed in the form of power point slides which allowed the participants to come and learn about E-waste but in a virtual environment.

The course content is presented in Annexure III. The course was conducted by Mr Gautam Mehra. Three webinar sessions were conducted to maximize the outreach.

Type of Activity	Type of Stakeholder	Total Outreach
Webinar	Dealers	89
Training	Dealers	271
Training	Producers	650

The webinar session allowed the Dealers and Value-added retailers to understand the environmental impacts of E-waste and their responsibilities within the Rules to manage the same. The sessions were interactive and questions which were posed by the attendees were answered by the moderator.

Similarly, a session was organized for Producers, where partcipation was less but led to an interactive discussion.

Work Package IV

The WP IV **(Awareness Workshops in 20 States)** was implemented under MeitY's "Awareness Programme on Environmental Hazards of eWaste Phase-II" by the Manufacturers' Association for Information Technology (MAIT).

Objectives of the Work package:

- **To conduct Awareness workshops and activities in 20 selected States (1 city in each State) for 8 selected stakeholders**
- **To engage the participants in E-waste awareness programme and create awareness in each selected State**
- **To conduct awareness workshops and activities in 10 selected cities of Phase I for sustainability of the project**

Deliverables of the Work Package:

- **Awareness workshops and activities in 20 selected States (1 city in each State) for 8 selected stakeholders**
- **Around 6,00,000 participants would be targeted in 20 States (30,000 participants in each State)**
- **Awareness workshops and activities in 10 selected cities of Phase would also be carried out based on the financial contribution received from States and industries.**

S. No.	Targeted deliverables	Achieved deliverables
1.	Awareness workshops and activities in 20 selected States (1 city in each State) for 8 selected stakeholders	• Schools outreach: >400 • Colleges outreach: >60 • RWAs outreach: >180 • Bulk Consumers: >120 • Dealers: >30 • Informal Sector: >60 • Government Departments covered: 1,750 • Awareness activities conducted: 1,923 • Cinema Halls covered: 2,813 • Manufacturers and Dealers covered through webinar: 90 • Central Government Departments/ Ministries supported: 3
2.	Around 6,00,000 participants would be targeted in 20 States (30,000 participants in each State).	• Awareness programme in 21 States • Cities: 40 • Participants: >13,00,000
3.	Awareness workshops and activities in 10 selected cities of Phase I would also be carried out based on the financial contribution received from States and industries.	The total number of achieved participants among all the selected stakeholders is >90,000.

Impact of the Work Package:

The awareness activities covered 31 States in total, of which 21 new States of Phase II were covered for awareness activities, while the activities were also conducted in 10 selected States of Phase I to create the sustainability of the project. The project has been supported by the MoEFCC and CPCB. Coming together of multiple Ministries and Government departments' added value and brought ideas. Niti Aayog and EAC to Hon'ble Prime Minister took notice and are taking steps to enhance awareness and capacity-building efforts. Industries have also participated to contribute to this project and started to conduct awareness programmes in various cities with logo support of MeitY, GreenE and Digital India in all the selected States. There was willingness of Producers and PROs to participate as they saw value in the programmes. Stakeholders' response and large hits on the Website bear testimony of the reach created through the project.

Work Package V

The WP V **(Inventory of E-waste generation)** was implemented under MeitY's "Awareness Programme on Environmental Hazards of eWaste Phase-II".

Objectives of the Work Package:

To conduct assessment of the quantum or inventory of E-waste in all the States and UTs, except for 10 States, namely Madhya Pradesh, Uttar Pradesh, Jharkhand, Orissa, Goa, Bihar, Puducherry, West Bengal, Assam and Manipur. (Inventory study in these states has already been undertaken during Phase I).

Deliverables of the Work Package:

Inventory of E-waste generation

S. No.	Targeted deliverables	Achieved deliverables
1.	Inventory of E-waste generation	• **To avoid discrepancy in data, a standard methodology for assessing inventory study was decided by CPCB.** • **MeitY had shared the methodology adopted for each State and for national level.**

In the Phase I of the Project, there was huge variation in data in 10 selected States. Therefore, the data was not published in the public domain. To avoid discrepancy in the data, a standard methodology for assessing E-waste inventory study was decided by ERC constituted by MeitY. ERC had recommended Carnegie Mellon Method to be adopted for Indian conditions with the following modifications/ parameters:

- **Inventory should be conducted at the national level instead of State level.**
- **Regional hot-spots/ hubs for E-waste generation should be identified. At least, 100 such hot-spots to be identified. The State inventory could be arrived from the outcome of those 100 hot-spots.**
- **Consumer behaviour and socioeconomic category should be considered while gathering the data.**
- **Informal sector and refurbished electronics goods should also be considered, since both have a very high impact in the Indian scenario compared to Europe/ West.**
- **The data must be validated with the SPCB/ State IT departments.**

Impact of the Work Package:

Standard methodology for national level and State level inventory was also prepared and forwarded to MoEF&CC and CPCB for implementation.

Work Package VI

The WP VI **(E-waste Mass Awareness Campaign through Cinemas)** was implemented under MeitY's "Awareness Programme on Environmental Hazards of eWaste Phase-II" by the PHD Chamber of Commerce and Industry (PHDCCI).

Objectives of the Work Package:

To create awareness on environmental hazards of E-waste through screening of E-waste awareness film in cinema halls.

Deliverables of the Work Package:

- **Fine-tuning of the film for screening in the selected theatres.**
- **Dubbing (Voiceover, editing and time setting) in 8 languages (Telugu, Punjabi, Gujarati, Marathi, Dogri/ Kashmiri, Kannada, Malyalam and Tamil)**
- **Screening the film in 1975 theatres in various cities of 19 States (Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Maharashtra, Meghalaya, Nagaland, Punjab, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura and Uttarakhand) and 5 UTs (Andaman & Nicobar Islands, Chandigarh, Dadar & Nagar Haveli, Daman & Diu and Delhi).**
- **Awareness film in State theatres/ cinema halls based on their popularity, i.e., local language or Hindi will be broadcasted.**

S. No.	Targeted deliverables	Achieved deliverables
1.	Fine-tuning of the film for screening in the selected theatres	The film was updated as per E-waste (Management) Rules, 2016 and relevant information was added.
2.	Dubbing (Voiceover, editing and time setting) in 8 languages (Telugu, Punjabi, Gujarati, Marathi, Dogri / Kashmiri, Kannada, Malyalam and Tamil)	The English version of the film was dubbed in 8 more suggested languages.
3.	Screening the film in 1975 theatres in various cities of 19 States (Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Maharashtra, Meghalaya, Nagaland, Punjab, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura and Uttarakhand) and 5 UTs (Andaman & Nicobar Islands, Chandigarh, Dadar & Nagar Haveli, Daman & Diu and Delhi).	The screening of the film was done in 1998 cinema halls in various cities of the selected States and UTs.
	Awareness film in State theatres/ cinema halls based on their popularity i.e. local language or Hindi will be be broadcasted.	The film was broadcasted in any language, depending upon the State where the message is to be screened.

Impact of the Work Package:

The awareness film was broadcasted in 1998 cinema halls across the country in Hindi and regional languages, which enhanced the outreach of the awareness programme. The project also collected the feedback from the viewers and found that around 72% of the respondents were of the view that the Ad

film had a Strong/Good impact through its message. 26% respondents mentioned that the Ad film had an Average impact with 6% respondents thinking that the Ad had less and No Impact, respectively.

Work Package VII

The WP VII (Monitoring and Evaluation) was implemented under MeitY's "Awareness Programme on Environmental Hazards of eWaste Phase-II" by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH GIZ on a pro-bono basis.

The objective of the Work Package was:

To monitor and evaluate the E-waste awareness programme.

Deliverables of the Work Package:

Monitoring and evaluation of the Work Packages WP1, WP2, WP3, WP4, WP6 and Capacity Building of Government employees on E-waste through 1-/3-Day Training Programmes.

Outcomes of each component of E-waste awareness programme:

WP1:

- **Online course was under development stage.**
- **The long-term impact (KAP of students) could not have been evaluated at this point, due to lack of data and the limited timeframe of the M&E activities.**

WP2:

- **Updated content available on GreenE website, with enhanced suitability. Successfully implemented PR campaigns for advertising the revised content.**
- **Enhanced visibility and outreach of fresh content were evident.**
- **Increased number of visitors on GreenE website, followers on Facebook page and a large number of views of campaign videos on YouTube.**

WP3:

- **Enhanced capacities of trainers across various cities and States.**
- **Positive feedback and valuable remarks of trainers and trainees (via qualitative interviews and evaluation forms).**
- **Website of the GreenE initiative along with website of MoEF&CC serve as a multiplication hub for awareness creation.**

WP4:

- **825 engagements (workshops) had been conducted, reaching a total of 1,002,802 participants.**
- **Positive feedback received on the course content and material by students**
- **Positive change of KAP towards E-waste management found amongst stakeholder group of students (via surveys)**

WP5:

- Discussion on methodology for inventory is with CPCB and MoEF&CC. Hence, it was outside the purview of this analysis.
- E-waste inventory assessment methodology needed further improvement.
- Creation of inventory via SPCBs.

WP6:

- Movie screenings in 2,813 halls, with a total reach of 201,162,090 visitors.
- Improved KAP of attendants of screenings (70% of the respondents stated that the Ad film had a strong and good impact).
- Capacity building of government employees on "e-waste" through 1-/3-Day training programmes:
- Successful implementation of capacity building activities.
- Positive evaluation of trainings and enhanced capacities of participants by the analysis of questionnaires.
- Three paid trainings successfully organized.

Impact of the Work Package:

- 31 States covered
- Content outreach amongst school children to be created through the SWAYAM platform of the Ministry of Human Resource Development – Content dissemination
- University Grants Commission (UGC) showed interest to incorporate the content in the course curriculum.
- GreenE website link is provided in Swachh Bharat Mission (https://swachhbharatmission.gov.in/sbmcms/index.htm) and Ministry of Environment, Forests & Climate Change (http://moef.gov.in/).
- West Bengal Pollution Control Board and Telangana State Pollution Control Board, in collaboration with NIELIT, Kolkata, have taken an initiative for E-waste awareness training for their staff.
- Industries started to conduct awareness programmes in various cities with the logo support of MeitY, GreenE and Digital India.
- Participation of industries and the programme has been supported by the MoEFCC.
- National-level inventorization of E-waste has been proposed to MoEF&CC and CPCB to ensure the correct estimation of generation and the standard methodology is also submitted to them to include in the guidelines.
- Creating capacities at the local level to create resources at the State level. Created resources as long-term ambassadors – GreenE Champions.
- Outreach enhancement through cinema halls
- Training for government officials enhanced the capacities for implementation of the rules and better management of E-waste at their premises.

An overview on multi-layer promotions



Impact of the Awareness Programme

The Awareness Programme has been a huge success, considering that the Ministry of Electronics and Information Technology had hoped to reach out to close to 600,000 stakeholders by the end of Phase II, whereas the outreach achieved is more than twice this figure. The success of the programme has been the overwhelming industry participation in terms of outreach that has been created through the support of different industry partners, including PROs, Recyclers and industry associations.

Formalizing the Informal Sector - Creating the Demand

The outreach created has also helped to create a demand with the Informal actors across the country to formalize. The need of the hour is to build their capacities further so that they are able to continue their livelihoods with due consideration to their own safety as well as that of the environment. Informal actors across the cities where the programme was conducted have expressed willingness to access technology which has been developed by the Ministry of Electronics and Information Technology. The resultant impact of the awareness that has been created is the increase in the number of registered Dismantlers and Recyclers with the CPCB.

The number has increased from 148 in 2016 when the programme was initiated to 312 at the end of 2019 when the activities and outreach tasks were completed in Phase II. Of this increase in the number of Dismantlers and Recyclers, more than 100 are from the Informal Sector. The outreach and advocacy with the Informal Sector has helped them to understand the environmental and health impact of their work. They have now started to formalize themselves and demand that the Government try and help them out with the following:

- **Access to land**
- **Access to finance**
- **Access to technology which will help them to do their work within the ambit of the rules in an environmentally sound manner**

Creating Ambassadors for driving the change

The attitude of stakeholders towards E-waste has also seen changes over the course of the project. Children and youth have turned out to be ambassadors for this change as they have taken upon themselves to drive the agenda for environmentally sound management of E-waste.

The programme has also allowed a large number of stakeholders, who are covered under the rules but were unaware of these responsibilities, to enhance their capacities. Collection points have been established and PROs have been able to channelize E-waste from these collection points to authorized Recyclers. PROs have also closely worked with the Informal Sector to formalize them by setting up collection centres where the material that they collect can be stored in an environmentally sound manner. This has also allowed to build the capacities of the Informal actors so that they are able to document and inventorize the E-waste that is collected and then channelized across to Recyclers for environmentally sound disposal.

Sustainability through adoption by Industry

Karo Sambhav and RLG India, the largest PROs in the country, have come forward and have started using the mascot of the programme, GreenE, in their Awareness programmes which they have been conducting on behalf of their Producers. This has enhanced the outreach of the programme as well as that of the content that has been developed where more than 6 million hits have been received on the project website in the last year alone. Manuals developed for trainings have been downloaded by multiple people and posters and films developed for the programme are being showcased in awareness drives.

Enhanced demand for compliance - Building Capacities

Regulators in states have also developed auditing mechanisms so that compliance monitoring can take place on a regular basis. The West Bengal Pollution Control Board has started auditing Collection centres, Dismantlers and Recyclers so that they are able to ensure that E-waste management takes place in an environmentally sound manner. The National Institute of Electronics and Information Technology, an arm of the Ministry of Electronics and Information Technology, has been at the forefront of developing tools which can assist the compliance authorities in the proper implementation of the E-waste (Management) Rules, 2016.

Start of a Movement - Driving Change

The interest which has been generated by the programme across stakeholders has been provided a fillip by industry which has come forward to support and sustainably run the programme, going forward. PROs have been provided the support of the Digital India logo as well as the GreenE mascot. This is helping to create a cascading effect upon stakeholders by reiterating the message and thereby creating ambassadors for a long-term change. Over the year 2019-20, the PROs have accessed the advocacy and outreach material that has been created under the aegis of the project and have used the Digital India and GreenE logo to propagate the message on environmental hazards of E-waste. These PROs are also reporting the data on outreach and advocacy that they have been creating with the Ministry of Electronics and Information Technology and the same is uploaded on the project website . The constant outreach that is being created under the awareness programmes which are part of the Extended Producers Responsibility of the Producers has ensured that the website is constantly updated and is being visited by users who would like to know about the subject of Electronic Waste.

Creating the potential for employment

The E-waste sector in India has the potential to employ lakhs of people in the Informal Sector and provide them livelihoods which are safe and have dignity as well. Industry participation has also allowed to bring the focus on the urgent need for development of infrastructure for recycling and dismantling in the country so that environmentally sound disposal of E-waste can take place.

MAIT has been at the forefront of advocacy and outreach on E-waste and has played a stellar role even before the advent of E-waste regulation in the country. Programmes like “I am Green”, an awareness programme on E-waste, have allowed the platform to be created for the industry to play a significant role in matters which affect public health and environment while also ensuring the resource efficiency and circular economy principles are slowly embedded in business. These can significantly provide long-term benefits to the economy as well as sustainability for both business and nature.



DIKSHA

As part of **MeitY's Project on E-Waste Awareness** which was awarded to MAIT for implementation, MAIT developed the course content on e-Waste Awareness for students of class 7 to 9. This course content has been uploaded on Diksha portal by NCERT for online learning.








SelfAssess
Quiz on e-waste
ICT
Class 7
+ 2
Medium: English
NCERT
Resource
Responsibilities under E-waste rules
ICT
Class 7
+ 2
Medium: English
NCERT


SelfAssess
Quiz on rules governing e-waste
ICT
Class 7
+ 2
Medium: English
NCERT
SelfAssess
Quiz of constituents of e-waste
ICT
Class 7
+ 2
Medium: English
NCERT
Resource
Effects of e-waste
ICT
Class 7
+ 2
Medium: English
NCERT

ANNEXURES



Annexure-I

Work Package I

The target age group for this programme is students studying 7th-9thstandards in school, and the selection is made by considering the receptiveness of young minds, their potential to absorb and assimilate. The programme highlights the content on the environmental hazards of E-waste and inculcate a habit for its environmentally sound management. This content will also be used as a tool to train teachers in schools so that they are able to inculcate the knowledge amongst students. Furthermore, the content will aid the informal sector to formalize by going through the process which will be displayed in the content developed for the SWAYAM platform.

MAIT has now created audio and video content based on the quadrant approach of the SWAYAM platform. The content created by MAIT has been sourced from the existing content which was developed in Phase I of the project. This includes the manuals which give a detailed account of the learning and capacity building which is required at the level of each stakeholder. Similar learning and development content has been developed in Phase II which will be useful to these stakeholders either in terms of learning how to manage E-waste or being able to guide the informal sector towards formalization and the formalities that need to be completed thereof.

The E-waste course has been designed for the SWAYAM platform with the objective to enhance the understanding on E-waste amongst students. This non-credit course of two months duration will increase knowledge of the students on the generation of E-waste, the hazardous substances in E-waste, present status of generation and disposal of E-waste in India, regulation on management and handling of E-waste in India, role of students as consumers and efforts like setting up of E-waste collection centres that can be undertaken by them and the environmental and health hazards of E-waste. In addition, students will be introduced to concepts of secondary resources, sustainable consumption, LOHAS (Lifestyles of Health and Sustainability) and carbon footprint. The course also



gives an exposure to the E-waste (Management) Rules, 2016, its genesis and development from the E-waste (Management and Handling) Rules, 2011 along with the need for such rules in the country.

The course has adopted the quadrant approach outlined in the SWAYAM guidelines to develop four types of content:

1) **E-tutorial**
2) **E-content**
3) **Discussion Forum and**
4) **Assessment**

The E-tutorial is for teachers and students alike who would like to develop an understanding on the subject of E-waste management. This will help them to gather knowledge so that they are able to train students between the 7th and 9th standards in schools on E-waste management and better practices to be adopted.

The E-content features videos which will be used to teach students at the classroom level. It also features presentation and films with voice overs which can help develop engagement with students on the subject of E-waste.

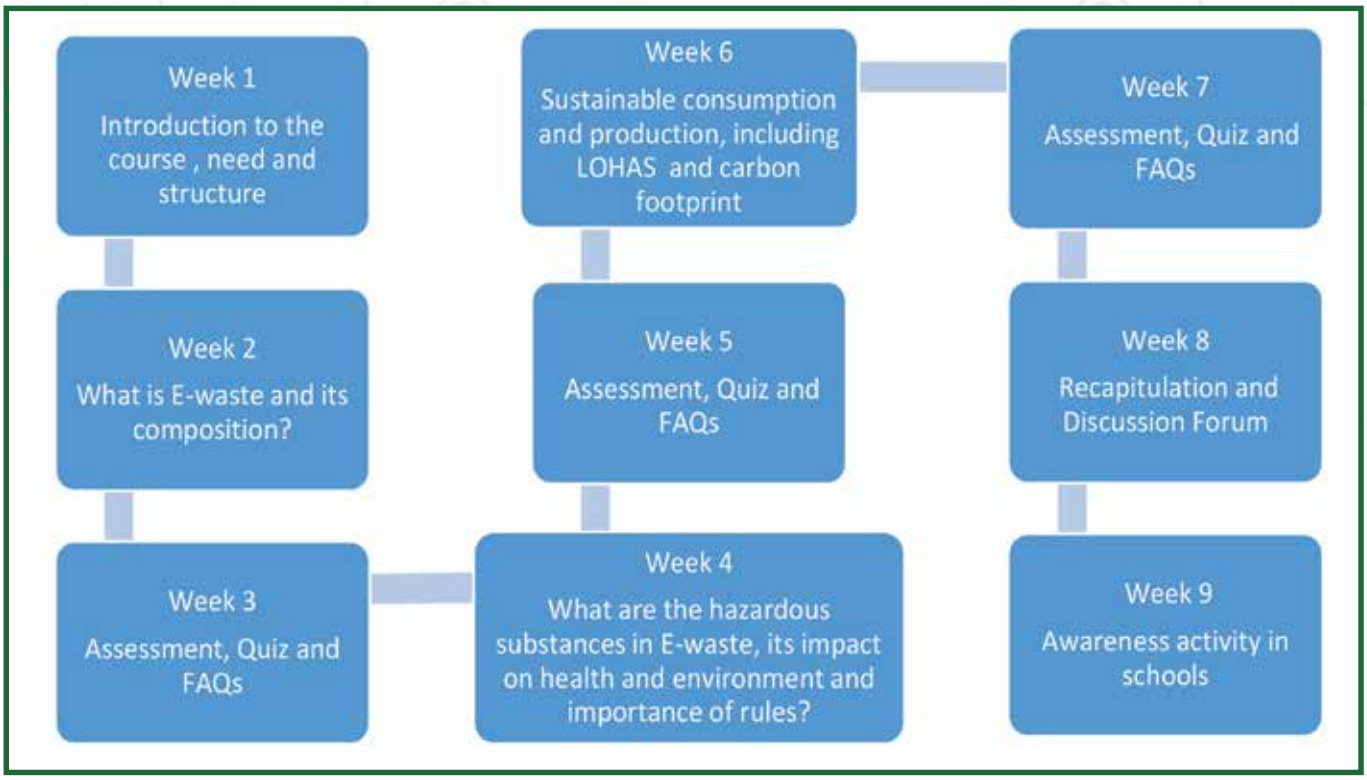
The Discussion Forum has been designed as an information exchange platform where teachers and students can get in touch with experts to be able to ask questions and clear doubts, whenever required. This service will be provided during the first year of the course coming up on the SWAYAM platform.

The assessments are meant to be conducted at the end of each session which is taught and focusses on the relevant topics. Children can also read about case studies from the content available on the website and conduct activities, including setting up of collection centres in their schools and collecting E-waste and disposing it of in an environmentally sound manner.

The Quadrant Approach

Quadrant 1 Introductory module	Quadrant 2 E-Content	Quadrant 3 Discussion Forum	Quadrant 4 Ongoing Assessment
•What is E-waste and its composition? •What are the hazardous substances in E-waste, its impact on health and environment and the importance of rules? • What is sustainable consumption and production, including the concepts of LOHAS and carbon footprints? •Recapitulation	•E-waste Awareness manual for school students •References of books , websites, articles and publications •Case studies	•An email id will be provided to address the queries	•Assessment, Quiz and FAQs •Assessment, Quiz and FAQs •Assessment, Quiz and FAQs •Awareness activity in schools

Design Flow for the E-waste Course Curriculum



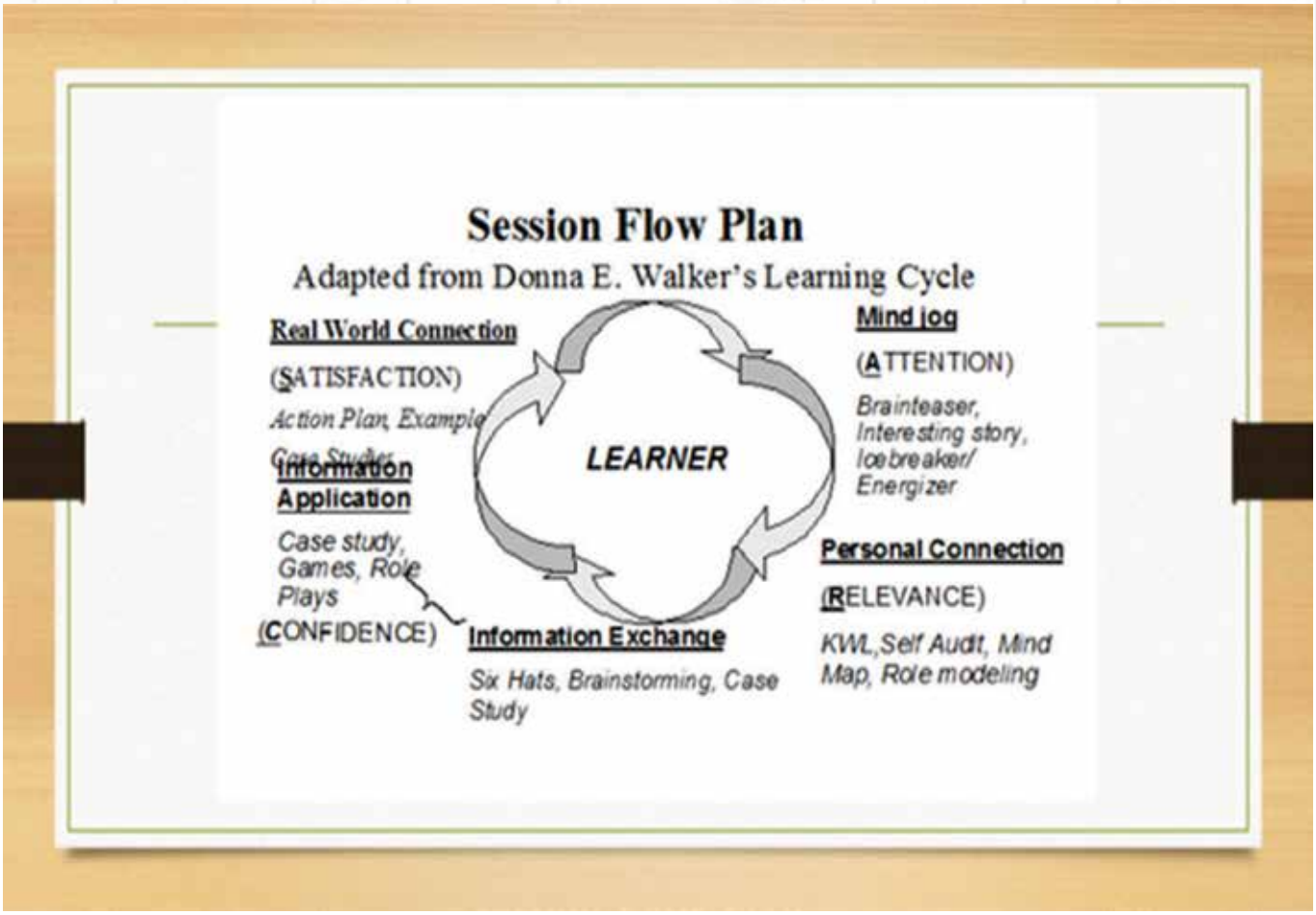
Methodology

The sessions are activity based and use audio/ video presentations and short animation films to engage the students. In addition, the course uses the case study method that involves presenting a case to students where they will associate themselves with a role as they read through the situation and identify the problem. The next step is to perform the necessary analysis to determine the cause and possible solutions to the problem. The course ends with a final action E-waste project by the students in their schools to showcase the learnings from the course that will build the awareness of other students and teachers.

Donna E. Walker's "Learning Cycle"

This course has used Donna E. Walker's "Learning Cycle" to design each of the sessions. Each step of the Walker's Cycle serves a specific purpose, thus ensuring that the learning effectiveness is maximized.

The course uses different methods to achieve the change objective, including the Donna E. Walker's "Learning Cycle" that has five steps such as: Mind Jog, Personal Connection, Information Exchange, Information Application and Real-World Connection. This method takes into account that different learners have different learning abilities and at least one of the steps of the cycle would be able to transfer the learning effectively. The details of the five steps of the Walker's Cycle are explained below:



Mind Jog: The idea in this is to gain attention of the participants and make them comfortable with each other. It also helps to start the session on a positive note and arouse curiosity about the issue the session relates to. Mind jogs need to be short and crisp, and lead into the topic.

Personal Connection: This step helps to bring out the "what's in it for me" connection and prepares the participants for absorbing new knowledge. The exercises used at this stage try to make the session relevant to learner's real world "as is".

Information Exchange: The focus of this stage is to build new knowledge, facilitate exchange of information between and among the participants and deduce some key concepts through discussion and presentation to supplement participants' information. In this stage, the facilitators allow the participants to come up with concepts instead of downloading it for them and allow extensive peer discussion and learning. The facilitators here need to concentrate on refining and building on participants' inputs.

Information Application: The purpose of this stage is to build confidence in the participants about new knowledge, support them to apply the key concepts learnt to realistic scenarios (thereby reconfirming the learnings of the previous stages), and to facilitate a multi-perspective view. This stage also seeks to add fresh insights into the

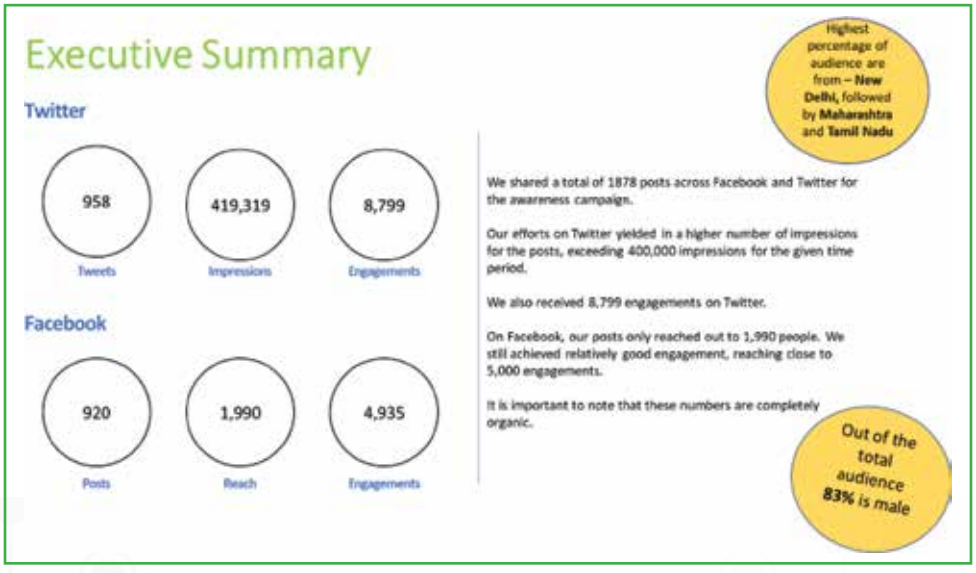
concepts and apply the skills to real-life situations without taking real risks. For this curriculum, we have tried to ensure that the activities are drawn from the participants' background and experiences and enough complexity has been built into it in order to get a variety of responses.

Real-World Connection: The activities in this stage seek to elicit personal learnings and satisfy the participants that new knowledge will lead to a better performance. The design of this stage enables participants to connect personal learnings to learnings from the session, as the facilitator helps them set up clear performance-oriented goals, which are also specific, measurable and realistic. This way both the facilitators and the participants get a chance to informally assess how effective the participants' learnings have been.

Social Media Reports

Social media and PR are new-age tools which are used to accentuate the outreach to be created across campaigns so as to enhance their efficacy and reach. In Phase II, these tools were used to send out messages of activities being conducted, the outreach being created and messages which were being given out by participants and ambassadors. Some snapshots of the coverage are presented below:





The total number of impressions that have been left on social media handles is close to 500,000. These impressions have been enhanced over a period post the close of the activities, through awareness drives which have been conducted by PROs in partnership with GreenE, under the aegis of the Digital India mission.

Overview of #EwasteAwarenessCampaign

- Content was posted on two platforms i.e. - **Facebook and Twitter**
- Content created for the EwasteAwarenessCampaign was shared **real time**, averaging **4 posts** a day
- Content formats ranged from creatives, videos, photos and Twitter threads.
- Content received **consistent engagement** and interaction from our online audiences.

Summary

Twitter

- The total impressions garnered for the **#EwasteAwarenessCampaign** on **Twitter** was **512,532**

Facebook

- Total Page Reach garnered for **#EwasteAwarenessCampaign** on Facebook was **21,738**
- Total Post Reach stands at **45,153**

Performance on Twitter

Metrics	9th August 2018 - 17th April 2019.
Impressions	512,532
Retweets	2,891
Replies	216
Likes	2,908



Post Reach - 1,566



Post Reach - 1,028

Performance on Facebook

Metrics	February
Page Reach	21,738
Post Reach	45,153
Likes	2,211
Comments	61
Shares	1,343



Post Reach - 589



Post Reach - 395

Some of the Glimpses







Twitter Overview



While we almost received over 40,000 impressions each month (except October), November and December were the month's where we recorded over 70,000 impressions each.

In terms of engagement, September and December were the best performing months with 1,366 and 1,422 engagements respectively.

The peak of the campaign also saw a rise in the number of impressions which were generated every month. The activities which were conducted across cities were followed by people and they helped to spread the word across their social media handles.

What worked best?



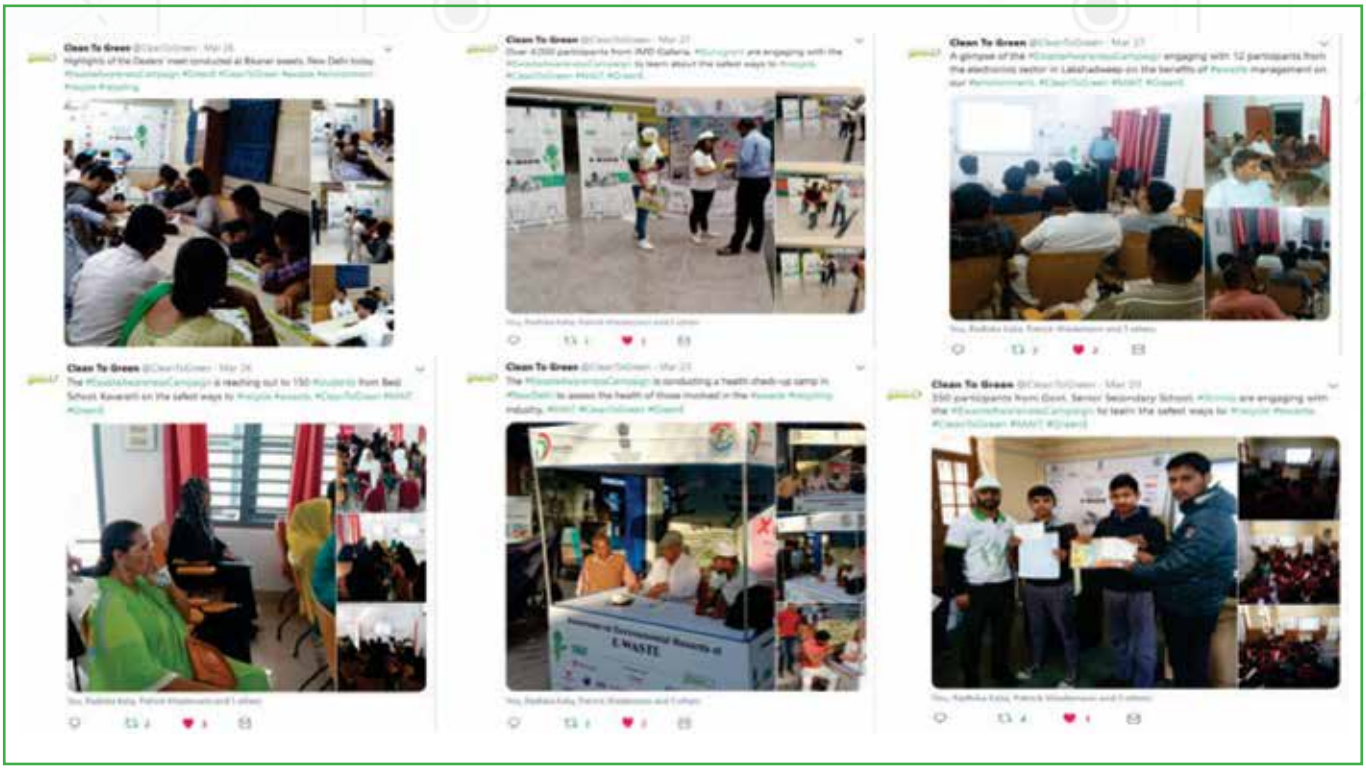
Impressions – 649
Engagements – 51



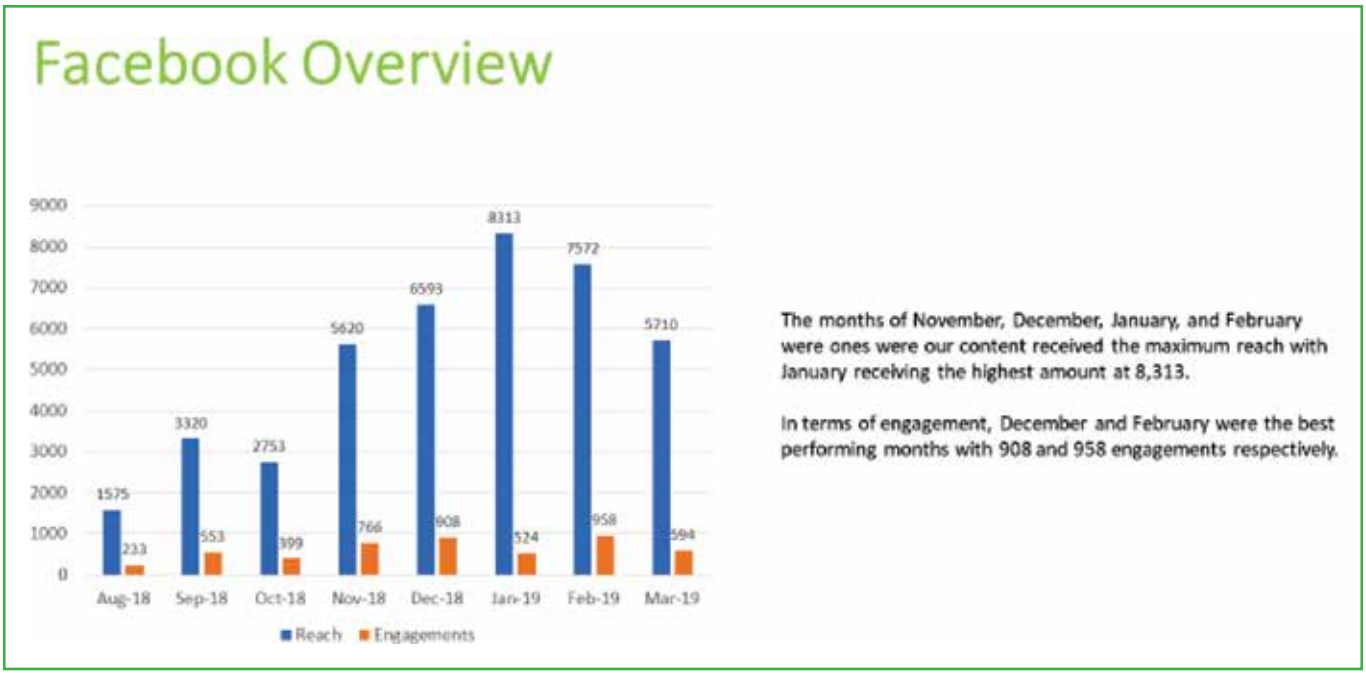
Impressions – 1539
Engagements – 45

*Source: Twitter Analytics

The campaign was closely followed by youth who also participated in large numbers at these events.



Impressions from activities which were conducted across cities which were part of the campaign:



The campaign on Facebook was a very important part of the social media usage because it is one of the most widely used social media platforms in the country. The subject of E-waste has managed to create an impression upon the youth from the perspective of sustainable consumption as well as environmental and human health. Participants have shared photos and videos on their walls so that more and more people become aware about the messages which are being propagated and leads to proper disposal of E-waste in the country.

What worked best?



Impressions – 589
Engagements – 88



Impressions – 220
Engagements – 88

PR Reports

The information on E-waste awareness was spread in all the States/cities through news reports in all the leading dailies.

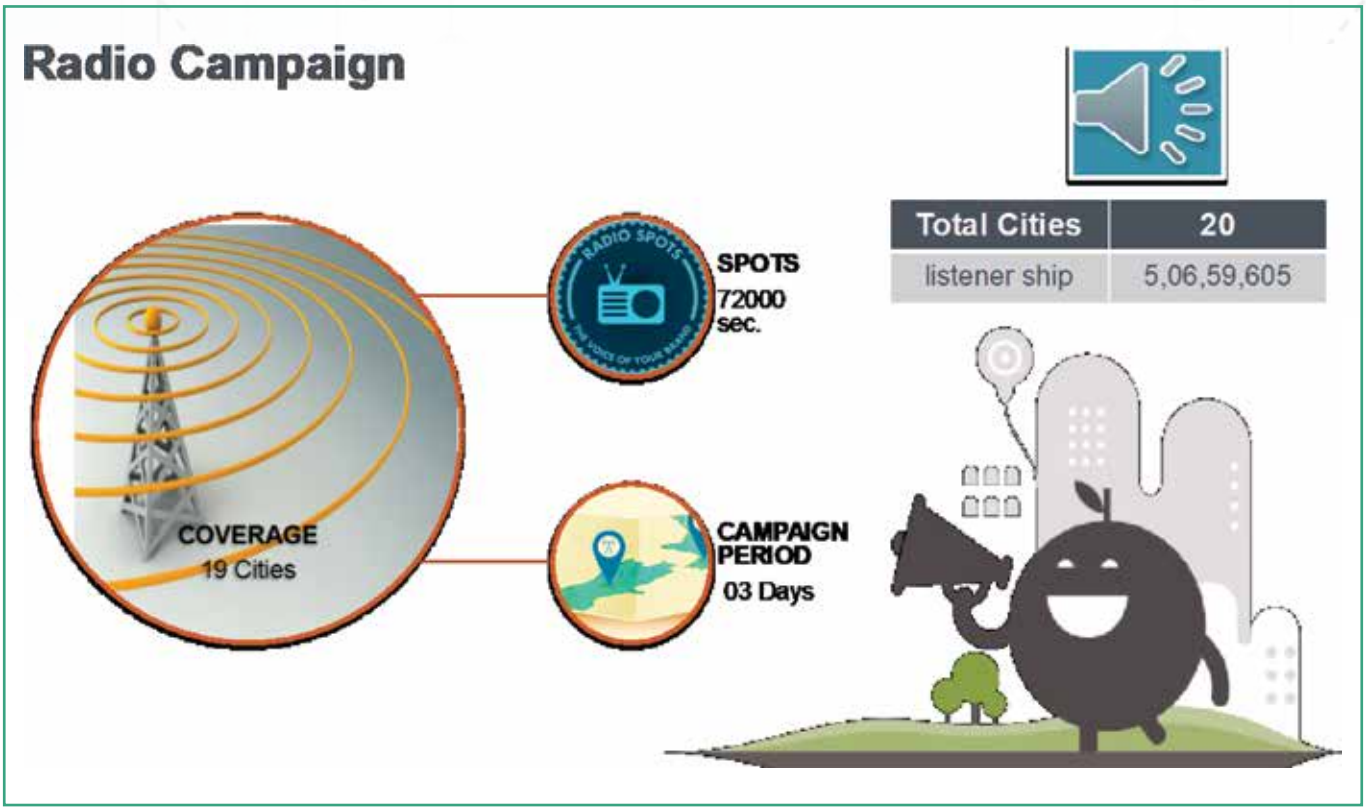
Coverage Update

Awareness Campaign on Hazardous Effects of E-Waste

Total Cities	29
Total Coverage	243
Total Circulation	1,38,27,168
Total Ad Value	61,33,850
Total PR Value	1,84,01,550

The cities where the campaign was run included the cities from Phase I of the project as well. This led to sustainability of the messaging which was started in Phase I in these cities. PR was a very important tool to ensure that maximum number of citizens are reached out to through the use of stories done for newspapers highlighting the events and activities which were conducted in these cities as part of

the campaign. The overall outreach from the PR campaign itself crossed more than 13 million which has managed to make stakeholders aware on the environmental hazards of E-waste and practices which would help in its proper disposal, thereby mitigating its ill-effects.



Radio has emerged as a very important tool of communication, especially for social messages. Although this was not part of the initial design, through industry contribution this was started in 20 cities which were part of the awareness campaign in Phase II. In the 20 cities where the campaign was initiated, the total listenership base was estimated to be more than 50 million for those radio channels. A concentrated campaign of three days was conducted using this medium with a total of 72,000 seconds covered across spots. The campaign achieved the desired impact, whereby stakeholders across cities started talking about the issues related to E-waste and ensured that they participated in campaigns at the ground level as well.

Print Media Coverage

Raipur



Jaipur



Chennai



Delhi



Gurgaon



Ahmedabad



Bangalore



Thiruvananthapuram



Vijayawada



Hyderabad



Shimla



Mohali



Daman



Mumbai



Dehradun



Agartala



Gangtok



Port Blair



Shillong



Bhubaneswar



Indore



Patna



Ranchi



Moradabad



Goa



Puducherry



Guwahati



Kolkata



ई-वेस्ट डिस्पोजल एंड मैनेजमेंट के लिए कैम्पेन

Janpath Samachar /Pg-11/ 30.09.18

ई-वर्ज्यो उपयुक्त निष्पत्ति लक्ष्ये 'क्लिन टु ग्रिन' क्याम्पेन

Sambad Nagar /Pg-02/ 30.09.18

'Clean To Green' Campaign to Encompass 30 Cities across 26 States and 4 Uts

Himalayan Mirror /Pg-02/ 05.10.18

ई-वेस्ट डिस्पोजल एंड मैनेजमेंट के लिए कैम्पेन

Bharat Darpan/Pg-11/ 05.10.18

Imphal



Campaign for Responsible E-waste Disposal and Management

Imphal Free Press /Pg-4/ 02.10.18

'Clean to Green' campaign to encompass 30 cities across 26 states and 4 UTs

Hills Hornbill Express /Pg-2/ 29.09.18

'Clean to Green' campaign for Responsible E-waste Disposal and Management

Huiyen Lanpao /Pg-3/ 03.10.18

'Clean to Green' campaign for Responsible E-waste Disposal and Management

North East sun /Pg-4/ 06.10.18

'Clean to Green' campaign to encompass 30 cities across 26 states and 4 UTs

Manipur mail/ /Pg-6/ 12..10.18

'Clean to Green' campaign for Responsible E-waste Disposal and Management

Imphal Free Press /Pg-2/ 29.09.18

Annexure-II

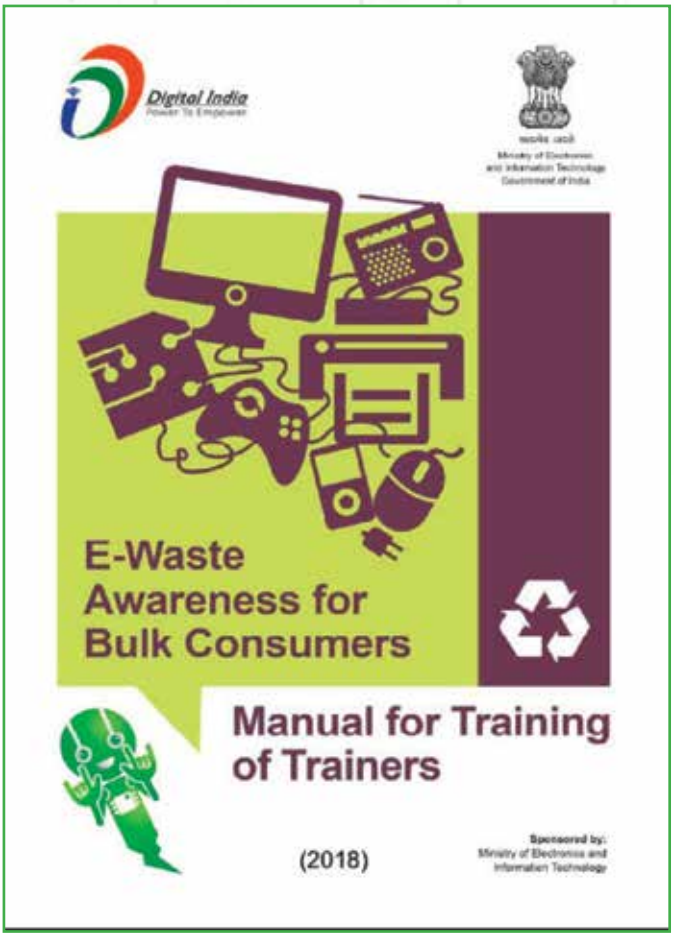
Work Package II

The Work Package II of the Awareness programme in Phase II entailed upgradation of content which was prepared in Phase I of the programme. The changes in the rules through notifications which were issued between Phase I and Phase II of the project generated the need to upgrade the content to reflect the same. The content has since been used by the industry, PROs and other stakeholders to carry out campaigns with respective stakeholders to create awareness on environmentally safe disposal of E-waste.

The up gradation of content in Phase II of the programme was carried out across all the respective content pieces which were created in Phase I. These included:

- **Training manuals for "Training of Trainers" for all stakeholders, including schools, colleges, RWAs. bulk consumers, refurbishers, dealers, informal sector, and producers. The manuals also included those to be used for the three different kinds of trainings to be conducted for government staff across different paygrades by NIELIT across all the states covered in the campaign.**
- **Posters on different aspects covering messages for different sets of stakeholders who were covered as part of the campaign. While the messaging in the campaign was checked for consistency, changes had to be made in specific areas, including the website and social media handles of the programmes.**
- **The Website and the Mobile application have since migrated to the NIC servers. NIC has done a complete security audit of the website and the mobile application, wherein MAIT assisted by providing support, as and when possible.**
- **Radio jingles which were developed during Phase I of the programme have been edited to add further information on different tools that are available to the stakeholders across, so that they can know more about the programme as well as about E-waste, which will ultimately help in environmentally safe disposal of the same.**
- **Videos for the project which were developed during Phase I were also edited to include information on the changes in the website as well as other such information which would be useful for stakeholders covered as part of the project.**
- **Other collaterals, including small adverts, wall paintings, pamphlets, etc which were used as part of the campaign, were also edited to include information about the Rules as well as informative items on the programme, which underwent changes from Phase I.**

A sample view of the various types of content upgraded is presented below:



Manual



Wall Painting



Banner

The collaterals that have been developed for the Project are now under creative commons and are free to be used for stakeholders across the cities and states where E-waste awareness programmes are being conducted. Organizations, including PROs and Producers, have been using these collaterals for the same.

The content that was developed in Phase I of the Project follows trusted methods of pedagogy and has been designed by experts in their respective areas. The key to pedagogy is to enhance learning through engagement with the subject. This has been achieved through Donna E. Walker's "Learning Cycle". The five key tenets to the same have been explained in the earlier section.

The "Harvard Case Method" has been used to enhance learning through the use of real-life case studies. These case studies have been picked up from conversations that can take place between stakeholders who have been covered under the Rules. Furthermore, content has been created for the informal sector as well, which, although not mentioned as a stakeholder under the Rules, is one of the largest stakeholders when it comes to management of E-waste. The case studies have been used in Phase I of the project to conduct activities like street plays which have left an impact on youth and other stakeholders. PROs and Producers have also been able to use these case studies in their awareness programmes, which have been conducted during the course of the programme.



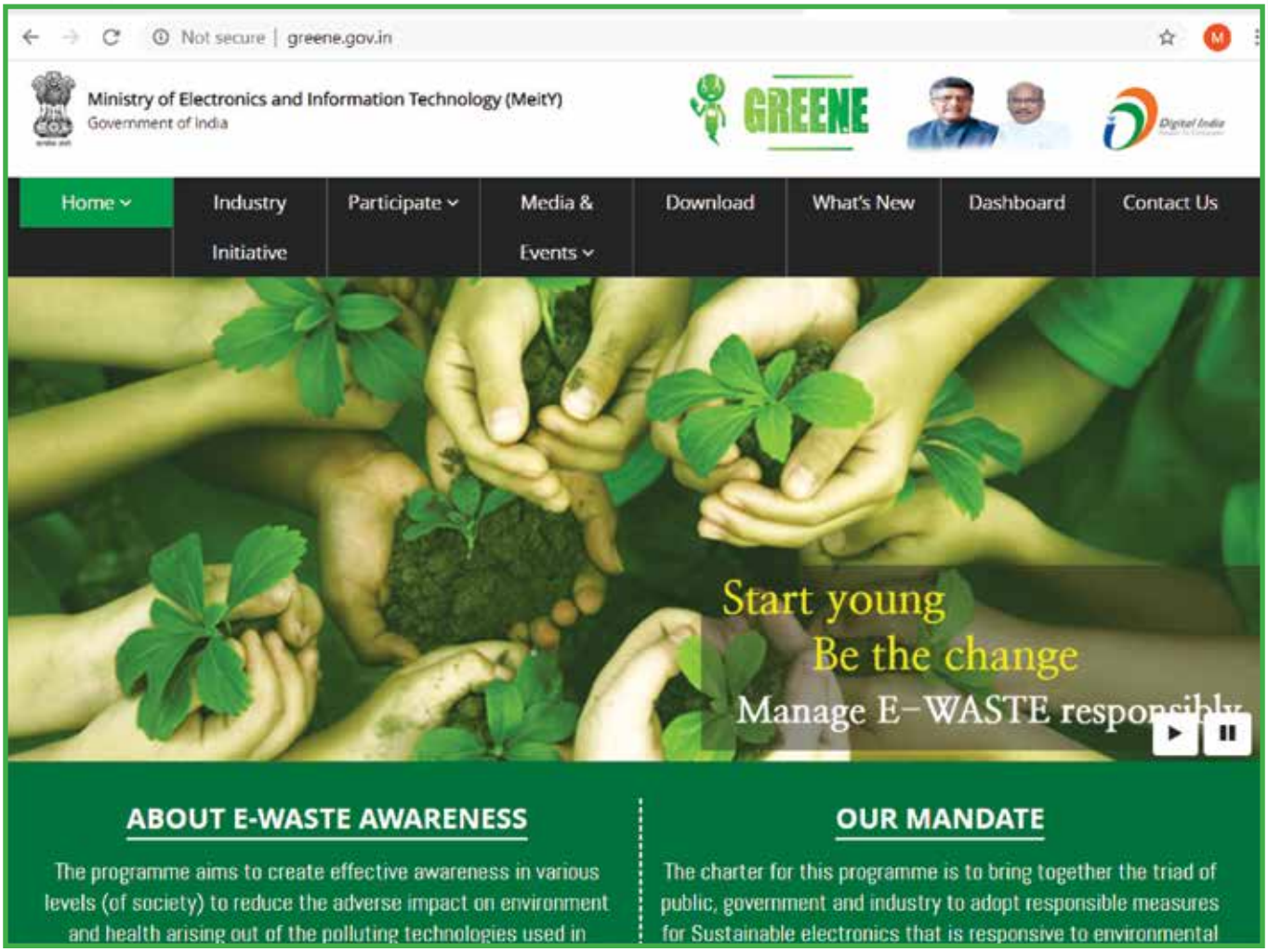
POSTERS


মনেৰঙিবা কথা
@সংগ্ৰহ কেন্দ্ৰ
MAIT
CEAMA


বর্জ্য নিষ্পত্তি ও
প্রক্রিয়ণ সুবিধার ক্ষেত্রে
এই কথাগুলি মনে রাখবেন
MAIT
CEAMA


ই-ৱেষ্ট উত্পাদনৰ
সুবিধা
'জীৱনচক্ৰ সমাপ্ত হোৱা'
প্ৰডাক্টসমূহক ঘাৰে সংগ্ৰহ
কেন্দ্ৰসমূহ
ই-ৱেষ্ট নিষ্পত্তিৰ
সুবিধা
ই-ৱেষ্ট জমা ৰখাৰ
সুবিধা
প্রযোজকৰ
দায়িত্ববোৰ
MAIT
CEAMA

The website of the project has been a major source of awareness. With more than 6 million visits till date, it has helped to provide access to all resources which have been developed in this Work Package, to different sets of stakeholders. With 11 manuals, multiple posters, films, radio jingles, wall paintings, other creatives and reading material including research, it is a powerhouse of information which can equip stakeholders with knowledge on E-waste and also help them to be sensitized to the subject and spread knowledge accordingly.



The E-waste (Management) Rules, 2016 went through a revision in 2018. In Phase II of the project, the content of the website and other collaterals available on the samewas updated toreflect the changes in the Rules.

The website was also adopted by the Government of India and its URL changed from www.greene.net.in to www.greene.gov.in.

Changes were also made in the mobile application of the project which is available on both, Play Store and App Store.

INTERVIEWS, PERSPECTIVE AND MESSAGES FROM KEY OFFICIALS OF GOVERNMENT OF INDIA, KEY EXPERTS, STAKEHOLDERS ON E-WASTE MANAGEMENT IN INDIA







Perspective of

Dr. Sandip Chatterjee
Director
MeitY

- **Your message on the MOEF&CC and MEITY project on "Awareness Program on Environmental Hazards of Electronic Waste - Phase II"**

Awareness on hazardous effects of E-waste to all the stakeholders is an important pre-requisite for addressing the growing problem of its management. MeitY's E-waste awareness programme has created desired impact to the society to educate about hazardous effects of e-waste on environment and health. GreenE website provides requisite information to the society on the alternate methods of e-waste disposal through environment friendly recycling practices.

- **Please comment on the importance of e-waste management for our country.**

Effective e-waste management would be important to safeguard environment by ensuring restriction of recycling process in informal units by the unscientific, unhealthy and non-environmental friendly methods. Urban mining and secondary materials recovery are becoming important with depleting natural resource and with the rise in demand for the inhabitant. Electronic and electrical products are developed with valuable resource materials including precious metals (gold, silver, copper, palladium, platinum, tantalum etc.), steel, rare earth metals, and various plastics. Channelizing these recovered materials to fresh electronics manufacturing would strengthen resource efficiency and circular economy. This would boost a significant in economic as well as have potential employment generation opportunities.

- **Please comment on how the e-waste Rules 2016 helps society and our country towards achieving its objectives.**

E-waste (Management) Rules, 2016 enacted since October 1, 2016 had enough provisions to address the issue. The 21 products (Schedule-I) i.e. most common product in e-waste stream were included under the purview of the rule. Rule also extended its purview to components or consumables or parts or spares of the Electrical and Electronic Equipment (EEE) along with their products.

Extended Producers Responsibility (EPR) clause of the rule has strengthened the take-back of the end-of-life products. Producer Responsibility Organisation (PRO) has been introduced to strengthen the efforts of manufactures to ensure effective EPR further. The rule has provisioned the targets for collection of e-waste for the producers. Manufactures are now mandatorily taking back their sold products after the end-of-life. The EPR collection targets in India were initiated as 10% in 2017 and would target to reach 70% in 2023. The producers are now prepared to align with complex collection mechanism of the end-of-life products and gradually enhance the materials flow to formal sector.

The adequate knowledge in the various SPCBs would be important for understanding the implication of the clauses of the Rules and also effective implementation of the rule on the ground.

The major challenge for e-waste management in India is limited recycling capacity and infrastructure. An effective enforcement of the E-waste Rules require a level playing field for producers, creating standards in the entire value chain, and introduction of recovery targets so as to ensure efficient and responsible recycling practices.

- **What role can be played by the citizens of India to effectively manage e-waste in their locality. What are some of the small steps that we as citizens can take towards a clean and green environment in our country?**

Aware citizen can make a difference. Collection of the e-waste, channelizing them to formal recyclers would be feasible if citizens are conscious and participatory. Awareness programme must create champions among the citizens, who then further train the masses so as to make sustainable impact. Citizen plays an important role. The content available in the GreenE website could be used by the citizen to conduct outreach programme and motivate in initiating the collection drive.

- **Sir as you know India has one of the most efficient e-waste collection systems in the form of the informal sector. Yet it has the flip side that the recycling may not be done in a safe manner by the informal sector. Your message on the importance of the informal sector and how they could be integrated into the formal e-waste management in the country?**

Informal operators are the best collectors and they have well-defined networking system with scrap dealers, aggregators, which require to be utilised effectively for proper e-waste management. The processes used in informal units are hazardous and unscientific and damaging the environment. Their recycling practices could be upgraded with the available cost effective indigenous technology. This transformation from informal to semi-formal units with acceptable environmentally robust operations could be the game changer. Upgradation of informal units would definitely attract more informal operators to upgrade their operations to a healthy, hygienic, legally acceptable livelihood. The regulator would also then be empowered to implement the rule more stringently and close down the remaining illegal informal operations. This revolution would motivate to concentrate feedstock at some designated places for formal scientific processing. The present state of scattered feedstock are actually demotivating the state-of-art recycling industry to set-up their units in the country.

- **Please comment on the importance of development of indigenous technology for e-Waste recycling. Can you highlight some of the work done by India's leading labs in this field?**

Major e-waste in the country is recycled by the informal sector, mainly through incineration in the open air, which exposes hazardous materials to the operators. The operators adopt hazardous method of amalgamation to recover precious metals from segregated components of e-waste and could only recover small amount of precious metal by heating the amalgam on a hot frying pan in open air, when inhaling of hazardous mercury vapours by operators. Foreign technologies as well as the equipments are expensive and often not suited to the local needs in developing countries. On the other hand, some of the R&D laboratories have demonstrated environmentally sound indigenous technology with affordable cost. Some of such initiatives from Ministry of Electronics and Information Technology (MeitY) are narrated below.

Considering e-waste as national challenge, MeitY has developed few technologies for end-to-end recycling in environmentally sound method. A demonstration plant has been set up at Bangalore by C-MET Hyderabad alongwith its industry partner E-Parisaraa, Bangalore for showcasing sustainable recycling of e-waste till the processing of printed circuit board (PCBs) in environmentally safe manner. This facility can carry out PCB recycling capacity of 1 MT (i.e. 35MT of e-waste)/day. A tabletop model of smaller recycling capacity of 100kg of PCB (3.5MT of e-waste) /batch has also been set up at C-MET Hyderabad. Moreover, National Metallurgical Laboratory, Jamshedpur has also demonstrated suitable processing technology for printed circuit board (PCBs) for commercial exploitation.

The waste plastics from e-waste have also been converted to value added product through a successful research project at Central Institute of Plastics Engineering & Technology (CIPET), Bhubaneswar. E-waste contains nearly 27% of the plastics. The development had taken care of converting these plastics with improved performance in environmentally manner. The process is capable to convert majority (76%) of the waste plastics to suitable master batch, which could be used for virgin plastic products. The toxicity and environmental tests were carried out on the developed products from the master batch, showed acceptable standard. A technology has been transferred for commercialization.

- **What are the key research areas on which institutions and government need to work hand in hand to arrive at workable solutions in the e-waste sector? Please state research areas which could be scientific, socio-economic, technical, socio-political, etc.**

E-waste contains precious metals in PCBs, rare earth in florescent tubes/CFLs and hard disc, various categories of plastics, lithium ion batteries and many other valuable components, modules. Extraction of resource materials from these products would be important to supplement the huge materials requirement for the fresh product. With the fast change in product design, the nature and composition of the end-of-life products are also continuously changing. Extraction technologies are also changing with newer research findings, innovative ideas, better equipments so that process should be affordable and environmentally sound. Encouraging R&D in recycling process for newer end-of-life products, components, materials and maturing those R&D outcomes to a viable demonstrable level to attract end-users would be a on-going process. Environment friendly affordable technologies for processing of PCBs, lithium ion batteries, rare earth in florescent tubes/CFLs and hard disc should be focussed for societal benefits.

- **Building Infrastructure for e-waste management is critical for the country. What are some of the steps being taken by the Government to enhance development of infrastructure in this area? What role is expected from the State Governments in this area?**

Robust infrastructure to process end-of-life products will only decide in ensuring resource efficiency, boosting circular economy and addressing sound environment. State Government should take pro-active measure in indentifying dedicated zone for waste recycling using private public partnership (PPP) mode. Requisite technologies available in Indian R&D organisations could be utilised to initiate the process. Low cost machineries and process equipments are also available in countries like China, Taiwan etc. Those machineries could also be developed with adequate engineering skills available in the country. Once the desired infrastructure is ensured in the country, seamlessly, materials flow of end-of-life products and the monitoring of compliance process by regulators would also be easier and achievable.

- **E-waste management infrastructure is developed in pockets. How can States take initiatives in developing infrastructure for e-waste? What role/initiative can private sector play?**

Initiatives should be taken to create dedicated infrastructure in State level so that generated e-waste should be processed in these facilities and trans-boundary movement of the waste could be averted. These infrastructures should be managed by government and private initiative. State Government should ensure the capacity of the infrastructure is adequate for processing the entire wastes generated by the state. The Government should also ensure that all the bulk consumers, PROs should channelize their waste into the infrastructures and leakage can be averted.

- **What kind of role can the regulatory bodies play in ensuring that the e-waste management rules, 2016 are effectively implemented? What are the key bottlenecks or suggestions towards its effective implementation?**

Regulatory bodies are now ensuring EPR effectively to channelize the e-waste in formal sector. The manufacturers are complying the collection targets, which will gradually increase to 70% by 2023. However, these collected process are accumulating a significant amount of e-waste with the recyclers, who are not having adequate technologies, infrastructures to process them safely. Often, they are depending on the foreign smelters for valuable parts of the waste and thereby losing significant amount of revenue and resource materials. This bottleneck needs to be addressed. In order to strengthen the process further, regulator may introduce the recycling target along with collection target.

- **Online E-waste management system is the need of the hour, particularly in a country as vast as ours and the multiple stakeholders involved. The Policy makers, the Regulators, the Producers, the Collectors, the Aggregators, the Dismantlers, the PROs, the Recyclers. What is your message and suggestion on the same.**

Mass balancing of end-of-life products in transaction chain, from manufacturers, PROs, dismantlers, recyclers, needs to be monitored seamlessly through on-line management system so that leakage could be averted during the process. Global best practices should be learnt and adopted to develop effective and efficient online e-waste management system, which would be useful for the regulators to assess the problem areas and leakage points and what counter measure could be taken for addressing them.



Perspective of

Dr. R Ratheesh
Director
C-MET, Hyderabad

- **Please comment on the importance of development of indigenous technology for e-Waste recycling. Can you highlight some of the work done by India's leading labs in this field?**

Most of the e-waste recycling is done by unorganized sector in India. However, unorganized sector follow irrational and unhygienic methods for the recovery of valuable metals such as Cu, Ag, and Au etc. The typical methods employed by informal units are focused on recovering gold from the integrated circuits (ICs), gold plated terminals of connectors/PCBs and other components etc. These gold rich components are collected by removal of the lead solder through surface heating which in turn causes air pollution. The stripped PCBs are subjected to burning in open atmosphere to recover copper.

In order to develop the cost-effective and environmental friendly solution for e-waste recycling technology, MeitY initiated various R&D programmes. NML, Jamshedpur has implemented a project on the recovery of metals from e-waste through pulverizing, density separation, electrostatic separation and magnetic separation etc. One of the successful initiatives in this line is from Centre for Materials for Electronics Technology(C-MET) by way of implementation of a project titled **"Environmentally Sound Methods for Recovery of Metals from Printed Circuit Boards" jointly by C-MET, Hyderabad and E-parisara, Bengaluru.** Prototype systems have been designed and developed for depopulation, pyrolysis, calcinations, smelting, electrorefining and anode mud processing. A demonstration plant for processing of 100kg/day is established at CMET Hyderabad whereas 1 Ton per day technology is set up at M/s. E-parisara, Bengaluru. IIT, Delhi has initiated R&D activity on the PCB recycling using pyrolysis technique. Similarly, laboratory level activities are being taken up in many academic and R&D institutes.

In this regard, CMET Hyderabad has initiated an activity on "Centre of Excellence on E-Waste Management" which is a single point solution provider for e-waste recyclers. It caters technology transfer of various recycling technologies to interested entrepreneurs, consultancy services, awareness programmes to consumers etc.

- **What are the key research areas on which institutions and government need to work hand in hand to arrive at workable solutions in the e-waste sector? Please state research areas which could be scientific, socio-economic, technical, socio-political, etc.**

The following are the areas to be taken up along with other institutions and support of government to provide workable solutions to e-waste sector

1. Automation of e-waste dismantling processes and effective segregation to obtain maximum resource efficiency
2. Integrated smelter for PCB recycling for the recovery of valuable and precious metals
3. Green chemistry and green engineering techniques for the recovery of resources from e-waste as alternative techniques for low carbon footprint
4. Effective recycling techniques for photovoltaic cells and recovery of metals and semiconductors
5. Recovery of rare earth metals from spent phosphors and permanent magnets
6. Recycling of lithium ion batteries and recovery of critical materials
7. Environmental safe protocols for recycling of compressors, CFLs, CRT monitors, and other EEEs with high content of hazardous substances

- **Building Infrastructure for e-waste management is critical for the country. What are some of the steps being taken by the Government to enhance development of infrastructure in this area? What role is expected from the State Governments in this area?**

Important aspects of e-waste management which requires government intervention are a) collection of e-waste: Most of the e-waste is mixed with other waste streams and hence causes resource loss as well as the environmental pollution and b) Channelizing e-waste to formal recyclers: more than 90% of e-waste is being recycled by informal sectors wherein unethical recycling methods cause environmental pollution.

Infrastructure for the collection, dismantling and facilities for the resource recovery should be created at state level. As of now, no solid infrastructure is available in the country for the channelization of e-waste in to authorized recyclers although many recyclers and NGOs have set up their collection network across country. However, this is not sufficient to prevent leakage of e-waste to informal sector. State government of Kerala has set up a company for handling E-Waste in Kerala. They are involved in the collection and segregation of wastes.

An integrated e-waste management system is essential and necessary infrastructure for Eco-Parks has to be created across the country.

- **E-waste management infrastructure is developed in pockets. How can States take initiatives in developing infrastructure for e-waste? What role/initiative can private sector play?**

State government can create infrastructure and echo system for the collection, dismantling and recycling of e-waste in their industrial parks, which can be further augmented to model Eco-parks. However, private sector has to create infrastructure/modernize their facilities with economically viable as well as environmental friendly technologies to make e-waste sector a profitable one

- **What kind of role can the regulatory bodies play in ensuring that the e-waste management rules, 2016 are effectively implemented? What are the key bottlenecks or suggestions towards its effective implementation?**

Regulatory bodies shall ensure the strict implementation of E-Waste 2016 rules by auditing of all approved recyclers on regular basis to prevent the spate of e-waste in to informal sector. MoEF/CPCB should issue necessary instructions to all ministries to channelize e-waste generated in Government offices only to approved recyclers who possesses technology for environmental friendly recycling of e-waste.

- **Online E-waste management platform is the need of the hour and the multiple stakeholders involved. The Policy makers, the Regulators, the Producers, the Collectors, the Aggregators, the Dismantlers, the PROs, the Recyclers. What is your message and suggestion on the same.**

Online E-waste management platform is one of the important requirements to bring multiple stakeholders together. Already a couple of online E-waste management platforms are in place for the collection of E-waste, which are run by NGOs. However, for sustainable management of e-waste, there is an impending need to develop flexible and adaptive online platform which can handle wide variety of e-waste flow of e-waste to informal sector. State government of Kerala has set up a company for handling E-Waste in Kerala. They are involved in the collection and segregation of wastes.

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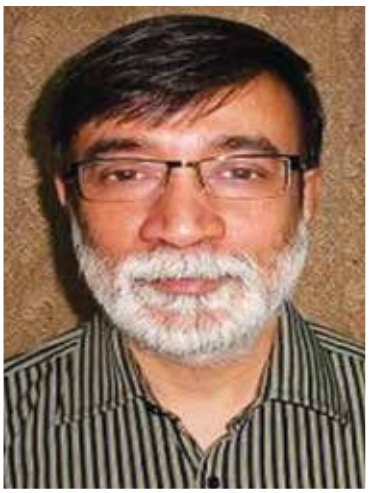
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Perspective of

Shri Arup Chattopadhyay
Scientist 'E' & Director-in-charge
NIELIT Gangtok

- **Your message on the MOEF&CC and MEITY project on "Awareness Program on Environmental Hazards of Electronic Waste - Phase II"**

NIELIT is proud to be an implementor for the crucial and timely intervention of Ministry of Electronics and Information Technology (MeitY) and MoEF&CC, Government of India to address the challenge of e-waste management in India. In the above endeavour to create awareness among different stakeholders in order to reduce the adverse impact on environment and health due to improper disposal of e-waste, NIELIT was mandated to cover 29 States/ UTs at Pan India level towards "Capacity Building of Government Employees on 'e-Waste' through 1-Day Training Program, under 'Digital India' initiative" and has trained over 5800 government officials through 1-Day/3-Day/5-Day training. Further, NIELIT is also providing training to PSU officials, bank officials, industry etc. as part of the above initiative of MeitY and MoEFCC.

- **Please comment on the importance of e-waste management for our country.**

India ranks fifth among e-waste producing countries, after the US, China, Japan and Germany, whereby, in the absence of an appropriate inventory it is estimated that the ewaste production ranges anywhere between 2 to 5 million tons per annum which is increasing alarmingly at a CAGR of over 30%. The unhealthy condition of informal recycling sector is leading to serious health hazards of the labourers and common citizens. The environmental damage will go beyond control unless mitigated with a proper e-waste management regime. Hence, management of e-waste is of supreme importance for India. Consequently, Government of India is taking steps to address several formidable challenges including orientation of the environmentally unsustainable informal sector, activation of the policy instruments under EPR, the regulatory enforcement through monitoring and enforce compliance, stop E-waste imports and last but not the least generate awareness among the stakeholders including policymakers and public.

- **Please comment on how the e-waste Rules 2016 helps society and our country towards achieving its objectives.**

The e-waste Rules 2016, subsequently amended in 2018, have brought visible changes in the e-waste management and environmental governance scenario in India -the reluctance of the corporate to address the critical issues of e-waste management due to inadequate legislation is starting to be addressed. The producers are now more serious in their efforts as the rule has introduced take-back targets with penal provisions. Also, the formal waste management sector is expanding and Producer Responsibility Organizations (PROs) are emerging along with the general trend to develop indigenous technologies to

process and recover different components of e-waste which is also opening up opportunities to generate employment through development of relevant skill and entrepreneurship among the local educated youth. In short, all the stakeholders have started to adopt responsible e-waste management practices towards effective and value-added recycling as per the newly enforced rules and regulations.

- **What role can be played by the citizens of India to effectively manage e-waste in their locality. What are some of the small steps that we as citizens can take towards a clean and green environment in our country?**

We, the citizens of India are often quite unaware of what e-waste is and of its safe and correct disposal practices. Every citizen, as a consumer of Electrical and Electronic Equipment (EEE) should be aware and make other aware in the locality about correct disposal practices and the ill effects of mixing e-waste with other solid waste and failing to dispose it in an environmentally friendly way. Small steps towards creating a clean and green environment may start from: Participate in civil society campaigns and develop the mind set and habit, especially among the younger generation about safe disposal of e-waste and their possible re-cycling; Enquire the seller/retailer about the disposal instructions at the end of life for the product being purchased; Participate and Organize events like quiz, sit-and-draw, debate etc. in the locality towards educating general public about the emerging threat to the environment as well as public health; Put up posters at prominent places in the locality with support from civic bodies, housing societies etc. – depicting the e-waste collection centres in the locality, and the 'Dos and Don'ts' in e-waste disposal etc.

- **As you know India has one of the most efficient e-waste collection systems in the form of the informal sector. Yet it has the flip side that the recycling may not be done in a safe manner by the informal sector. Your message on the importance of the informal sector and how they could be integrated into the formal e-waste management in the country?**

While the informal sector is very important in collection of the e-waste at the grassroot level in India, they should be integrated on value added and sustainable basis with the registered and authorised collection centres and/or dismantling/ recycling centres who are accredited by the state governments to process e-waste. The informal sector has to be brought in the mainstream by proper hands-on training, handholding and enlistment with unique identification number with license to operate and periodic checking of the license for renewal. This will ensure them on one hand, a better livelihood and dignity while on the other will save the environment and public at large from the hazards. Also, suitable incentive schemes may be evolved for the informal collectors with contributions from the producers / importers. Further, strict vigil should be taken up by SPCBs through local administrations to either modernise or eliminate the existing unorganised and unscientific collection and recycling channels.

- **Please comment on the importance of development of indigenous technology for eWaste recycling. Can you highlight some of the work done by India's leading labs in this field?**

Proper e-waste recycling demands adoption of appropriate technology in a) dismantling, b) sorting the e-waste into metals, plastics, rubbers, etc., c) stripping and pulverising; e) extraction of costly and rare elements like gold, silver, platinum, cobalt and rare earth metals etc. and, most importantly, f) disposal of the residual materials in scientific and environment friendly way. The existing technologies for e-waste recycling are in general not cost effective and affordable in the Indian context.

The Centre for Materials for Electronics Technology (C-MET) under MeitY has developed some indigenous technology which is at R&D stage for recycling of hazardous waste and extraction of precious materials including gold, silver, Copper, Platinum etc.

- **What are the key research areas on which institutions and government need to work hand in hand to arrive at workable solutions in the e-waste sector? Please state research areas which could be scientific, socio-economic, technical, socio-political, etc.**

The key research areas on which institutions and government need to work hand in hand to arrive at workable solutions in the e-waste sector are:

a) Innovative technology in the pre-processing of the WEEE -because, so that the e-waste may be dismantled and brought to the recycling plants located in the brown zones in a cost-effective manner.

b) Evolve some frontier technology in recycling the e-waste and set up plants at select locations and viably recover the rare earth elements such as tantalum or indium, as well as other costly metals like Platinum, Gold, Coper etc. as recycling the metals /elements are more energy efficient than smelting from the ore.

c) Evolve and adapt technologies to re-use the by-products of the recycling in construction and building sectors, agriculture etc. which will be more energy efficient and at the same time avoid resources losses by turning waste to resources and conserving natural resources

d) Carry out socio-economic and socio-political researches towards generating green jobs while meeting health and safety standards by Integrating The Kabadiwalas handling > 95% e-waste in the Informal Sector with the formal waste management system.

e) Use appropriate Socio-political forces to stop the export of e-waste from the developed countries citing Free Trade Agreements (FTAs) / “Economic Partnership Agreements” (EPAs)

f) Take appropriate scientific and technological initiatives to promote the 3-R Concept (Reduce, Reuse and Recycle) for e-waste Management.

- **Building Infrastructure for e-waste management is critical for the country. What are some of the steps being taken by the Government to enhance development of infrastructure in this area? What role is expected from the State Governments in this area?**

Government of India is keen on adopting indigenous technologies meeting environmental norms for processing e-waste components. As a part of the initiative several R&D agencies of GoI have been pressed into action to evolve low-cost indegenous solutions. The Council of Scientific and Industrial Research (CSIR) labs have established industrial processes to recover precious metals from PCBs, which are likely to be scaled-up to industrial level. Also the Centre for Materials for Electronics Technology (C-MET), an autonomous scientific society under MeitY has also developed e-waste recycling technology.

- **E-waste management infrastructure is developed in pockets. How can States take initiatives in developing infrastructure for e-waste? What role/initiative can private sector play?**

State governments can play an active role in development of infrastructure for e-waste management by enhancing compliance and enforcing regulations under the e-waste management rules, 2016. The private sector in the states also can be provided with land where e-waste infrastructure can be set-up which will allow for such units to come up in areas which fall on pathways to major e-waste movement to the informal

sector. The private sector has access to technology or can access technology from different sources which will allow it to manage e-waste dismantling and recycling in an environmentally sound manner.

- **What kind of role can the regulatory bodies play in ensuring that the e-waste management rules, 2016 are effectively implemented? What are the key bottlenecks or suggestions towards its effective implementation?**

Regulatory authorities in India are slowly coming to terms with the effective implementation of the e-waste management rules, 2016. Some SPCBs have started to audit the EPR plans of producers and manufacturers which is a step towards enforcing the rules. Some states have taken steps which have been harsher. However, as capacities of the local staff are developed on the new sets of rules, the implementation will become more effective. Some key bottlenecks which still exist are in terms of resources which are available with the SPCBs to enforce the rules. I think organisations like NIELIT can play that role because we are available across the country and are developing capacities under the awareness programme which has been initiated by the Ministry of Electronics and Information Technology.

- **Online E-waste management system is the need of the hour, particularly in a country as vast as ours and the multiple stakeholders involved. The Policy makers, the Regulators, the Producers, the Collectors, the Aggregators, the Dismantlers, the PROs, the Recyclers. What is your message and suggestion on the same.**

The country needs a system where information is available across all sets of stakeholders which will allow for better implementation of the e-waste management rules, 2016. It is pertinent that we move towards an IT platform which will make data accessibility seamless and ensure quick decision making. In most cases it has been observed that some stakeholders are trying to make quick money by siphoning of materials to the informal sector. It is important therefore that to strengthen compliance, such actors are brought under the rules so that there is an incentive for the informal sector to formalise. As products take different forms and become more resource efficient, different kinds of technologies would be required to process the same. It is pertinent that data be available with the policy makers for such actions to be promoted by the state.



Perspective of

Dr. Smita Mohanty

Director& Head (Principal Scientist), School for Advanced Research in Polymers (SARP) – LARPM, CIPET

- **Your message on the MOEF&CC and MEITY project on "Awareness Program on Environmental Hazards of Electronic Waste - Phase II"**

The awareness programme on Environmental Hazards of Electronic Waste started by MOEF&CC and MEITY is a good initiative to make people aware about the adverse impact of E-waste. The awareness programme is helpful to educate public regarding not be disposed of in landfills or be incinerated. The programme also provide clear vision to the unorganized sector for proper segregation, identification and recycling of valuable resources from E-waste.

- **Please comment on the importance of e-waste management for our country.**

Electronic waste is the fastest growing waste stream due to innovation in new technology, thus its disposal is a major environmental concern in all parts of the world. India being the fifth largest producer of E-waste, it is highly imperative that e-waste gets recycled in a safe, appropriate and efficient manner. However, due to poor infrastructure and awareness very small amount of the total waste generated gets recycled. Thus implementation of E-waste management system shall be helpful for recycling of E-waste to safeguard the environment.

- **Please comment on how the E-waste Rules 2016 helps society and our country towards achieving its objectives.**

The E-Waste Management Rules 2016 have the objective of channelizing the E-waste generated in the country towards authorized dismantlers and recyclers. The Extended Producer Responsibility (EPR) has also been revised, which shall be helpful to bring all the industries to one platform for recovery and recycling of E-waste. Further, registration through Central Pollution Control board (CPCB) for Producer Responsibility Organizations (PROs) plays a vital role for disposal and recycling of E-waste materials.

- **What role can be played by the citizens of India to effectively manage e-waste in their locality. What are some of the small steps that we as citizens can take towards a clean and green environment in our country?**

Littering and dumping habit to be avoided. People need to understand the importance of E-waste pollution as it contains various valuable and recyclable materials such as gold, palladium, silver, copper and plastics, along with harmful substances like lead, cadmium and mercury. Establishment of small scale authorized

E-waste collection center need to be established in each locality, so that everybody can approach for the safe disposal of E-waste materials.

- **As you know India has one of the most efficient e-waste collection systems in the form of the informal sector. Yet it has the flip side that the recycling may not be done in a safe manner by the informal sector. Your message on the importance of the informalsector and how they could be integrated into the formal e-waste management in the country?**

Due to unawareness towards health related issue and non-availability of proper infrastructure the informal sectors in India still follow the old traditional methods for recycling of E-waste. Such methods include incineration, landfills etc. Government need to update the informal sector from time to time with financial supports as required to implement the cost effective approach with safe handling of E-waste. Also strict compliance on E-Waste Management Rules shall be helpful for reducing incineration, land-filling, and illegal dumping of electronic wastes.

- **Please comment on the importance of development of indigenous technology for e-Waste recycling. Can you highlight some of the work done by India's leading labs in this field?**

Developed indigenous technology for E-Waste recycling need to be established for improving the health condition of workers and reserve the natural resources. This also helpful for safeguard of energy needed to produce new electronic equipment from virgin resources. Various technologies were developed by various organization like IIT's, NIT's, CMET, CIPET with the collaboration from various industrial partners. The same need to be converted to the plant scale for commercialization. School for Advanced Research in Polymers:LARPM, R&D wing of CIPET has also developed an eco-friendly viable technology towards streamlining of segregation methodology, categorization of Plastics waste to value added products for commercial exploitation.

- **What are the key research areas on which institutions and government need to work hand in hand to arrive at workable solutions in the e-waste sector? Please state research areas which could be scientific, socio-economic, technical, socio-political, etc.**

Recycling of E-waste after end-of-life is very complex due to presence of various types of material starting from metals to plastics. Integration of the total system is required for achieving the complete solution. Further, presence of material which are inherently hazardous and highly toxic in nature, if not addressed properly with the help of scientifically sustainable recycling and disposal system can lead to a disastrous impact on life, environment, and climate as well. Thus, both institution and government body need to work together for achieving the target of ZERO waste.

- **Building Infrastructure for e-waste management is critical for the country. What are some of the steps being taken by the Government to enhance development of infrastructure in this area? What role is expected from the State Governments in this area?**

In recent years Government has taken many initiatives under SWACHH BHARAT ABHIYAN to create awareness among the people of India. Further, MAKE IN INDIA also promotes new entrepreneur for establishment of new business strategy in the field of recycling technology. Various State Government also join hand to meet the target by providing land and infrastructure.

- **E-waste management infrastructure is developed in pockets. How can States take initiatives in developing infrastructure for e-waste? What role/initiative can private sector play?**

Active participation from private sector is essential for management of E-waste. Modern facilities need to be established for safe collection of E-waste and for the disposal methods. Electronic goods manufacturing company also need to ensure the safety disposal of end-of-use products to the concerned government departments. Some refund schemes can be taken by the government as well as private bodies to encourage the consumers for effective recycling of E-waste products. Government needs to encourage more and more research and development activities related to E-waste recycling towards the value added products.

- **What kind of role can the regulatory bodies play in ensuring that the e-waste management rules, 2016 are effectively implemented? What are the key bottlenecks or suggestions towards its effective implementation?**

The implementation of E-Waste Management Rules 2016 provides platform for recovery and recycling of E-waste into the main stream. However, strict rules and regulations is required to supervise the waste recycling industries. Producer-public-government cooperation need to be developed by arranging workshops, seminars and one-to-one interaction.

- **Online E-waste management system is the need of the hour, particularly in a country as vast as ours and the multiple stakeholders involved. The Policy makers, the Regulators, the Producers, the Collectors, the Aggregators, the Dismantlers, the PROs, the Recyclers. What is your message and suggestion on the same.**

Establishment of digital awareness for safe handling of E-waste management system is required to educate and encourage people for safe disposal of the electronics products. This also helps to brings all the Producers, the Collectors, the Aggregators, the Dismantlers, the PROs, the Recyclers to a common platform for effective recycling of E-waste.



Perspective of

Shri Rijit Sengupta
CEO
Centre for Responsible Business (CRB)

- **Your message on the MOEF&CC and MEITY project on "Awareness Program on Environmental Hazards of Electronic Waste - Phase II"**

REDUCTION IS BETTER THAN RECYCLING (Invest in Good Quality Electronics Goods and Use them responsibly for Long)

- **Please comment on the importance of e-waste management for our country.**

India is the 5th largest producers of electronic waste in the world, generating 2 million tonnes (MT) of e-waste annually

- **Please comment on how the e-waste Rules 2016 helps society and our country towards achieving its objectives.**

Collection of e-waste through a well-developed system helps in:

- Creating Jobs (Green Jobs)
- Recycling of useful and expensive materials/metals
- Mitigates/Reduced adverse environmental impacts from e-waste (hazardous chemicals, heavy metals leaching into land/soil/water

- **What role can be played by the citizens of India to effectively manage e-waste in their locality. What are some of the small steps that we as citizens can take towards a clean and green environment in our country?**

A decentralized system of collection of e-waste needs to be put in place – which can help consumers to get rid of their e-waste. At present either consumers store e-waste in their home, give it to the local kabadiwala, have it disposed together with other streams of municipal solid waste

- **As you know India has one of the most efficient e-waste collection systems in the form of the informal sector. Yet it has the flip side that the recycling may not be done in a safe manner by the informal sector. Your message on the importance of the informal sector and how they could be integrated into the formal e-waste management in the country?**

Informal sector is critical for effective collection of e-waste and yet it is the most challenging task to integrate the informal sector into a formal, system of collection and management of e-waste.

Producers and retailers need to play a lead role in this process and support with the development of Producers Responsibility Organisation (PROs) and invest some of their CSR Funds on an annual year-to-year basis to ensure effective implementation of e-waste management programmes by the PROs in cities. PROs can engage/involve the informal sector (especially because these informal sector collectors have deep knowledge of the sector, which should be utilized).

- **Please comment on the importance of development of indigenous technology for e-Waste recycling. Can you highlight some of the work done by India's leading labs in this field?**

We are aware that the MeitY was in the process of developing a technology (desktop) that would help in salvaging metals from e-waste

- **What are the key research areas on which institutions and government need to work hand in hand to arrive at workable solutions in the e-waste sector? Please state research areas which could be scientific, socio-economic, technical, socio-political, etc.**

CRB has done some deep diving work on e-waste in partnership with Green Electronics Council (GEC), to explore the possibility of market-driven approach to deal with end of life management of electronics waste. We were also working closely with MeITY on this area. Here below are three papers/reports which we developed, and might be useful for this project:

i) White Paper on End of Life Management of E-waste in India: http://www.c4rb.org/images/GEC-CRB%20WhitePaper_Final.pdf

ii) Gap Assessment Report: http://www.c4rb.org/images/CRB%20Reports/10.pdf

ii) A set of Criteria for developing a Voluntary Standard to deal with e-waste: http://www.c4rb.org/images/CRB%20Reports/11.pdf

One of the key areas for promoting e-waste systems would be through Public Sector Undertakings (PSUs). Governments can play a key role in supporting e-waste by looking at e-waste management performance of IT companies which submit tenders for public procurement.

- **Building Infrastructure for e-waste management is critical for the country. What are some of the steps being taken by the Government to enhance development of infrastructure in this area? What role is expected from the State Governments in this area?**

MeitY was in the process of developing ECOPARK across some cities. State governments (and Municipalities) must work with IT Producers to set up collection centres in large/popular public areas (Malls, Cinema Halls, Metro/Train Stations, etc.)

- **E-waste management infrastructure is developed in pockets. How can States take initiatives in developing infrastructure for e-waste? What role/initiative can private sector play?**

As above

- **What kind of role can the regulatory bodies play in ensuring that the e-waste management rules, 2016 are effectively implemented? What are the key bottlenecks or suggestions towards its effective implementation?**

There has to be proper allocation of responsibilities between MeITY and MoEFCC (who is responsible for what).

Government of India could start a scheme for State Departments of Environment to compete for a National Level Award on E-Waste Management (competitive federalism)

- **Online E-waste management system is the need of the hour, particularly in a country as vast as ours and the multiple stakeholders involved. The Policy makers, the Regulators, the Producers, the Collectors, the Aggregators, the Dismantlers, the PROs, the Recyclers. What is your message and suggestion on the same.**

State governments (and Municipalities) must work with IT Producers to set up collection centres in large/ popular public areas (Malls, Cinema Halls, Metro/Train Stations, etc.)

MeITY and MoEFCC should do a joint Consumer Campaign on E-waste and popularize the collection centres.



Perspective of

Dr. Kalyan Bhaskar
Assistant Professor
XLRI Jamshedpur

- **Please comment on the importance of e-waste management for our country.**

While India debates the different aspects related to management of single-use plastics and plastic waste in general, we must remember that there are other waste streams that require as much, if not more, attention from governments, regulators, public, industry, NGOs, media, and other stakeholders. India is among the top five e-waste generators in the world and backed by growing economy and growing services sector, rising consumer disposable incomes, changing consumer preferences, and booming sales of various categories of consumer and commercial electronic products, India's e-waste is unlikely to slow anytime soon.

What makes the management of e-waste particularly challenging is the presence of several toxic, rare-earth, and valuable elements apart from the conventional metallic, wood, plastic, glass elements for which waste management system exists in India. Because of this complexity, it is practically impossible for any one entity to manage all waste types present in e-waste. Additionally, there are multiple environmental, health, and economic externalities associated with e-waste if not managed properly and in a safe manner. Proper and efficient management of e-waste can not only help address some of the above issues but also help in promoting domestic manufacturing by making recycled rare earth and valuable components available and reducing the need for imports.

It is because of these reasons that e-waste management is very important for India.

- **Please comment on how the e-waste Rules 2016 helps society and our country towards achieving its objectives.**

By extending the principles of extended producer responsibility (EPR) as introduced in the 2011 Rules, the 2016 Rules provides a direction to setting up an ecosystem for proper, systematic, safe, and efficient e-waste management in India. While the onus is put on the producers of electronic goods, responsibilities are also laid down for bulk consumers, formal e-waste management recyclers including PROs, retailers, and other consumers. The 2016 rules introduce time-bound collection targets for producers which is aimed at providing a signal to the producers about aligning their strategies and processes in the short to medium term. A clarity about the policy direction helps reduce uncertainties around policies and helps producers and the larger industry to bring out the necessary changes to meet the goals as articulated in the policy.

The 2016 Rules also provide more clarity on the way producers can meet their EPR obligations. By giving the producers the flexibility to meet the targets either individually, or by typing up with other producers or an industry association, or by tying up with a third-party producer-responsibility organizations (PROs), the rules have tried to provide different options to producers to meet their collection targets. This flexibility is especially helpful since the Rules and the targets apply to producers of all electronic goods operating in both business-to-consumer (B2C) and business-to-business (B2B) markets.

- **What role can be played by the citizens of India to effectively manage e-waste in their locality. What are some of the small steps that we as citizens can take towards a clean and green environment in our country?**

As citizens, there are some steps that we can take individually. For e.g. becoming more aware about e-waste, its' components and the hazards associated with improper management of e-waste; not mixing our e-waste with household waste or dumping it near landfills. As members of our residential societies, we can organize periodic collection drives and channelize the collections to approved e-waste management entity. As members of professional societies, we can also try to start demanding information from the producers and our employers about the processes and practices employed to comply with the 2016 Rules and collect and recycle e-waste in a proper manner.

- **As you know India has one of the most efficient e-waste collection systems in the form of the informal sector. Yet it has the flip side that the recycling may not be done in a safe manner by the informal sector. Your message on the importance of the informal sector and how they could be integrated into the formal e-waste management in the country?**

Informal sector is and will remain vital in the short to medium term future for e-waste management in India. A hybrid system that leverages the vast network of informal sector in the country and their cost efficient collection system and integrates it with the more technologically equipped and environmentally and socially responsible ways to recover and recycle e-waste components (especially the high-value rare-earth and valuable metal components that are difficult to recover and recycle in the informal sector) is one possible system that could come up in the country. Any such solution has to ensure that the livelihoods of the millions employed by the informal sector does not get adversely impacted, there is an upgradation in the skills and practices employed by the informal sector (Especially those related to usage of safety gear by the workers and better working conditions for the workers), leaves recycling of some components to the informal sector (e.g. plastics, wood, ferrous metals etc.), and then takes the recycling of components requiring more sophisticated technologies and processes to the formally registered entity (PRO or a recycler).

- **Please comment on the importance of development of indigenous technology for e-Waste recycling. Can you highlight some of the work done by India's leading labs in this field?**

More than the indigenous technology, it is the technology that can be commercialized even at a smaller scale that one can consider developing. E-waste contains multiple components and while technologies and processes exist in India for recovery and recycling of some metal components (e.g. copper, iron etc.), there are many other metal components (e.g. lanthanum, cerium etc.) for which technologies either do not exist in India or do not exist at a scale that can be profitable for an entity at relatively low volumes.

Not every recycler or other entity can have the technological, financial, managerial, and human resources to recover all components of e-waste. The technology could come from scientific labs in India (e.g. NML Jamshedpur, CMET Hyderabad) or it could be imported from outside either via an exclusive technology transfer agreement or joint development process or other methods. But what is more likely to work in the Indian context is a technology that can be used even by the relatively small to medium sized e-waste recyclers without the need to invest heavy upfront capital.

- **What are the key research areas on which institutions and government need to work hand in hand to arrive at workable solutions in the e-waste sector? Please state research areas which could be scientific, socio-economic, technical, socio-political, etc.**

Socio-economic behavioural research on the different ways in which EPR can be implemented by the producers in India: e.g. deposit refund systems, advance recovery fees.

Socio-political research: mechanisms, platforms, essentials and desirables to create synergies between the informal and the formal sector (e.g. producers, industry associations, formal waste management sector, PROs).

Scientific and technical research: development of commercially viable technologies to recover and recycle different components of e-waste, especially rare-earth and valuable metals. Finding novel usage of recovered and recycled metals

- **Building Infrastructure for e-waste management is critical for the country. What are some of the steps being taken by the Government to enhance development of infrastructure in this area? What role is expected from the State Governments in this area?**

Government is promoting development of technologies by government funded research laboratories in India. Government is also promoting commercialization of developed technologies by interested entrepreneurs (e.g Eco-park scheme). State governments should look at ways to complement such schemes and avoid duplication of efforts that ends up increasing the system cost and making it difficult for an upcoming scheme to become financially viable.

- **E-waste management infrastructure is developed in pockets. How can States take initiatives in developing infrastructure for e-waste? What role/initiative can private sector play?**

By involving entrepreneurs and existing players to create an ecosystem for waste: for e.g. those interested in plastic waste management could look at synergies between plastics from e-waste and plastics from PET bottles recycling. A network that involves local level informal and formal sector could use the same network to manage plastic waste, e-waste, and other household waste.

- **What kind of role can the regulatory bodies play in ensuring that the e-waste management rules, 2016 are effectively implemented? What are the key bottlenecks or suggestions towards its effective implementation?**

Regulatory agencies can play a major role in implementation of the e-waste management rules. First, they can carry out periodic audits of formal e-waste recyclers located in their states. This can help ensure that there are no discrepancies in the location, recycling capacities, recycling procedures and other details related to a formal e-waste recycler and PROs. Next, they can prepare and regularly update the inventory

of e-waste in their respective states, either on their own or by engaging leading technical and management academic institutes with prior experience and expertise and industry bodies. Third, they can prepare a national data repository along with CPCB and other SPCBs so as to learn from best practices employed in other states. It can also help is dissemination of latest academic research papers, technical reports, and other developments pertinent to e-waste management in India. This national data repository can also involve leading experts drawn from academia, industry, NGOs, and multi-national organizations with prior expertise, experience, and background. Fourth, a system to reduce any information asymmetry between the central and state regulatory bodies related to filling of returns by the producers and recyclers should be incorporated with or separate to the national data repository.

- **Online E-waste management system is the need of the hour, particularly in a country as vast as ours and the multiple stakeholders involved. The Policy makers, the Regulators, the Producers, the Collectors, the Aggregators, the Dismantlers, the PROs, the Recyclers. What is your message and suggestion on the same.**

While I would broadly agree that online e-waste management system would be a welcome move, I would be cautious in referring to it as the 'need of the hour'. Online system could bring different benefits to different stakeholders. For e.g., for retail consumers, it can help create awareness and sensitize them about the different components of e-waste and the different possible ways to responsibly manage e-waste. Similarly, for the producers and bulk consumers, a properly planned online e-waste system can help bring more transparency and accountability in the movement of e-waste from one place (e.g. collection center) to other place (e.g. recycler). For the regulators, it can help in the inventorization of e-waste, a step that will help in better monitoring and implementation of the regulations.

However, the potential of these possible benefits may not be fully realized if changes are not made on ground in the various aspects related to technologies, processes, approaches, and strategies employed by informal and formal waste management sector, producers, bulk consumers, and other stakeholders. A robust system that creates physical infrastructure on the ground, involves the vast network of informal sector already present almost in every Indian towns and cities, and that integrates the principles of transparency, accountability, and data monitoring is required for the online system to fully realize its' potential.



Perspective of

Dr. Rachna Arora
Deputy Team Leader & Coordinator
GIZ, GmbH

- **Your message on the MOEF&CC and MEITY project on "Awareness Program on Environmental Hazards of Electronic Waste - Phase II"**

Awareness creation is an important first step towards driving behavioural change for setting up an effective e-waste management system in India. The programme in its Phase-II has made an important contribution in that regard as it has reached out to a diverse target group with customized tools and strategies. The channelization of e-waste into right streams still need to be correlated but the scheme has mobilized action through increased awareness on the ground and created partnership platforms for different actors.

- **Please comment on the importance of e-waste management for our country.**

Environmentally sound and resource efficient e-waste management is important for India to ensure that occupational health hazards and environmental destruction are mitigated while at the same time enhancing resource recovery in the process. Currently as major amount of e-waste is handled by the informal workers, the programme outreach covering different topics creates knowledge enhancement for better handling and safe disposal of e-waste.

- **Please comment on how the e-waste Rules 2016 helps society and our country towards achieving its objectives.**

E-waste Management Rules 2016 lay the responsibility of managing e-waste on stakeholders including producers/manufacturers, consumers, recyclers etc. Looking at the Digital India programme which enhances access to digital solutions in every corner of the country, this awareness scheme initiated through MeitY creates awareness on the need for proper disposal of e-waste. To successfully implement the Rules, the take back of the waste electronics and electrical equipment's is the key success factor. I think that this awareness scheme has created the required information for waste channelization which thereon supports the implementation of the Rules.

- **What role can be played by the citizens of India to effectively manage e-waste in their locality. What are some of the small steps that we as citizens can take towards a clean and green environment in our country?**

Citizens have an important responsibility towards ensuring that the e-waste is disposed off in a responsible manner. Currently, consumers expect a value for their waste, which the formal e-waste collectors are not

able to provide or are not as high as that given by informal sector collectors. Thus, consumers need to be informed about the right disposal mechanism and be responsible towards implementation of the e-waste Rules.

- **As you know India has one of the most efficient e-waste collection systems in the form of the informal sector. Yet it has the flip side that the recycling may not be done in a safe manner by the informal sector. Your message on the importance of the informal sector and how they could be integrated into the formal e-waste management in the country?**

Integrating informal sector is very important for effective management of e-waste in the country. Given their current role, and high efficiency with collection, informal sector can also be duly recognised in the rules for their role. Aside from this, it is imperative to foster access of technology to informal sector for enhancing resource recovery, transparency and stronger enforcement, mitigating negative health and environment impacts of e-waste recycling, and increasing availability for resources for manufacturing.

- **Please comment on the importance of development of indigenous technology for e-Waste recycling. Can you highlight some of the work done by India's leading labs in this field?**

The Ministry of Electronics and Information Technology has developed indigenous technology at Centre for Materials for Electronic Technology (C-MET) and the Ministry of Chemicals and Fertilisers at Central Institute of Plastics Engineering & Technology (CIPET) for recovery of precious metals and plastics from e-waste respectively. After laboratory scale experiments, these technologies have now been upscaled to industry level use. The C-MET technology for recycling of Printed Circuit Boards from electronic items like mobile phone, laptops, computers and television can recycle at the rate of 100 kg per day (~1,200 tonnes per annum of e-waste) and the CIPET technology for plastics from e-waste can recycle at the rate of 1 metric tonne per hour (3,600 metrics tonnes per annum).

- Provision of indigenous technology developed by CMET and CIPET to formal or informal actors (who are willing to formalise) will allow benefits in the form of enhanced incomes, safe & non-hazardous workplace and mitigation of environmental pollution in the vicinity. This process needs to be strictly monitored to prevent leakages for setting up of one-two pilots for testing.

- **What are the key research areas on which institutions and government need to work hand in hand to arrive at workable solutions in the e-waste sector? Please state research areas which could be scientific, socio-economic, technical, socio-political, etc.**

It is extremely important to utilise the existing collection system and networks of the informal sector, and to develop business models for integration and formalisation of informal sector in order to manage the e-waste in an environmentally sound manner. Also, upstream the producers need to foster design changes that makes products last longer, renders them easy to repair and upgrade, and allows for easier disassembly in order to augment circular economy and material recovery at the end of life.

- **Building Infrastructure for e-waste management is critical for the country. What are some of the steps being taken by the Government to enhance development of infrastructure in this area? What role is expected from the State Governments in this area?**

MeitY has developed a Strategy on Resource Efficiency in Electrical and Electronics Sector with Niti Aayog. The strategy presents a vision wherein the convergence and linkages between the flagship missions of

Government of India (GOI) i.e. Make in India, Digital India and Swacch Bharat can be harnessed through strategic and tactical approaches. Centre for Materials for Electronics Technology (C-MET), Ministry of Electronics and Information Technology, and Central Institute of Plastics Engineering & Technology (CIPET), Ministry of Chemicals and Fertilizers have developed indigenous technology for recovery of precious metals and plastics from e-waste respectively. After laboratory scale experiments, these technologies can now be upscaled to industry level use. Provision of technology to the formal and informal actors (who are willing to formalize) will allow benefits in the form of enhanced incomes, safe & non-hazardous workplace and mitigation of environmental pollution in the vicinity. The monitoring and compliance enforcement need to be strengthened for proper role out of these technologies. However, there is also a much larger need for setting up a large scale recycling and critical metal recovery facilities. State government can facilitate this transition through existing schemes and provisions including eco-industrial parks where these indigenous technologies or global state of art technologies can be set up.

- **E-waste management infrastructure is developed in pockets. How can States take initiatives in developing infrastructure for e-waste? What role/initiative can private sector play?**

As per the rules, state government should maintain and develop an e-waste inventory for quantification of the waste generation and take back options available currently. Depending on the quantum of waste produced, and the flow of the waste in the state, the states can identify the areas for collection centres, and also develop adequate infrastructure for the same. As in the EPR framework, the responsibility lies with the producers for take back and setting up of adequate compliance mechanisms.

- **What kind of role can the regulatory bodies play in ensuring that the e-waste management rules, 2016 are effectively implemented? What are the key bottlenecks or suggestions towards its effective implementation?**

Regulatory bodies like CPCB have an important role to play in effective implementation of e-waste management rules. One of the things that it can do is to develop harmonised methodology for inventorisation in order to have a robust estimate for e-waste generated in the country. Secondly, it can also create penal provisions and strict enforcement mechanisms for non-compliances. Also, since the data and monitoring of EPR plans from last 2 years would have been collated with CPCB, comprehensive monitoring data can be made available to the public, to assess the impact of the target based legislation. Platforms like EU Stats and other international platforms could be developed for better analysis, accountability and transparency in the system.

- **Online E-waste management system is the need of the hour, particularly in a country as vast as ours and the multiple stakeholders involved. The Policy makers, the Regulators, the Producers, the Collectors, the Aggregators, the Dismantlers, the PROs, the Recyclers. What is your message and suggestion on the same.**

Awareness and capacity building of all stakeholders on the new framework of e-waste management rules is very important for developing an environmental friendly ecosystem. As mentioned above, platforms for data reporting by various actors needs to be developed so that the monitoring is transparent.



Perspective of

Ms. Veena Mishra
COO, Technology Distribution Association of India (TDAI)

- **Your message on the MOEF&CC and MEITY project on "Awareness Program on Environmental Hazards of Electronic Waste - Phase II"**

MEITY has taken a very important step towards controlling the growing menace of Electronics waste in India. We hope that through consistent awareness drives and stringent regulations on the disposal of hazardous electronics waste, we will be able to ensure a safe and toxin-free environment for us as well as our future generations.

- **Please comment on the importance of e-waste management for our country.**

Being the fastest growing economy in the world, India is the largest buyer of consumer and commercial electronics. As the consumption of technology has increased over the last three decades, we have not able to bring an effective mechanism for the disposal of end of life electronics/hardware. As a result of this, the country has become the hub of electronics waste and this has severely impacted the environment. The industry estimates state that India stands at the 5th place with over 2 million ton of e-waste production annually. In India, the recycling of e-waste is largely in the hands of the unorganized sector, which do not implement scientific recycling methods, causing a serious threat to workers (mostly women and children) handling this waste on a daily basis. Taking note of these grave issues, it is very important to have a strong e-waste management policy in place in the country to address the issue efficiently.

- **Please comment on how the e-waste Rules 2016 helps society and our country towards achieving its objectives.**

The E-waste management and handing rules, 2016, being made stringent than its predecessor and with EPR in place with its target-based collection, are enabling India to attain a hold over the informal E-waste sectors.

Also, having awareness as a prime duty, more and more citizens are getting to know the reality of the problems caused by E-waste. As the saying goes, "We are worried only about what we know", people now knowing about the hazards of E-waste will enable a channelized structure for E-waste management to be accepted and adopted.

- **What role can be played by the citizens of India to effectively manage e-waste in their locality?**

Citizens can effectively contribute to reducing e-waste in the country. RP tech India's "Go Green" initiative

encourages people to dispose of their EOL electronics at RP tech e-waste collection points for safer disposal. There is a huge scope in creating awareness and connecting citizens to the e-waste collection centres in their respective localities.

- **What are some of the small steps that we as citizens can take towards a clean and green environment in our country?**

Citizens can dispose of their EOL electronics/hardware in the e-waste collection points.

- **As you know India has one of the most efficient e-waste collection systems in the form of the informal sector. Yet it has the flip side that the recycling may not be done in a safe manner by the informal sector. Your message on the importance of the informal sector and how they could be integrated into the formal e-waste management in the country?**

In India, the large portion of e-waste recycling business is owned/managed by the unorganized sector. Workers in this segment are mostly poor and illiterate hence, they are unaware of scientific recycling methods. This causes a serious threat to them (mostly women and children) handling e-waste on a daily basis. The integration of the informal sector into a scientific recycling system is crucial for better control of environmental and human health impacts. The Government should regulate the e-waste recycling industry and provide all the benefits/facilities under the labour low to workers in this sector.

- **E-waste management infrastructure is developed in pockets. How can States take initiatives in developing infrastructure for e-waste? What role/initiative can the private sector play?**

The States can come up with a policy to centralize the e-waste management infrastructure and appoint agencies to regulate the e-waste collection. The Government can also set up e-waste collection points at upcountry and metro locations and connect them to a centralized centre, where there is a full-fledged mechanism for e-waste recycling. The Government can join hands with private sector players to implement innovative awareness campaigns to link maximum citizens to these collection points.

- **What kind of role can the regulatory bodies play in ensuring that the e-waste management rules, 2016 are effectively implemented? What are the key bottlenecks or suggestions towards its effective implementation?**

The regulatory bodies can place a crucial role in implementing the e-waste management rules and regulations by establishing coordination among various agencies and electronics manufacturers. They can ensure 100 per cent transparency and strict adherence to the regulations to ensure the systematic reduction of e-waste production in the country.

- **The online E-waste management system is the need of the hour, particularly in a country as vast as ours and the multiple stakeholders involved. The Policymakers, the Regulators, the Producers, the Collectors, the Aggregators, the Dismantlers, the PROs, the Recyclers. What is your message and suggestion on the same?**

In the era of digitization, it is important that we make effective use of digital means to reach out to the larger target audience and communicate our message effectively. We expect the government soon come up with an online E-waste management system which is easily accessible to all its stakeholders.



Perspective of

Ms. Swati Singh Sambyal
Programme Manager
Centre for Science and Environment (CSE)

- **Your message on the MOEF&CC and MEITY project on "Awareness Program on Environmental Hazards of Electronic Waste - Phase II"**

Awareness and social engineering is crucial for effective management of e-waste and better implementation of the Ewaste Management Rules, 2016. I congratulate MAIT on taking this up countrywide and addressing different stakeholders.

- **Please comment on the importance of e-waste management for our country.**

The latest Global E-Waste Monitor places India as one of the highest contributors to global e-waste, generating over 2 million metric tonnes in 2016. Posing serious health and environmental risks, growing e-waste represents the hidden cost of increasingly digital lives in an information society. With just 33 per cent of the population owning a smart phone, India already has the second largest number of smart phone users in the world, nearly 4 times that of the United States. The amount of e-waste generated will exponentially increase in the coming decade as the cost of consumer electronics decline, middle-class incomes rise, and the frequency at which devices are discarded increases.

Hence, it is imperative to have effective systems of e-waste management in the country.

- **Please comment on how the e-waste Rules 2016 helps society and our country towards achieving its objectives.**

The E-waste rules talk about targets for Producers and push for take back schemes, such as the Deposit Refund Scheme. This is a welcoming move so as to push companies to take back their legacy e-waste, this also ensures formal e-waste management as almost 90 per cent of ewaste recycling happens informally and impacts the workers health and environment. The Rules also emphasize on awareness raising.

- **What role can be played by the citizens of India to effectively manage e-waste in their locality. What are some of the small steps that we as citizens can take towards a clean and green environment in our country?**

Citizen awareness and consumer responsibility can play an important role in ensuring ewaste is returned to an authorised centre and not informally. At colony or locality level, there should be some infrastructure created to collect ewaste. This is mushrooming in urban centres and metropolitans but needs to be replicated across cities and small towns.

- **As you know India has one of the most efficient e-waste collection systems in the form of the informal sector. Yet it has the flip side that the recycling may not be done in a safe manner by the informal sector. Your message on the importance of the informal sector and how they could be integrated into the formal e-waste management in the country?**

Almost 80 per cent of e-waste workers in India suffer from respiratory ailments due to improper standards and nearly 500,000 children are engaged in e-waste collection without adequate protection and safeguards.

The informal sector engaged in e-waste dismantling and metal recovery in can be formalized with the intervention of an external agency such as an NGO or a government authority. The external agency can build capacities on getting formalized, obtaining registration and authorization and using environmentally sound ways of dismantling. Dismantling and segregation are relatively safe processes and can be continued at household levels. However, more people can come together to carry out metal recovery and extraction, which would involve costs. The interventions from SPCBs and the state government would be required for building linkages between them and formal recyclers. Even after a formal chain is set up, chances are that the collected and dismantled products are routed to a third party that gives higher prices rather than the formal recycling agency. To prevent such leakages, an NGO or government authorities must be involved to support the informal sector in every step or for handholding. The cost for the formalization and setting up of dismantling and recycling agencies can be borne by CSR funds of manufacturers of electrical and electronic appliances. People involved in e-waste dismantling and metal extraction can be also organized in cooperatives recognized by the district administration.

- **Please comment on the importance of development of indigenous technology for eWaste recycling. Can you highlight some of the work done by India's leading labs in this field?**

It is good to develop indigenous technologies however in regard to ewaste , the technologies should also comply to the environmental norms.

- **What are the key research areas on which institutions and government need to work hand in hand to arrive at workable solutions in the e-waste sector? Please state research areas which could be scientific, socio-economic, technical, socio-political, etc.**

- Extended Producer Responsibility: while in context to ewaste EPR is much better implemented than plastics, but still a lot of gaps between consumer and companies, the challenge lies in ewaste entering formal streams, given more incentives in the informal setup, how do we stitch the gap, how do we push the consumer to give their products formally needs to be looked into.

- Awareness and capacity building in small towns where ewaste is now becoming a challenge.

- Formalising informal sector, we need more documentation of cases on formalisation of informal sector and what tools need to be adopted

- Integration of different stakeholders

- **Building Infrastructure for e-waste management is critical for the country. What are some of the steps being taken by the Government to enhance development of infrastructure in this area? What role is expected from the State Governments in this area?**

This area is still weak, especially at state level where there are no capacities to manage ewaste, in most regional offices, adequate staff is not there to monitor and inventorise ewaste, in such a scenario, the scale of the impact cannot be measured because data is wrong.

- **E-waste management infrastructure is developed in pockets. How can States take initiatives in developing infrastructure for e-waste? What role/initiative can private sector play?**

Private companies need to come together either individually or collectively to work with states to strengthen ewaste inventorisation and collection mechanisms, they could also pitch in funds for appropriate tracking of ewaste.

- **What kind of role can the regulatory bodies play in ensuring that the e-waste management rules, 2016 are effectively implemented? What are the key bottlenecks or suggestions towards its effective implementation?**

On the regulatory front, the challenge lies in manpower as well as resources to monitor ewaste management, which is a hindrance to compliance and monitoring, it is imperative to assign a dedicated ewaste official at state PCB level to monitor issues, also at central level, there needs to be focus on stregthening EPR policy and targets.

- **Online E-waste management system is the need of the hour, particularly in a country as vast as ours and the multiple stakeholders involved. The Policy makers, the Regulators, the Producers, the Collectors, the Aggregators, the Dismantlers, the PROs, the Recyclers. What is your message and suggestion on the same.**

It is important to have an online mechanism to track ewaste and have a proper accounting and inventorisation. This will also help in tracing loopholes and troubleshooting the gaps.

COMMENTS AND ARTICLES FROM SCHOOL PRINCIPALS TEACHERS AND STUDENTS



Date : 10-10-2019

To,
Clean to Green
Imphal

Sub: Disposal of E-waste and Awareness Program

Dear Sir,

We thank you for conducting Awareness with regards to E-waste at our school premises. The students from class VI to X Standard have attended the program and it was very useful and beneficial. You have made our students aware about the importance of depositing E-waste in specified and appropriate manners.

We also thank MEITY and Clean to Green for making the event successful.

Thanking you

In charge R. P. Lawsiana Devi.

Principal

LAISHRAM MANI MEMORIAL ENGLISH ACADEMY
Kongba Dhobi Lampak, Imphal East
Estd:1991, Govt Recognised
Affiliate to BOSEME-
mail:laishrammani2014@gmail.com,www.facebook.com/laishrammani

Ref.no: LMMEA/19/2019 Date: 11/10/2019.

Clean to Green
Imphal

Subject: Disposal of E-Waste and Awareness program

Dear Sir,

We thank you for conducting Awareness Programme with regards to e-waste at our school premises. The student from Class IX and X Standard have attended the program and it was very useful and beneficial. You have made our students aware about the importance of depositing E-Waste in a specified and appropriate manner.

We also thank MEITY and Clean to Green for making this event successful.

Thanking you.

Principal
Laisham Mani Memorial Academy
Imphal East

COMPETITIVE SUCCESS ACADEMY
IN EXCELLENCE WE TRUST
WANGKHEI MAKTHEM PUKHRI MAPAL
IMPHAL EAST, MANIPUR

Ref. no. .....

Date. 12/10/2019

Clean to Green

Imphal

Subject: Disposal of E- Waste and Awareness Program

Dear Sir,

We thank you for conducting Awareness Programme with regards to e-waste at our school premises. The students from Class XI Standard have attended the program and it was very useful and beneficial. You have made our students aware about the importance of depositing E- Waste in a specified and appropriate manner.

We also thank MEITY and Clean to Green for making this event successful.

Thanking you.

Principal
(R. Ranakumar Singh)
Principal
Competitive Success Academy

t. 9863035731

HALLEEY ENGLISH SCHOOL
(Govt. Recognised)
Soibam Leikai, Wangkhei Khunou
P.O. & P.S. Porompat, Imphal East District, Manipur

Ref. No. HEY/1/19/112 Date 12/10/2019

Clean to Green

Imphal

Subject: Disposal of E-waste and Awareness program

Dear Sir,

We thank you for conducting Awareness programme with regards to e-waste at our school premises. The students from class VI, VII and VIII Standard have attended the program and it was very useful and beneficial. You have made our students aware about the importance of depositing E-Waste in a specified and appropriate manner.

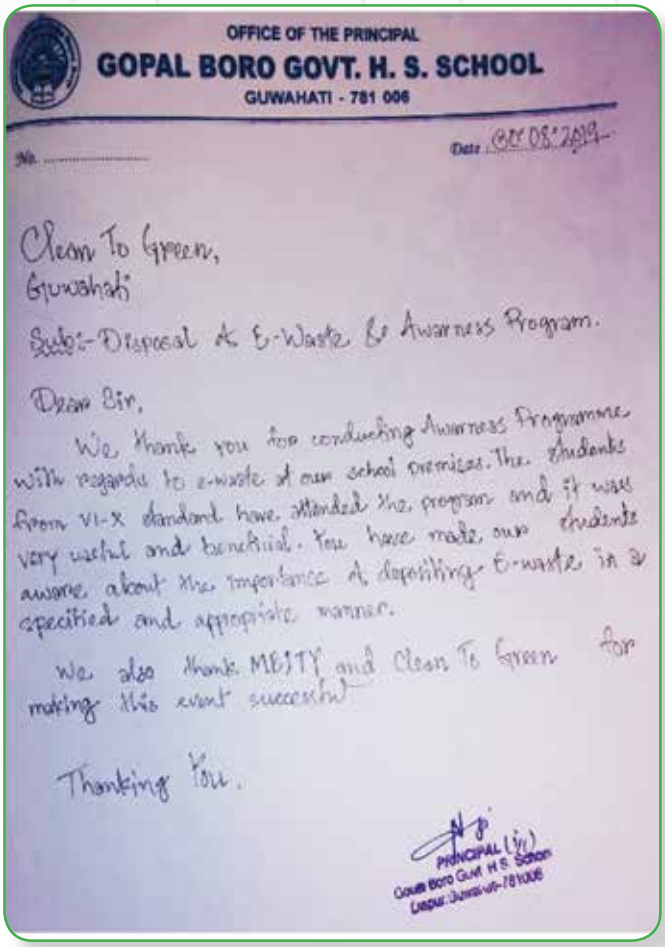
We also thank **MEITY** and **Clean to Green** for making this event successful.

Thanking you.

M. Premila
Principal
Halley English School
Imphal.

Principal-in-Charge

M. Premila



OFFICE OF THE PRINCIPAL
GOPAL BORO GOVT. H. S. SCHOOL
GUWAHATI - 781 006

No. ..... Date 08/08/2019

Clean To Green,
Guwahati

Sub:- Disposal & E-Waste & Awareness Program.

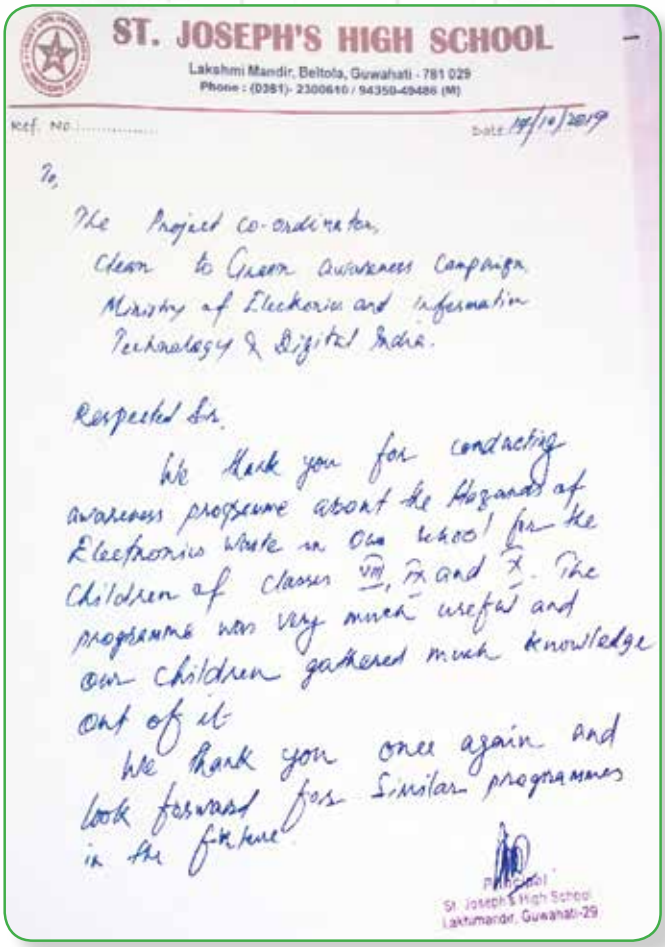
Dear Sir,

We thank you for conducting Awareness Programme with regards to e-waste at our school premises. The students from VI-X standard have attended the program and it was very useful and beneficial. You have made our students aware about the importance of depositing E-waste in a specified and appropriate manner.

We also thank MEITY and Clean To Green for making this event successful.

Thanking You.

PRINCIPAL (i/c)
Gopal Boro Govt H.S. School
Lalpur, Guwahati-781006



ST. JOSEPH'S HIGH SCHOOL
Lakshmi Mandir, Beltola, Guwahati - 781 029
Phone : (0361)- 2300610 / 94350-49486 (M)

Ref. No. ..... Date 10/10/2019

To,

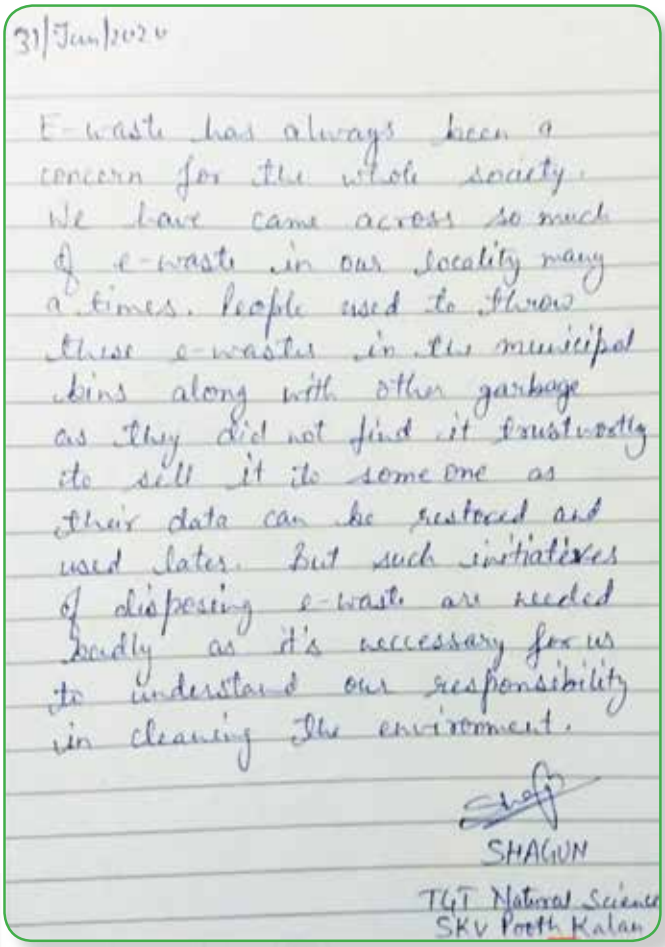
The Project co-ordinator,
Clean to Green Awareness Campaign
Ministry of Electronics and Information
Technology & Digital India.

Respected Sir,

We thank you for conducting awareness programme about the Hazards of Electronics Waste in our school for the Children of classes VIII, IX and X. The programme was very much useful and our children gathered much knowledge out of it.

We thank you once again and look forward for similar programmes in the future.

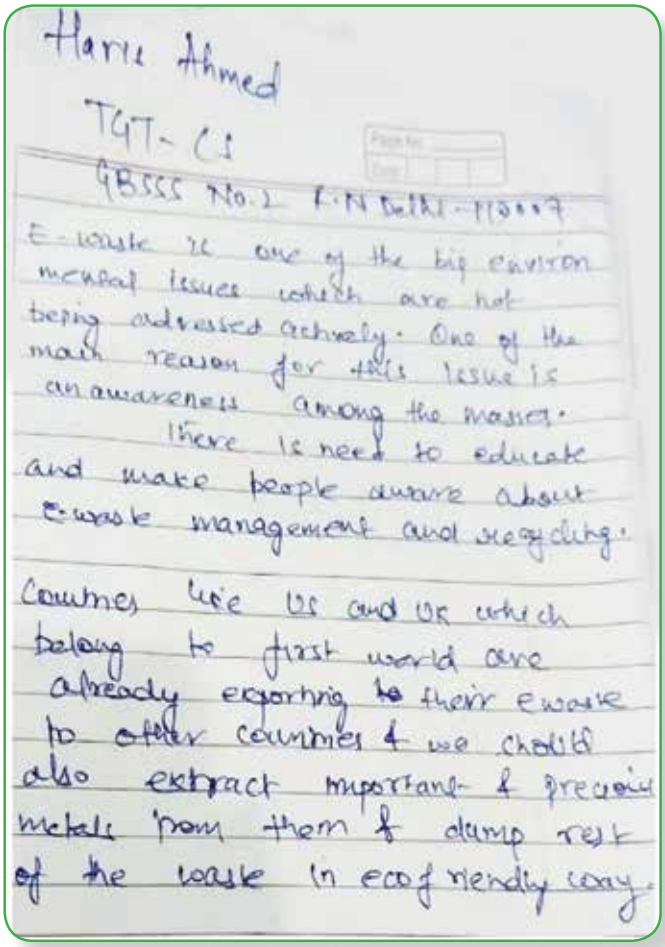
Principal
St. Joseph's High School
Laksmandir, Guwahati-29



31/Jan/2020

E-waste has always been a concern for the whole society. We have came across so much of e-waste in our locality many a times. People used to throw these e-waste in the municipal bins along with other garbage as they did not find it trustworthy to sell it to someone as their data can be restored and used later. But such initiatives of disposing e-waste are needed badly as it's necessary for us to understand our responsibility in cleaning the environment.

SHAGUN
TGT Natural Science
SKV Poorb Kalan



Harir Ahmed
TGT- CS
GBSSS No. 2 K.N Delhi-110007

E-waste is one of the big environmental issues which are not being addressed actively. One of the main reason for this issue is an awareness among the masses.

There is need to educate and make people aware about E-waste management and recycling.

Countries like US and UK which belong to first world are already exporting their e-waste to other countries & we should also extract important & precious metals from them & dump rest of the waste in ecofriendly way.

ANURUDH KUMAR PGT (CS) SBV Perumgaon

E- Waste Awareness

Along many Environmental problem, E-Waste is also very hramfull for human E-Waste is also related with all electronic devices like mobile, Computer, Television etc which are not decomposed itself To decompose or recycle, We need Specialized instrumends through which We can decompose E-Waste without harming enviorment, Many NGO's are Woking over E-waste recycleing. We can handover our E-waste to them.

DATE - 13-feb-2020

LUMSHYIAP UPPER PRIMARY SCHOOL
LUMSHYIAP
SHILLONG - 793001
Year of Establishment : 1996

Ref. No. Date 11.2.20

To

Clean to Green

Shillong

Subject: - Disposal of E-Waste and awareness programme.

Dear Sir,

Greetings from Lumshyiap Upper Primary School, Lumshyiap Shg-1

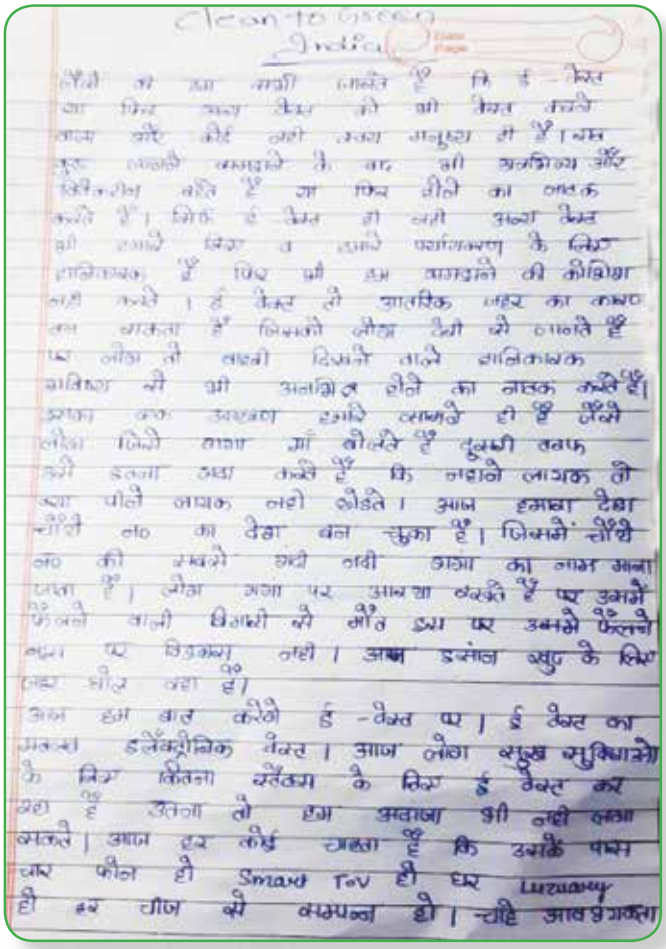
We thank you for conducting the awareness programme with regard to E-Waste at our school premises. The students from class IV to class IX attended the demonstration programme which was very beneficial for them. We thank MEITY and Clean and Green for making the event successful.

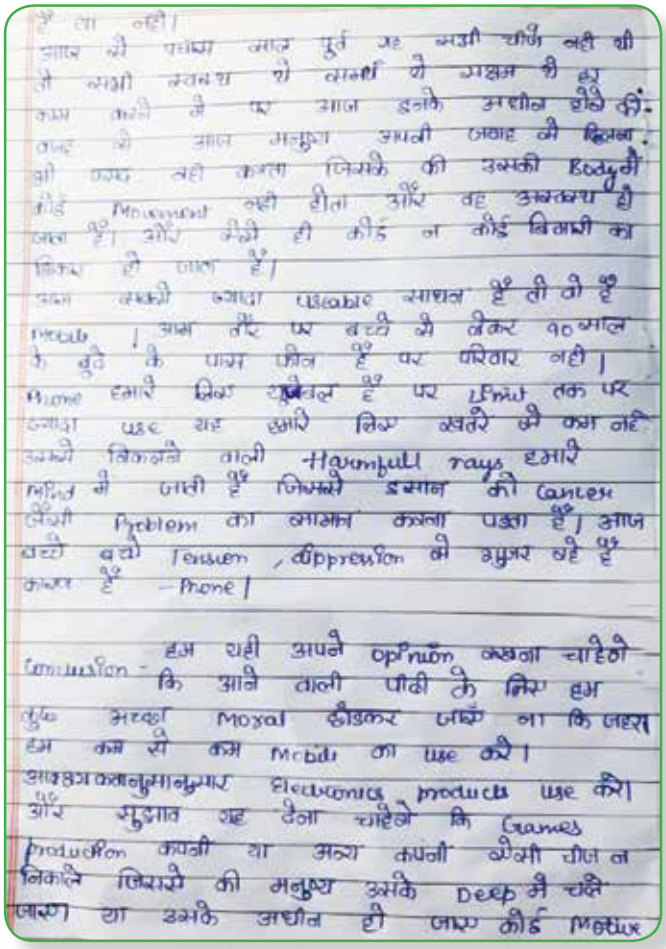
Thanking you

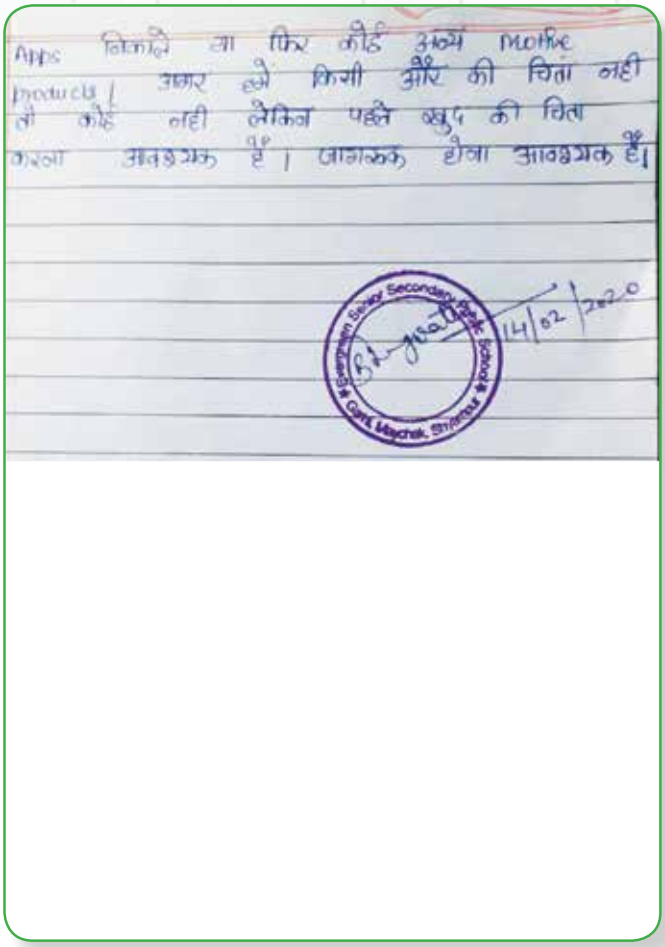
Smti. M. Ryntathiang
Head Teacher

Head Teacher
Lumshyiap U.P School
Shillong

LUMSHYIAP U.P SCHOOL ESTD : 1996 DATE : SHILLONG

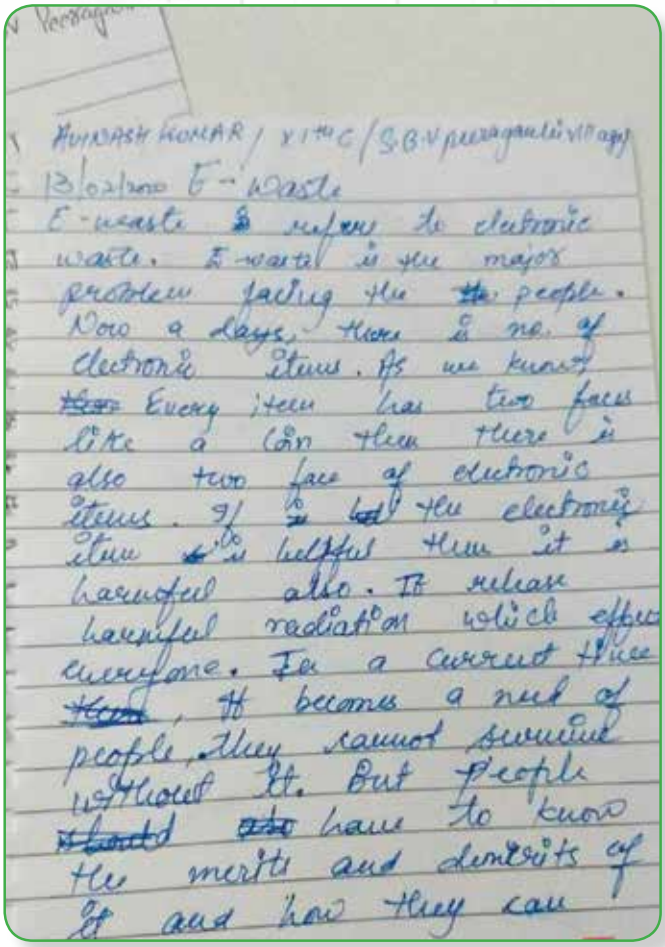






Apps लिखने या फिर कोई अन्य motive
products उसे किसी और की चिंता नहीं
तो कोई नहीं लेकिन पहले खुद की चिंता
करना आवश्यक है। जागरूक होना आवश्यक है।

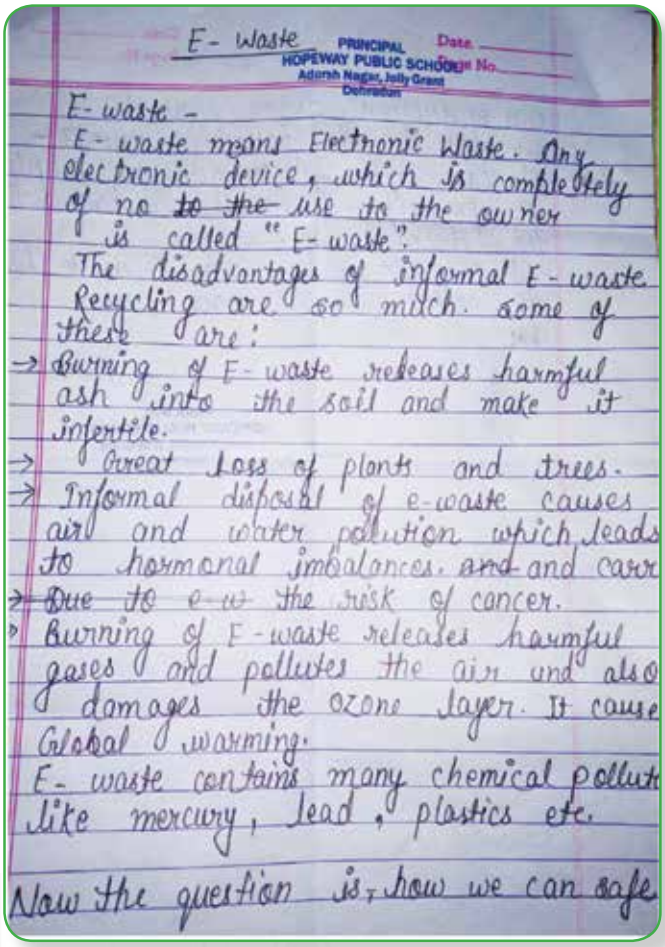
14/02/2020



Aayush Kumar / XI 'C' / S.B.V. Pauri Garhwal Uttarakhand

Blog on E-waste

E-waste is refers to electronic waste. E-waste is the major problem facing the people. Now a days, there is no. of electronic items. As we know Every item has two faces like a Coin then there is also two face of electronic items. If the electronic item is helpful then it is harmful also. It release harmful radiation which effect everyone. In a current time, it becomes a need of people. They cannot survive without it. But people have to know the merits and demerits of it and how they can



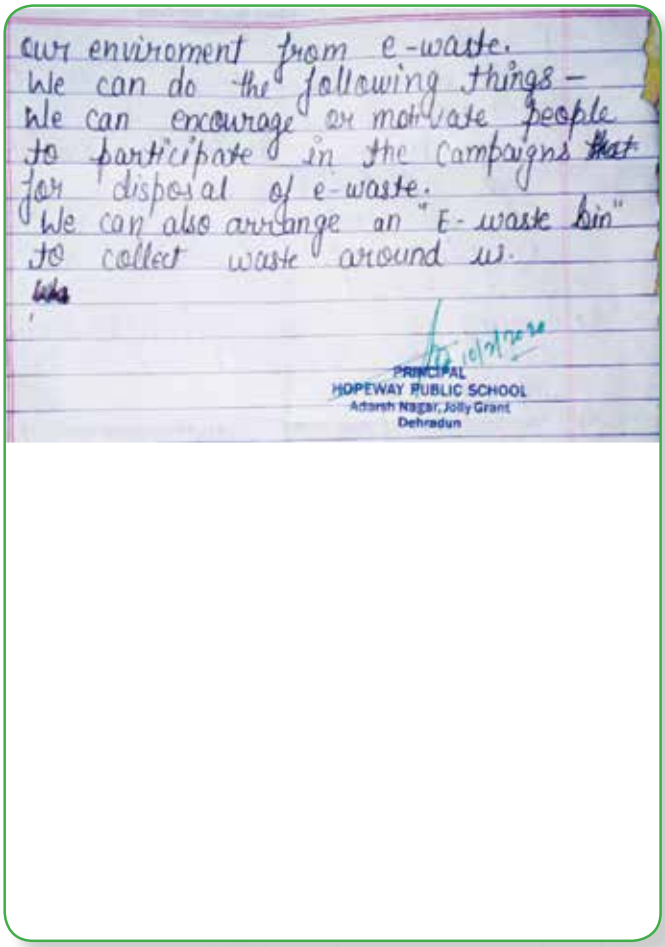
E- Waste

PRINCIPAL
HOPEWAY PUBLIC SCHOOL
Adarsh Nagar, Jolly Grant
Dehradun

Date
Page No.

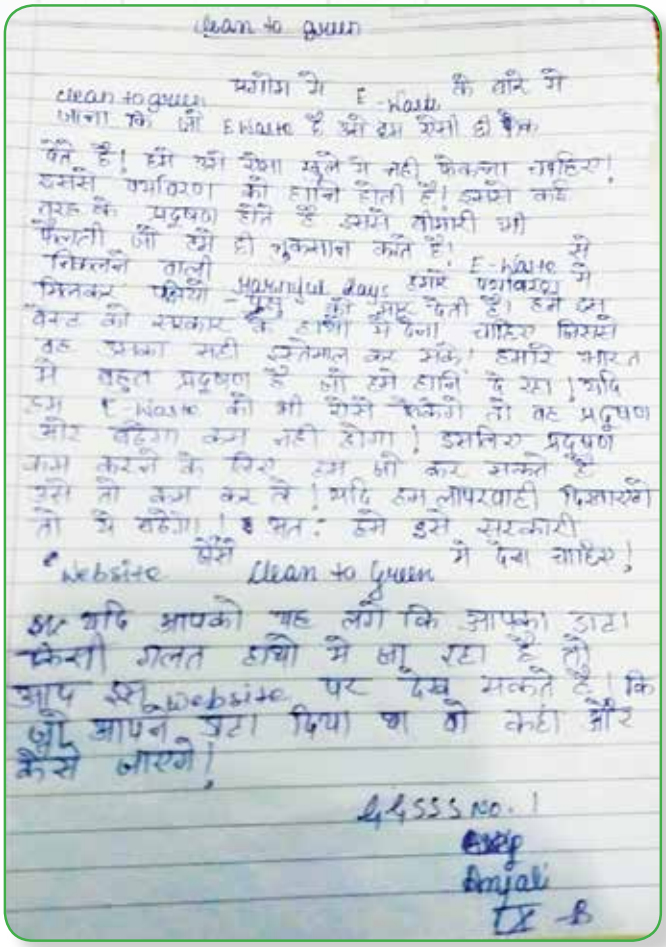
E-waste -
E-waste means Electronic Waste. Any electronic device, which is completely of no use to the owner is called "E-waste".
The disadvantages of informal E-waste Recycling are so much. Some of these are:
→ Burning of E-waste releases harmful ash into the soil and make it infertile.
→ Great loss of plants and trees.
→ Informal disposal of e-waste causes air and water pollution which leads to hormonal imbalances and carr
→ Due to e-w the risk of cancer.
→ Burning of E-waste releases harmful gases and pollutes the air and also damages the ozone layer. It cause Global warming.
E-waste contains many chemical pollut like mercury, lead, plastics etc.

Now the question is, how we can safe



our environment from e-waste.
We can do the following things -
We can encourage or motivate people to participate in the campaigns for disposal of e-waste.
We can also arrange an "E-waste bin" to collect waste around us.

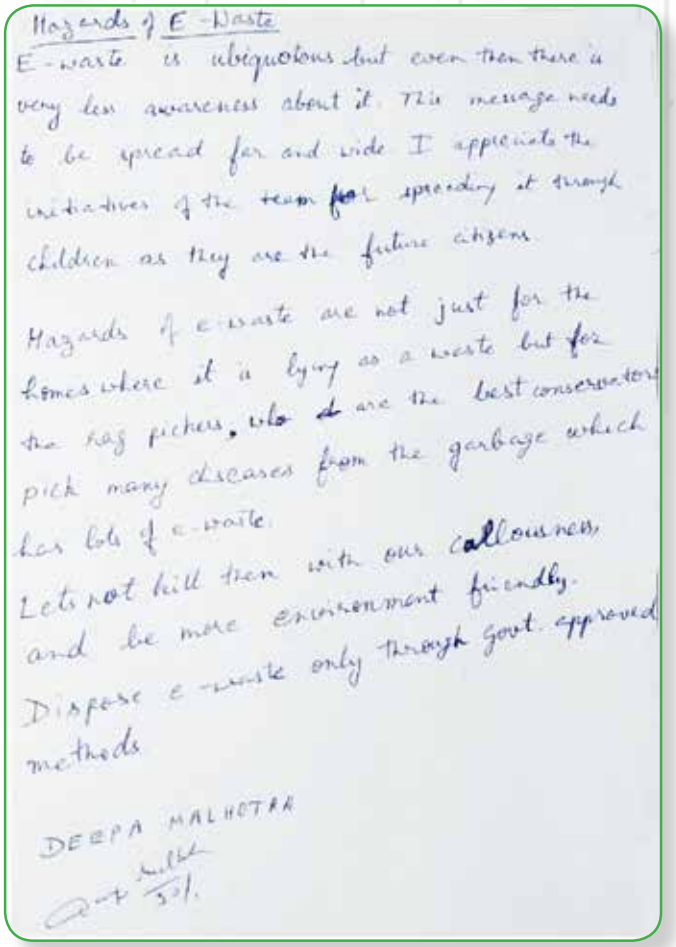
PRINCIPAL
HOPEWAY PUBLIC SCHOOL
Adarsh Nagar, Jolly Grant
Dehradun



clean to green

प्रयोग में E-Waste के तौर में
clean to green
लाना के जो E-Waste है और इस तरह से हैं।
कैसे है! हम जो चीजा स्कूल में नही फेकना चाहिए!
इससे पर्यावरण को हानि होती है! इससे कई
तरह के प्रदूषण होते है इससे बीमारी जो
फैलती जो ऐसे ही चुकसान करते है! E-Waste से
निकलने वाली Harmful Rays इससे पर्यावरण में
विनाश फैलाती - पृथ्वी को नष्ट करती है। हमे इस
वेस्ट को सरकार के हाथों में देना चाहिए जिससे
वह उसका सही ट्रीटमेन्ट कर सके! हमारे भारत
में बहुत प्रदूषण है जो हमे हानि दे रहा! यदि
हम E-Waste को जो ऐसे फेकेंगे तो वह प्रदूषण
और बढ़ेगा कम नही होगा! इसलिए प्रदूषण
कम करने के लिए हम भी कर सकते है
इसे तो कम कर दे! यदि हम लापरवाही दिखायेंगे
तो ये बढ़ेगा! इसलिए हमे इसे सरकारी
वेस्ट में देना चाहिए!
Website Clean to Green
और यदि आपको यह लगे कि आपका डाटा
कैसी गलत हाथो में जा रहा है तो
आप इस Website पर देख सकते है कि
जो आपने डाटा दिया था वो कहां और
कैसे जायेगे!

Class No. 1
Deep
Anjali
IX-B



Hazards of E-Waste

E-waste is ubiquitous but even then there is very less awareness about it. This message needs to be spread far and wide I appreciate the initiatives of the team for spreading it through children as they are the future citizens.

Hazards of e-waste are not just for the homes where it is lying as a waste but for the rag pickers, who are the best conservators for lots of e-waste.

pick many diseases from the garbage which

Lets not kill them with our callousness and be more environment friendly.

Dispose e-waste only through govt. approved methods

DEEPA MALHOTRA
Asst. Teacher
SOL

Annexure-III

Work Package III

The programme design in Phase II took up the onerous task of making advocacy and awareness around the environmental hazards of E-waste into a sustainable proposition. In order to ensure that this was achieved, it was important that resources were created at the local level, who would act as the ambassadors of the project as well as ensure that they would be the contact points in case someone would be interested to know more about the subject.

In order to achieve this objective, the Work Package III was designed to ensure that through a Training of Trainers programme which would be conducted in cities that were part of the project in Phase II, a battery of trainers would be created who would be able to conduct on-demand training exercises, workshops and activities with different kinds of stakeholders who were a part of the programme which was initiated in 2016.

In order to ensure that maximum outreach could be created, and quality content could be delivered, MAIT designed the programme in a manner that would allow more number of trainers to be trained targeting six specific stakeholders. The stakeholders were divided into three specific groups and master trainers designed the training programmes for each of these groups. The groups made were:

- Schools and Colleges
- RWAs and Bulk Consumers
- Informal Sector and Refurbishers

In order to ensure that the trainings that would be carried out during the Train the Trainer programme used similar techniques on pedagogy, MAIT organized a Master Trainers Training programme in Delhi in its office on the 30th &31st of August, 2018. There were 8 Master Trainers who were identified basis their subject-matter expertise and experience in conducting workshops on E-waste.

These Master Trainerswere:

1. Ms Sonal Chaturvedi
2. Capt. Manju Minhas
3. Ms Shefali Bakshi
4. Ms Indu Verma
5. Ms Aparna Gupta
6. Mr Saikat Mookherjee
7. Mr Amitaksha Nag
8. Mr Gautam Mehra

The Master Trainers Training programme was designed to also enhance the pedagogy skills of the trainers so that the training programmes conducted at the state level could be made more engaging with participants. Exercises were conducted around the five topics which are covered under the Walker's Cycle, including:

- Mind Jog
- Personal Connect
- Information Exchange
- Information Action, and
- Real-World Connect

This ensured that the trainers were able to make their own content which was unique to their style of delivery while keeping in mind the key tenets of the issues surrounding the topic of environmental hazards of E-waste disposal and safe practices that had to be followed.

It was also ensured that the content created was targeted at stakeholder groups that have been mentioned above. The key topics that were focussed for different target groups included the following:

Schools and Colleges

- E-waste: meaning and definition
- Introduction to E-waste with reference to daily applications and appliances in use
- Health and environmental impacts of E-waste
- Composition of E-waste
- E-waste rules and its interpretation
- Setting up of E-waste collection points and its safe disposal
- Sustainable consumption and LOHAS

RWAs and Bulk Consumers

- E-waste: meaning and definition
- E-waste rules and its applications for different stakeholders
- Impacts of E-waste on health and environmental
- Setting up E-waste collection centres and its safe disposal
- E-waste advocacy and outreach; importance of awareness generation

Informal Sector and Refurbishers

- E-waste rules and its application
- Environmental and health impacts of improper management of E-waste
- Process of formalization
- Setting up and maintenance of collection centres
- EPR and its applications
- Setting up of dismantling and recycling facilities for E-waste recycling

The MoEFCC and CPCB, as partners of the project, helped to ensure that there was complete cooperation which was made available from the State Pollution Control Boards and Pollution Control Committees. Letters were sent to the Chairperson and Member-Secretaries of respective SPCBs and PCCs so that arrangements could be made locally for the training rooms and seminar rooms to conduct the training programmes. The training programme evinced interest in the following category of people from the various stakeholder groups:

- School teachers
- Students from Eco-clubs
- College students
- Assistant Professors and Lecturers of colleges
- Presidents and Secretaries of RWAs
- Procurement Managers of Bulk Consumers
- Presidents and Secretaries of Refurbishers Associations
- Refurbishers
- NGOs working with the Informal Sector

Across the 21 cities where these Training of Trainers programmes were conducted, a total number of 1,231 of trainers participated and at the end of the course they were certified as “GreenE Champions” and were presented with a certificate each. A sample certificate is as below:



DETAILS OF GREENE CHAMPIONS

TRIPURA

City	Target Stakeholder	Name
Agartala	Informal & NGO	Samrat Choudhury
Agartala	Informal & NGO	Biplab Baidya
Agartala	Informal & NGO	Sima Sulradhar
Agartala	Informal & NGO	Chandan Sarkar
Agartala	Informal & NGO	Supriya Pal
Agartala	Informal & NGO	Mrinal Kanti Guha
Agartala	Informal & NGO	Sri Suku Dev
Agartala	Informal & NGO	Sarnsat Deb Barrna
Agartala	Informal & NGO	Suouman Bhattacharjee
Agartala	Informal & NGO	Subhrajit Paul
Agartala	Informal & NGO	Dipta Das
Agartala	Informal & NGO	Pritam Majumder
Agartala	Informal & NGO	Bappa .S
Agartala	Informal & NGO	Saurav Nandi
Agartala	Informal & NGO	Prasenjit Dada
Agartala	Informal & NGO	Shibabrata Singh Malla
Agartala	Informal & NGO	Pratik Rey Kanungo
Agartala	Informal & NGO	Ashok Roy
Agartala	Informal & NGO	Sandiyel Debbarma
Agartala	Informal & NGO	Sujit Sarma
Agartala	Informal & NGO	Satyadeep Sarma
Agartala	Informal & NGO	Nayan Sharma
Agartala	Informal & NGO	Satyajit Podsen
Agartala	Informal & NGO	Psasenjit Majumdes
Agartala	Informal & NGO	Baki Debbarma
Agartala	Informal & NGO	Akash Banik

Agartala	Informal & NGO	Rabi Kumar Debbanma
Agartala	Informal & NGO	Rahul. D
Agartala	Informal & NGO	Prasanjit Sankar
Agartala	Informal & NGO	Tamajit Roy
Agartala	Informal & NGO	Snehasish Das
Agartala	Informal & NGO	Surajit B
Agartala	Informal & NGO	Sagar Majuden
Agartala	Informal & NGO	Rajashri Debbarma
Agartala	Informal & NGO	Rumi Debbarma
Agartala	Informal & NGO	Sova Rani
Agartala	Informal & NGO	Inderjit Chakma
Agartala	Informal & NGO	Pohar Rupini
Agartala	Informal & NGO	Prasanta Debnath
Agartala	Informal & NGO	Jitendra Tripura
Agartala	Informal & NGO	Prafulla Noatia
Agartala	Informal & NGO	Alion Debbarma
Agartala	Informal & NGO	Sujoy Chakraborty
Agartala	Informal & NGO	Monoj Debnath
Agartala	Informal & NGO	Bishnu Tripura
Agartala	Informal & NGO	Sanjoy Mog
Agartala	Informal & NGO	Sourav Debbarma
Agartala	Informal & NGO	Joseph Reang
Agartala	Informal & NGO	Sukumar Chakma
Agartala	Informal & NGO	Vaghela M
Agartala	Informal & NGO	Prajapati Tripura
Agartala	Informal & NGO	Joshi Malay
Agartala	Informal & NGO	Salaman
Agartala	Informal & NGO	Grish M
Agartala	Informal & NGO	Hemal Rani
Agartala	School & College	Rupak Saha
Agartala	School & College	Krishan Das

Agartala	School & College	Rajesh Modak
Agartala	School & College	Suman Paul
Agartala	School & College	Rajesh Dey
Agartala	School & College	Subrata Das
Agartala	School & College	Debashish Das
Agartala	School & College	T. Chakrabotry
Agartala	School & College	Subrata Das
Agartala	School & College	Ratan Chakraborty
Agartala	School & College	Prasanta Das
Agartala	School & College	Sanjib Chakraborty
Agartala	School & College	Hrittik Chakraborty
Agartala	School & College	Ripan Ghosh
Agartala	School & College	Ashim Nama
Agartala	School & College	Sohan Das
Agartala	School & College	Subina Suiyad
Agartala	School & College	Prahlad Sil
Agartala	School & College	Parth Sarkar
Agartala	School & College	Smt. Tapashi Das
Agartala	School & College	Sri Supratim Roy
Agartala	School & College	Sri Ajoy Das
Agartala	School & College	Sri Sourav Patari
Agartala	School & College	Sri Amit Sil
Agartala	School & College	Sri Abhijit Das
Agartala	School & College	Sri Ajoy Sarkar
Agartala	School & College	Sri Anish Sarkar
Agartala	School & College	Smt. Rimpa Majumder
Agartala	School & College	Smt. Supriya Chakraborty
Agartala	School & College	Smt. Priya Das
Agartala	School & College	Smt. Nibedita Rd. Paul
Agartala	School & College	Smt. Jamuna Debnath
Agartala	School & College	Smt. Tanusree Chakraborty

Agartala	School & College	Smt. Sarmaistha Ghosh
Agartala	School & College	Smt. Bhagyasree Roy
Agartala	School & College	Smt. Gouri Ghosh
Agartala	School & College	Smt. Anamika Ghosh
Agartala	School & College	Smt. Sarbani Das
Agartala	School & College	Sri. Subankar Das
Agartala	School & College	Sri. Rajesh Dey
Agartala	RWA & Bulk Consumer	Arindam Majumder
Agartala	RWA & Bulk Consumer	Sanjib N
Agartala	RWA & Bulk Consumer	Pritam Majumder
Agartala	RWA & Bulk Consumer	Rupan Shil Shanma
Agartala	RWA & Bulk Consumer	Biplab Nama
Agartala	RWA & Bulk Consumer	Prasanjit Kar
Agartala	RWA & Bulk Consumer	Arjun Sarkar
Agartala	RWA & Bulk Consumer	Boppi Debnath
Agartala	RWA & Bulk Consumer	Dibenjit Baidya
Agartala	RWA & Bulk Consumer	Satyajit Shil Sharma
Agartala	RWA & Bulk Consumer	Titu Sarkar
Agartala	RWA & Bulk Consumer	Apan Baidya
Agartala	RWA & Bulk Consumer	Baisista Choudhary
Agartala	RWA & Bulk Consumer	Transh Chakraborty
Agartala	RWA & Bulk Consumer	Utpal Biswas
Agartala	RWA & Bulk Consumer	Prasenjit Biswas
Agartala	RWA & Bulk Consumer	Arpan Pal
Agartala	RWA & Bulk Consumer	Gabinda Baidya
Agartala	RWA & Bulk Consumer	Samaresh Sarkar
Agartala	RWA & Bulk Consumer	Pulak Bhowrnik
Agartala	RWA & Bulk Consumer	Biswajit Majumder
Agartala	RWA & Bulk Consumer	Suman Denath
Agartala	RWA & Bulk Consumer	Raydip Sen
Agartala	RWA & Bulk Consumer	Sanjoy Maynmder

Agartala	RWA & Bulk Consumer	Sourav Nardi
Agartala	RWA & Bulk Consumer	Saurar Pal
Agartala	RWA & Bulk Consumer	Abhijit Roy
Agartala	RWA & Bulk Consumer	Debowta Debnoth
Agartala	RWA & Bulk Consumer	Sujit Sarckare
Agartala	RWA & Bulk Consumer	Qebasish Bhowmik
Agartala	RWA & Bulk Consumer	Indrasit Saha
Agartala	RWA & Bulk Consumer	Pritam Mahuni
Agartala	RWA & Bulk Consumer	Rakesh Gope
Agartala	RWA & Bulk Consumer	Pritam Baidya
Agartala	RWA & Bulk Consumer	Efalorajit Sakar
Agartala	RWA & Bulk Consumer	Debanjan Majumder
Agartala	RWA & Bulk Consumer	Suman Debnath
Agartala	RWA & Bulk Consumer	Dr. Bal Krishan Choudhary
Agartala	RWA & Bulk Consumer	Prasanta Deb
Agartala	RWA & Bulk Consumer	Manik Paul
Agartala	RWA & Bulk Consumer	Samir Debnath
Agartala	RWA & Bulk Consumer	Barendra Das
Agartala	RWA & Bulk Consumer	Anurupa Kar
Agartala	RWA & Bulk Consumer	Biplab Talukder
Agartala	RWA & Bulk Consumer	Prashanta Choudhury
Agartala	RWA & Bulk Consumer	Prasenjit Saha

MIZORAM

City	Target Stakeholder	Name
Aizawl	Informal & NGO	Lucy Ngurkhumi Sailo
Aizawl	Informal & NGO	S. Lallwmzuali
Aizawl	Informal & NGO	Joseph Laltanpuia
Aizawl	Informal & NGO	Rensanghiani Rattte
Aizawl	Informal & NGO	Andrew Lalchinpuia
Aizawl	Informal & NGO	Stefen Chinzatt
Aizawl	Informal & NGO	Lalraunghaki
Aizawl	Informal & NGO	Roman Boro
Aizawl	Informal & NGO	Christopher Lun
Aizawl	Informal & NGO	Andrew Mangliano
Aizawl	Informal & NGO	Samual Zothanttuanga
Aizawl	Informal & NGO	Lal Rozuala
Aizawl	Informal & NGO	David Saizuala
Aizawl	Informal & NGO	S. Dawngtima
Aizawl	School & College	Agnes Roluahpui
Aizawl	School & College	Florence Lallawmsangi
Aizawl	School & College	Sarai Chozah
Aizawl	School & College	Jeresa Zaithantluangi
Aizawl	School & College	Pl Lalnunmawn
Aizawl	School & College	H. Pramod Chandra
Aizawl	School & College	Lalruatfela
Aizawl	School & College	F. Lalremruata
Aizawl	School & College	Jerusalem Lallawnguati
Aizawl	School & College	Lalthangkini
Aizawl	School & College	Ramngaihawmi
Aizawl	School & College	Lalremthianga
Aizawl	School & College	Issal Vanlalfriga
Aizawl	School & College	Sandy Lalchtnanghama
Aizawl	School & College	C.Vanalmal Sawan Kuanga
Aizawl	School & College	Iseisanore Poireinganta Singh
Aizawl	School & College	Lalremsiara Darchhun
Aizawl	School & College	Lalrinnungi

KARNATAKA

City	Target Stakeholder	Name
Bangalore	NGO & Informal	Rajalakshmi
Bangalore	NGO & Informal	Neelima
Bangalore	NGO & Informal	Rajendra Kulkarni
Bangalore	NGO & Informal	Srinivas .P.B
Bangalore	NGO & Informal	Shobhraj B.M
Bangalore	NGO & Informal	Prakash.D
Bangalore	NGO & Informal	Huligesh A
Bangalore	NGO & Informal	Vishalakahamma P.
Bangalore	NGO & Informal	Subray Bhokeonics Harsan
Bangalore	NGO & Informal	Chowdappa S.H
Bangalore	NGO & Informal	Madhusadhan.G
Bangalore	NGO & Informal	Pavana .J
Bangalore	NGO & Informal	Divya Mohan
Bangalore	NGO & Informal	Velpula Chaitanya
Bangalore	NGO & Informal	Prathap H R
Bangalore	NGO & Informal	Neelima
Bangalore	School & College	KAILASH MALKAPURE
Bangalore	School & College	ADARSH PADMARAM P
Bangalore	School & College	IMRAN SARADAR SANADI
Bangalore	School & College	GANESH K R
Bangalore	School & College	CHARAN R S
Bangalore	School & College	GANESH G
Bangalore	School & College	KIRAN KUMAR B T
Bangalore	School & College	KAILASH PATEL
Bangalore	School & College	MANOJ B J
Bangalore	School & College	Mahendra Reddy .H
Bangalore	School & College	Guruswamy N.A
Bangalore	School & College	Guruprasad T.R
Bangalore	School & College	Kavita Kushwaha
Bangalore	School & College	Elizabeth Marti
Bangalore	School & College	Madhuri OM
Bangalore	School & College	Kavyashree .B

Bangalore	School & College	Chakshith .B.R
Bangalore	School & College	A. Sreekanth Goced
Bangalore	School & College	Jyothi. R
Bangalore	School & College	Kusuma M.S
Bangalore	School & College	Dr. Aishwarya V. Sheety
Bangalore	School & College	Dr. Yashoda.R
Bangalore	School & College	Dr. Purnima B
Bangalore	School & College	Dr. Guruprasad C.N.
Bangalore	School & College	Dr. Madhu Sudhan K.S.
Bangalore	School & College	Dr. Satish Yadav. T
Bangalore	School & College	Dr. Shruthi Naik
Bangalore	School & College	Mona Keren
Bangalore	School & College	Dr. S. Chandrashekhar
Bangalore	RWA & Bulk Consumer	Veera R Pinto
Bangalore	RWA & Bulk Consumer	Sardar Basheer
Bangalore	RWA & Bulk Consumer	Divya T.S.
Bangalore	RWA & Bulk Consumer	Dakshayani
Bangalore	RWA & Bulk Consumer	Karan Kumar
Bangalore	RWA & Bulk Consumer	Mustar Ahmed
Bangalore	RWA & Bulk Consumer	S.L.N Simha
Bangalore	RWA & Bulk Consumer	Harshitha.C
Bangalore	RWA & Bulk Consumer	Saleem Pasha
Bangalore	RWA & Bulk Consumer	K. Koushik
Bangalore	RWA & Bulk Consumer	Kavya. S
Bangalore	RWA & Bulk Consumer	Swadha Das Mohapatra
Bangalore	RWA & Bulk Consumer	Gulshan Tyagi
Bangalore	RWA & Bulk Consumer	Mohammed Saqib Inyaz
Bangalore	RWA & Bulk Consumer	Mohammed Nawaz Khan/ NK STEEL
Bangalore	RWA & Bulk Consumer	S. Kudiarasu Seluan
Bangalore	RWA & Bulk Consumer	A. A Enterprises
Bangalore	RWA & Bulk Consumer	J. Soundararaj
Bangalore	RWA & Bulk Consumer	AL Hayy Trading company
Bangalore	RWA & Bulk Consumer	Raghu B. V
Bangalore	RWA & Bulk Consumer	Vyshnavee Vikranth
Bangalore	RWA & Bulk Consumer	Atul Sankar

TAMIL NADU

Chennai	Informal & NGO	A. A. RAJ
Chennai	Informal & NGO	Sevalaya S. Vijaykumar
Chennai	Informal & NGO	S. C. Suresh
Chennai	Informal & NGO	Milton
Chennai	Informal & NGO	Vaishali Dahle
Chennai	Informal & NGO	P. Gowri
Chennai	Informal & NGO	Murugaiyan .N
Chennai	Informal & NGO	V. Nagan
Chennai	Informal & NGO	D. Saravanan
Chennai	Informal & NGO	R. Dinesh Kumar
Chennai	Informal & NGO	V. Shruthi
Chennai	Informal & NGO	L. Pattabiraman
Chennai	Informal & NGO	K. Kayal Vizhi
Chennai	Informal & NGO	K. Nalini
Chennai	Informal & NGO	Firoz Khan
Chennai	Informal & NGO	B. Jagdish Kumar
Chennai	RWA & Bulk consumer	P. Satheesh Kumar
Chennai	RWA & Bulk consumer	John K. Thirunavvkkaarasu
Chennai	RWA & Bulk consumer	S. Abdul Nazer
Chennai	RWA & Bulk consumer	H. Dhanasekaran
Chennai	RWA & Bulk consumer	R. Poyyathu
Chennai	RWA & Bulk consumer	V. K. Murugesan
Chennai	RWA & Bulk consumer	S. Balasubramaniam
Chennai	RWA & Bulk consumer	J. A. Edwin
Chennai	RWA & Bulk consumer	O. Nagarajani
Chennai	RWA & Bulk consumer	R. Ulaga Nambi
Chennai	RWA & Bulk consumer	P. Sangeetha
Chennai	RWA & Bulk consumer	K. Guganatham
Chennai	RWA & Bulk consumer	G. Manivasagan
Chennai	RWA & Bulk consumer	A. Jothi prakash

Chennai	RWA & Bulk consumer	Muhammed Adil Farzan
Chennai	RWA & Bulk consumer	P. Parthasarathy
Chennai	RWA & Bulk consumer	K. Nalini
Chennai	RWA & Bulk consumer	G. Alagarasan
Chennai	School & College	Sunil kumar
Chennai	School & College	Asahrii Clement. K
Chennai	School & College	Rambabu Botcha
Chennai	School & College	A. Felix
Chennai	School & College	Arvind Kumar
Chennai	School & College	Mohan Singh Shekhawat
Chennai	School & College	Srikanta Kumar Ojha
Chennai	School & College	D. Rajesh
Chennai	School & College	D. Mayine
Chennai	School & College	NG. Shehveine
Chennai	School & College	Sincila Joseph
Chennai	School & College	Akho Phira
Chennai	School & College	Isthaq. A
Chennai	School & College	K. Raja
Chennai	School & College	Sathishkannan. M

DAMAN & DIU

Daman & Diu	Stakeholders	GreenE Champion
Daman	RWA & Bulk consumer	Manish Kadur
Daman	RWA & Bulk consumer	Soham Agrawat
Daman	RWA & Bulk consumer	Bhoya Punam
Daman	RWA & Bulk consumer	Jignesh Patel
Daman	RWA & Bulk consumer	Arun Faquir
Daman	RWA & Bulk consumer	Mayur Dinesh Bhai Patel
Daman	RWA & Bulk consumer	Gargee Shailesh Patel
Daman	RWA & Bulk consumer	Shashikant Bagul
Daman	RWA & Bulk consumer	Bhoomika Rana
Daman	RWA & Bulk consumer	Dipesh H Kamli
Daman	RWA & Bulk consumer	Dharmendra
Daman	Informal & NGO	Tanvi Patel
Daman	Informal & NGO	Trupati Patel
Daman	Informal & NGO	Nita Jignesh Patel
Daman	Informal & NGO	Gaytri Thakkar
Daman	Informal & NGO	Pratibha Smart
Daman	Informal & NGO	Poonam Singh
Daman	Informal & NGO	Parinder Thakur
Daman	Informal & NGO	Simple Katela
Daman	Informal & NGO	Jagruti Desai
Daman	School & College	Kundan Kumar
Daman	School & College	Bhuvesh Begul
Daman	School & College	Praveen Yadav
Daman	School & College	Galaiya Ashish
Daman	School & College	Rohit Prateep

UTTARAKHAND

Dehradun	RWA & Bulk consumer	Tushar Bansal
Dehradun	RWA & Bulk consumer	Naveen
Dehradun	RWA & Bulk consumer	Kamleshwar Singh
Dehradun	RWA & Bulk consumer	Reena
Dehradun	RWA & Bulk consumer	Vasi Ahamed
Dehradun	RWA & Bulk consumer	Mrs Richa Jauhari
Dehradun	RWA & Bulk consumer	Mrs Pragati Sharma.
Dehradun	RWA & Bulk consumer	Vivek Diwivedi
Dehradun	Informal & NGO	Soumya Baniwal
Dehradun	Informal & NGO	Swati Lakhera
Dehradun	Informal & NGO	Manish Rana
Dehradun	Informal & NGO	Gopi Chand
Dehradun	Informal & NGO	Abhijit Patwal
Dehradun	Informal & NGO	Akshat Rawat
Dehradun	Informal & NGO	Maneet Madan
Dehradun	Informal & NGO	Alpa Rauniyar
Dehradun	Informal & NGO	Gajendra Tiwari
Dehradun	Informal & NGO	Vineet
Dehradun	Informal & NGO	Ankit Mamgai
Dehradun	Informal & NGO	Nalin Thupiyal
Dehradun	Informal & NGO	Abhinav
Dehradun	School & College	Rashika Sharma
Dehradun	School & College	Damini Bilandani
Dehradun	School & College	Pratik Singh
Dehradun	School & College	Akshay Arora
Dehradun	School & College	Ajeet
Dehradun	School & College	Ankit Sahu
Dehradun	School & College	Swati Yadav
Dehradun	School & College	Riya Rawat
Dehradun	School & College	Gaurav Kumar Sagar
Dehradun	School & College	Rashmi

Dehradun	School & College	Asha Sharma
Dehradun	School & College	Nitesh
Dehradun	School & College	R. Vinod Kumar
Dehradun	School & College	Bipsha
Dehradun	School & College	Garima
Dehradun	School & College	Stuti
Dehradun	School & College	Yashi
Dehradun	School & College	Shreya Rawat
Dehradun	School & College	Aman Gupta
Dehradun	School & College	Vivek
Dehradun	School & College	Pranjali Negi
Dehradun	School & College	Ganga Sagra
Dehradun	School & College	Aakash Prasad
Dehradun	School & College	Abhyudey
Dehradun	School & College	Anshul
Dehradun	School & College	Vikas
Dehradun	School & College	Paras
Dehradun	School & College	Priyum Agarwal
Dehradun	School & College	Jay Bharai
Dehradun	School & College	Karishma Ghosh
Dehradun	School & College	Hemant Bisht
Dehradun	School & College	Kamlesh Chand
Dehradun	School & College	Neelesh Aggarwal
Dehradun	School & College	Paridhi
Dehradun	School & College	Sandeep
Dehradun	School & College	Shruti
Dehradun	School & College	Prakhav
Dehradun	School & College	Surbhi Jaiswal
Dehradun	School & College	Chavi Tayal
Dehradun	School & College	Kajal Banga
Dehradun	School & College	Puru Ggaur
Dehradun	School & College	Madhur Saxena

DELHI

Delhi	Informal & NGO	Pooja Joshi
Delhi	Informal & NGO	Dr. Arun Kumar
Delhi	Informal & NGO	Ashish Jain
Delhi	Informal & NGO	Usha Diwakar
Delhi	Informal & NGO	Poonam Pathak
Delhi	Informal & NGO	Priya Anand
Delhi	Informal & NGO	Dipak Khanna
Delhi	Informal & NGO	Chandan Lal Verma
Delhi	Informal & NGO	Saddhana Sood
Delhi	Informal & NGO	Rashi Singhal Agarwal
Delhi	Informal & NGO	Tanuja Pande
Delhi	Informal & NGO	Jyoti Pande
Delhi	Informal & NGO	Geetanjali Sharma
Delhi	Informal & NGO	Manju
Delhi	Informal & NGO	SS Shivam
Delhi	Informal & NGO	Rajkumari
Delhi	Informal & NGO	Manish
Delhi	Informal & NGO	Pooja Joshi
Delhi	Informal & NGO	Saroj Chotala
Delhi	RWA & Bulk consumer	Savita Singh
Delhi	RWA & Bulk consumer	Dr. Samita Dubey
Delhi	RWA & Bulk consumer	Anisha Verma
Delhi	RWA & Bulk consumer	Rekha Whig
Delhi	RWA & Bulk consumer	Ravi Sachaan
Delhi	RWA & Bulk consumer	Rohit Garg
Delhi	RWA & Bulk consumer	Aakash Tanwar
Delhi	RWA & Bulk consumer	Mohit
Delhi	RWA & Bulk consumer	Manjri
Delhi	RWA & Bulk consumer	G.K.Mukherjee
Delhi	RWA & Bulk consumer	Pankaj Kumar

Delhi	RWA & Bulk consumer	Yashpal
Delhi	RWA & Bulk consumer	Vijay
Delhi	RWA & Bulk consumer	Ranjit
Delhi	RWA & Bulk consumer	Rohit Kumar
Delhi	School & College	Sakshe
Delhi	School & College	Samridhi Sinha
Delhi	School & College	Hema Joshi
Delhi	School & College	Samiksha Agarwal
Delhi	School & College	Renu Saxena
Delhi	School & College	Arti Suri
Delhi	School & College	Mini Nayyar
Delhi	School & College	Vineet Prakash
Delhi	School & College	Sana Fatima
Delhi	School & College	Ujjwal Singh
Delhi	School & College	Ashma
Delhi	School & College	Vashishtha
Delhi	School & College	Faizan
Delhi	School & College	Manaswami
Delhi	School & College	Aman Sareen
Delhi	School & College	Shraddha Gaur
Delhi	School & College	Shubham Agarwal
Delhi	School & College	Prateek Tiwari
Delhi	School & College	Srishti Singhal
Delhi	School & College	Mani Raj Singh

GUJARAT

Gandhinagar	RWA & Bulk consumer	Pinky Bundela
Gandhinagar	RWA & Bulk consumer	Rajput Shubham
Gandhinagar	RWA & Bulk consumer	Kaushal Gohil
Gandhinagar	RWA & Bulk consumer	Lokesh Deva
Gandhinagar	RWA & Bulk consumer	Krishna Prajapati
Gandhinagar	RWA & Bulk consumer	Ronak Chawra
Gandhinagar	RWA & Bulk consumer	Hitesh G. Rana
Gandhinagar	RWA & Bulk consumer	Hina Rathod
Gandhinagar	RWA & Bulk consumer	Krunal Patel
Gandhinagar	RWA & Bulk consumer	Mayuti Shah
Gandhinagar	RWA & Bulk consumer	Kinjal Parjapati
Gandhinagar	RWA & Bulk consumer	Rizauana S.thabe
Gandhinagar	RWA & Bulk consumer	vrujesh B Rasulam
Gandhinagar	Informal & NGO	Nisha Rajput
Gandhinagar	Informal & NGO	Hemal Parmar
Gandhinagar	Informal & NGO	Malay Joshi
Gandhinagar	Informal & NGO	Anand Gupta
Gandhinagar	Informal & NGO	Vinod Mahu
Gandhinagar	Informal & NGO	Agrawal Maalav
Gandhinagar	Informal & NGO	Girish Agarwal
Gandhinagar	Informal & NGO	Parag Prujupati
Gandhinagar	Informal & NGO	Ravi Prajapati
Gandhinagar	Informal & NGO	Arun Kumar
Gandhinagar	Informal & NGO	Mo.Salman
Gandhinagar	Informal & NGO	Ansari
Gandhinagar	Informal & NGO	Gill Ishwar Singh
Gandhinagar	Informal & NGO	Manjit Singh
Gandhinagar	Informal & NGO	Samir Jatin
Gandhinagar	Informal & NGO	Ali Saiyad
Gandhinagar	Informal & NGO	Kamalija Ravi.D
Gandhinagar	Informal & NGO	Dr. D.G. Dodiya

Gandhinagar	Informal & NGO	D.H. Solanki
Gandhinagar	Informal & NGO	P.D. Parmar
Gandhinagar	Informal & NGO	Mehul Bharati
Gandhinagar	Informal & NGO	Manish Vaghela
Gandhinagar	Informal & NGO	Harshad P. Solanki
Gandhinagar	Informal & NGO	Rathod Pavitra
Gandhinagar	Informal & NGO	Chevli Keshmina
Gandhinagar	Informal & NGO	Prajapati Sneha
Gandhinagar	Informal & NGO	Rawat Darshana
Gandhinagar	School & College	Patel Suchi
Gandhinagar	School & College	Mishra raksh
Gandhinagar	School & College	Shah Niti
Gandhinagar	School & College	Chaudhary Riya
Gandhinagar	School & College	Patel Unnati
Gandhinagar	School & College	Shesh Preksher
Gandhinagar	School & College	Advitiya Bhattacharya
Gandhinagar	School & College	Bhoomi Tambedia
Gandhinagar	School & College	Bhargavi Reena
Gandhinagar	School & College	Shreya Shah
Gandhinagar	School & College	Patel Arti
Gandhinagar	School & College	Saiyad Sabina
Gandhinagar	School & College	bhatt Soham
Gandhinagar	School & College	Prajapati Mit
Gandhinagar	School & College	Patel Trusha
Gandhinagar	School & College	Iswan Muttari
Gandhinagar	School & College	Patel Apura
Gandhinagar	School & College	Nikunj Chuudhuri
Gandhinagar	School & College	Archant Kamdar
Gandhinagar	School & College	Aditaya Raj
Gandhinagar	School & College	Dr. Bhavik N. Patel
Gandhinagar	School & College	Ravi R. Shita

SIKKIM

Gangtok	Informal & NGO	Kumar Chettri
Gangtok	Informal & NGO	Anjam Rai
Gangtok	Informal & NGO	Vsrawan Rai
Gangtok	Informal & NGO	Anita Chettri
Gangtok	Informal & NGO	Anita Rai
Gangtok	Informal & NGO	Swapna Lama
Gangtok	Informal & NGO	Budha S Galung
Gangtok	Informal & NGO	Premanand Rai
Gangtok	Informal & NGO	Ijak Rai
Gangtok	Informal & NGO	Sunil Pradhan
Gangtok	Informal & NGO	Anita Tamang
Gangtok	Informal & NGO	Rajan Pradhan
Gangtok	Informal & NGO	Mary Lepcha
Gangtok	School & College	Depan Sharma
Gangtok	School & College	Adarsh Thapa
Gangtok	School & College	Karja Doma Bhutia
Gangtok	School & College	Khina Mayal Dahal
Gangtok	School & College	Satish Paswan
Gangtok	School & College	Puskar Sharma
Gangtok	School & College	Hemlatta Sharma
Gangtok	School & College	Puja Acharya
Gangtok	School & College	Swaranjali Chettri
Gangtok	School & College	Gunja Chaurasia
Gangtok	School & College	Manika Pradhan
Gangtok	School & College	Shalom Subba
Gangtok	School & College	Mahima Chettri

Gangtok	School & College	Sapna Kumari
Gangtok	School & College	Mamta Sharma
Gangtok	School & College	Raj Kumar Subha
Gangtok	School & College	Anisha Rai
Gangtok	School & College	Darshan RajPradhan
Gangtok	School & College	Cheema Chettri
Gangtok	School & College	Geeta Chettri
Gangtok	School & College	Rinzing Chedin Lepcha
Gangtok	School & College	Nibsay singh Daav
Gangtok	School & College	Prahita Gurung
Gangtok	School & College	Mohammad Sahil
Gangtok	School & College	Dr. Praveen Sehgal
Gangtok	School & College	Chuttimbenzne Lepcha
Gangtok	School & College	Nim Tshering

HARYANA

Gurugram	Informal & NGO	Vasudha Kapoor Duggal
Gurugram	Informal & NGO	Purva Sachdeva
Gurugram	RWA & Bulk Consumer	Jyoti Agarwal
Gurugram	RWA & Bulk Consumer	Deepa Mehra
Gurugram	School & College	Shama
Gurugram	School & College	Anju
Gurugram	School & College	Neha
Gurugram	School & College	Dr. Shalini
Gurugram	School & College	Varsha Sehrawat
Gurugram	School & College	Ritu Yadav
Gurugram	School & College	Monika Yadav
Gurugram	School & College	Pooja Kumari
Gurugram	School & College	Sushmita Chand
Gurugram	School & College	Meenu Kumar
Gurugram	Informal & NGO	Santosh Verma
Gurugram	Informal & NGO	Tapas Kumar Mandal
Gurugram	Informal & NGO	Iren Duggal
Gurugram	Informal & NGO	Rakesh Kumar
Gurugram	Informal & NGO	Dr. Yogendra Singh
Gurugram	Informal & NGO	Sonu Kumar
Gurugram	Informal & NGO	Sushil Katnawal
Gurugram	Informal & NGO	Ritik Singhal
Gurugram	RWA & Bulk Consumer	Jagdish Chandra
Gurugram	RWA & Bulk Consumer	Anil Malik
Gurugram	RWA & Bulk Consumer	Raghuvinder Singh
Gurugram	RWA & Bulk Consumer	Hari Shankar
Gurugram	School & College	Mukul Sharma
Gurugram	School & College	Mohit Yadav
Gurugram	School & College	Mahesh
Gurugram	School & College	Aman Gambhir
Gurugram	School & College	Anubhav Aggarrwal

TELENGANA

Hyderabad	NGO & Informal	S. A. A. Salam
Hyderabad	NGO & Informal	Dr. Mohammed Masoo d Mohiuddin
Hyderabad	NGO & Informal	K. Anu Radha
Hyderabad	NGO & Informal	Srujan Seri
Hyderabad	NGO & Informal	S. Shyam Sundar Reddy
Hyderabad	NGO & Informal	D. Anjamma
Hyderabad	NGO & Informal	P. Narasimha
Hyderabad	NGO & Informal	N. Bhaskar
Hyderabad	NGO & Informal	Konapuram Raju
Hyderabad	NGO & Informal	Sunke Raju
Hyderabad	NGO & Informal	B. Ravi
Hyderabad	NGO & Informal	Kishan Gowlikar
Hyderabad	NGO & Informal	K. Rahul Reddy
Hyderabad	NGO & Informal	K. Santson
Hyderabad	NGO & Informal	B. Sundeep Kumar
Hyderabad	NGO & Informal	Madhu Babu Chikile
Hyderabad	NGO & Informal	Gandu Ravi
Hyderabad	NGO & Informal	Chavva Maheswari
Hyderabad	NGO & Informal	A. Siva Pravathi
Hyderabad	NGO & Informal	Nomula. Sada Shiva Reddy
Hyderabad	NGO & Informal	Kodavati Rama
Hyderabad	NGO & Informal	Sharath Kumar
Hyderabad	NGO & Informal	P. Kotaiah
Hyderabad	NGO & Informal	M. Lakshmana Rao
Hyderabad	NGO & Informal	B. Aravind
Hyderabad	NGO & Informal	K.V. Narsing Rao
Hyderabad	NGO & Informal	K. Shoba Rani
Hyderabad	NGO & Informal	Mohammed Abdul Shoieb
Hyderabad	NGO & Informal	Mohammed Kazim Ali
Hyderabad	NGO & Informal	Atchula Muralidhar

Hyderabad	NGO & Informal	Rathod Ambu Naik
Hyderabad	NGO & Informal	T. Vignesh
Hyderabad	NGO & Informal	Biyyala Srijith
Hyderabad	NGO & Informal	Alwala Manoj Sai
Hyderabad	NGO & Informal	K. Veerasarun
Hyderabad	School & College	Vaishnav Raj
Hyderabad	School & College	Shriya Rao P
Hyderabad	School & College	Rincy Sebastian
Hyderabad	School & College	Hinduja
Hyderabad	School & College	M.Harini
Hyderabad	School & College	Shree Veena
Hyderabad	School & College	Pravalika Rama
Hyderabad	School & College	Habeeb Reza
Hyderabad	School & College	Rajanish Vallam
Hyderabad	School & College	Mukim Ahmed Middya
Hyderabad	School & College	Rishita.G
Hyderabad	School & College	Dr. Peteti Seshabala
Hyderabad	School & College	Bandi Vijay Kumar
Hyderabad	School & College	S.Monika
Hyderabad	School & College	Mahin Fatima
Hyderabad	School & College	Ashwini Tare
Hyderabad	School & College	Saniya Begum
Hyderabad	School & College	Maariya Nazneen
Hyderabad	School & College	Hajiunissa
Hyderabad	School & College	Sakeeba Maheen
Hyderabad	School & College	Nishath Fatima
Hyderabad	School & College	Farbana Tabassum
Hyderabad	School & College	Asima Sanober
Hyderabad	School & College	Bhavani
Hyderabad	School & College	Ibrahim
Hyderabad	School & College	Tyoses

Hyderabad	School & College	Giriraj
Hyderabad	School & College	Meghana
Hyderabad	School & College	Nitesh
Hyderabad	School & College	Suna
Hyderabad	School & College	Priyanka
Hyderabad	School & College	Juhi
Hyderabad	School & College	Mrs. Parimala
Hyderabad	School & College	P. Nikhite
Hyderabad	School & College	Shrimanth Pochampally
Hyderabad	RWA & Bulk Consumer	T.Aditya
Hyderabad	RWA & Bulk Consumer	N.Srinivas
Hyderabad	RWA & Bulk Consumer	Aisha Fathima
Hyderabad	RWA & Bulk Consumer	Kunaal Gadhalay
Hyderabad	RWA & Bulk Consumer	G. Roja Hasini
Hyderabad	RWA & Bulk Consumer	Raksha Awasya
Hyderabad	RWA & Bulk Consumer	Thejashwini Patnam
Hyderabad	RWA & Bulk Consumer	P. Sai Krupa
Hyderabad	RWA & Bulk Consumer	Ch. Mahesh Govd
Hyderabad	RWA & Bulk Consumer	T. Praveen
Hyderabad	RWA & Bulk Consumer	CH. Sai Mohan
Hyderabad	RWA & Bulk Consumer	Amish Meyitha
Hyderabad	RWA & Bulk Consumer	Parvinder Singh
Hyderabad	RWA & Bulk Consumer	B. Ravi Shankar
Hyderabad	RWA & Bulk Consumer	P. Ravi Kumar
Hyderabad	RWA & Bulk Consumer	Rahul Singh
Hyderabad	RWA & Bulk Consumer	G. Rajesh Reddy

RAJASTHAN

Jaipur	Informal & NGO	Hukum Sharma
Jaipur	Informal & NGO	Mukesh Luhar
Jaipur	Informal & NGO	Satish Kumar Snehi
Jaipur	Informal & NGO	Rajesh Malakar
Jaipur	Informal & NGO	Suleman Shekh
Jaipur	Informal & NGO	Ganeshlal Tanwar
Jaipur	Informal & NGO	Archana Agrawal
Jaipur	Informal & NGO	Sejal Agarwal
Jaipur	Informal & NGO	Meena Kumar Sindhi
Jaipur	Informal & NGO	Shivcharan Gupta
Jaipur	Informal & NGO	Gajraj Jangid
Jaipur	Informal & NGO	Pankaj Gupta
Jaipur	Informal & NGO	Vishnu Kumar Sakunia
Jaipur	School & College	Diksha Goyal
Jaipur	School & College	Anjali Verma
Jaipur	School & College	Anjali Sharma
Jaipur	School & College	Arpita Shrimal
Jaipur	School & College	Akshita Sharma
Jaipur	School & College	Somya Bhatt
Jaipur	School & College	Bhumika Shekhawat
Jaipur	School & College	Rohit Saini
Jaipur	School & College	Harsh Shrimal
Jaipur	School & College	Yuvraj Singh
Jaipur	School & College	Nitin Sharma
Jaipur	School & College	Lokendra Sharma
Jaipur	School & College	Deepak Jangid
Jaipur	School & College	Rishikesh
Jaipur	School & College	Yogesh Kuamr
Jaipur	School & College	Pooja Prajapat
Jaipur	School & College	Sanju Prajapat
Jaipur	School & College	Shivani Choudhary
Jaipur	School & College	Rajni Choudhary
Jaipur	School & College	Kavita Verma

Jaipur	School & College	Gyan Prakash Sharma
Jaipur	School & College	Nirmal Sharma
Jaipur	School & College	Shiv Lahari Sharma
Jaipur	School & College	Er. Himanshu Sharma
Jaipur	School & College	Lokesh Kumar Sharma
Jaipur	School & College	Akshima Joshi
Jaipur	School & College	Abhishek Saini
Jaipur	School & College	Samyak Jain
Jaipur	School & College	Rajesh Dheerwani
Jaipur	School & College	Nitin Kumar Vasvani
Jaipur	School & College	Deepak Sain
Jaipur	School & College	Yogesh Kumar Jaswani
Jaipur	School & College	Sachin Kumar Jangid
Jaipur	School & College	Nitish Jaghid
Jaipur	RWA & Bulk Consumer	Radhamohan Sharma
Jaipur	RWA & Bulk Consumer	Raman Nagpal
Jaipur	RWA & Bulk Consumer	Om Prakash Mali
Jaipur	RWA & Bulk Consumer	Arpit Agrawal
Jaipur	RWA & Bulk Consumer	Rakesh Pandey
Jaipur	RWA & Bulk Consumer	Saumya Garg
Jaipur	RWA & Bulk Consumer	Samarth Sharma
Jaipur	RWA & Bulk Consumer	Abhishek Paliwal
Jaipur	RWA & Bulk Consumer	Samvit Paliwal
Jaipur	RWA & Bulk Consumer	Amit Jhalani
Jaipur	RWA & Bulk Consumer	Sumit Sharma
Jaipur	RWA & Bulk Consumer	Dharmendra Kumar Kumawat
Jaipur	RWA & Bulk Consumer	Rahul Kumawat
Jaipur	RWA & Bulk Consumer	Kamlesh Jagratwal
Jaipur	RWA & Bulk Consumer	Lovely Acharya
Jaipur	RWA & Bulk Consumer	Shyam Bansal
Jaipur	RWA & Bulk Consumer	Siddharth Tomar
Jaipur	RWA & Bulk Consumer	Praveen Acharya
Jaipur	RWA & Bulk Consumer	Norat Ram
Jaipur	RWA & Bulk Consumer	Dramod Dhaklani
Jaipur	RWA & Bulk Consumer	Pinki Saini

LAKSHADWEEP

Kavaratti	Informal & NGO	Siyana B. N
Kavaratti	Informal & NGO	Sumayya Beevi C. P
Kavaratti	Informal & NGO	Sabeena Beegum
Kavaratti	Informal & NGO	Sajina Nasneen T. S
Kavaratti	Informal & NGO	Zaifuneza. P
Kavaratti	Informal & NGO	Rubeena CK
Kavaratti	Informal & NGO	Beegum Fathima .S
Kavaratti	Informal & NGO	Ruksana Beegam.BP
Kavaratti	Informal & NGO	Nahdeyathbi TKP
Kavaratti	Informal & NGO	Jadeera Beegum P.V
Kavaratti	Informal & NGO	Narshietha Beegum M.P
Kavaratti	Informal & NGO	Beegum Sithara. P
Kavaratti	Informal & NGO	Sahla.P. I
Kavaratti	Informal & NGO	Haleelnlla. P
Kavaratti	Informal & NGO	Vahidha. M. P
Kavaratti	Informal & NGO	Najeeba Kathoon.HM
Kavaratti	Informal & NGO	Aneesa. K
Kavaratti	Informal & NGO	Azeela Jabeen KT
Kavaratti	Informal & NGO	Ajmela Thasneem P.C
Kavaratti	Informal & NGO	Abdul Salma KC
Kavaratti	Informal & NGO	Mohd Fayas N.C
Kavaratti	Informal & NGO	Mohd Irshad Irfan
Kavaratti	Informal & NGO	Afsal K.H
Kavaratti	Informal & NGO	Arshid Riyaz B.B
Kavaratti	Informal & NGO	Salmanul Faris S.M
Kavaratti	Informal & NGO	Ashik mon .P.P
Kavaratti	Informal & NGO	Syyed Munavarulla .B
Kavaratti	Informal & NGO	Anees.AM
Kavaratti	Informal & NGO	Thouseefadi. PP

Kavaratti	Informal & NGO	Arbaaz Mohd
Kavaratti	Informal & NGO	Naseef Haseena PV
Kavaratti	Informal & NGO	Nabeesathbi HP
Kavaratti	Informal & NGO	Suhrabi TP
Kavaratti	Informal & NGO	Sarabi TP
Kavaratti	Informal & NGO	Fathumabi AP
Kavaratti	Informal & NGO	Muminath.K
Kavaratti	Informal & NGO	Shameena T
Kavaratti	Informal & NGO	Sahida AK
Kavaratti	Informal & NGO	Ali Akber RM
Kavaratti	Informal & NGO	Naserudween B
Kavaratti	Informal & NGO	Raseena Beegum
Kavaratti	Informal & NGO	Sajida KP
Kavaratti	Informal & NGO	Jameela KP
Kavaratti	Informal & NGO	Sarjeena AK
Kavaratti	Informal & NGO	Sayeel Mohd
Kavaratti	Informal & NGO	Haseena
Kavaratti	Informal & NGO	Beebi AK
Kavaratti	Informal & NGO	Moominath
Kavaratti	Informal & NGO	Mohd Najeeb
Kavaratti	Informal & NGO	Thahira
Kavaratti	Informal & NGO	Yashika
Kavaratti	School & College	Kadeeja Manika
Kavaratti	School & College	Marjeena P
Kavaratti	School & College	Hafeeza Kunnuganduge
Kavaratti	School & College	Zaheeka Farha K
Kavaratti	School & College	Shamseera Banu P
Kavaratti	School & College	Suhrifa
Kavaratti	School & College	Mohammed Shameel L
Kavaratti	School & College	Havvabi K.M
Kavaratti	School & College	Adila K

Kavaratti	School & College	Mohd Sadique
Kavaratti	School & College	Anzira K.K
Kavaratti	School & College	Raisa K.P
Kavaratti	School & College	Faisa Beegum P.C
Kavaratti	School & College	Afshana B.K.N
Kavaratti	School & College	Nasareena Gulshar S.H
Kavaratti	School & College	Muhammed Ansar N.N
Kavaratti	School & College	Safeena K
Kavaratti	School & College	Suhaima Manika
Kavaratti	School & College	Jaseena U.P
Kavaratti	School & College	Naseefa Beegum B
Kavaratti	School & College	Jubairiyath A
Kavaratti	School & College	Mohd Shaheed
Kavaratti	School & College	Noufira V.C
Kavaratti	School & College	Shabana C.O
Kavaratti	School & College	Kadheeja C.K
Kavaratti	School & College	Farisa Beegum F. B
Kavaratti	School & College	Latheetha E.P.
Kavaratti	School & College	Beebi Asoora K.
Kavaratti	School & College	Nafiya V.F
Kavaratti	School & College	Husna V.F
Kavaratti	School & College	vahidha. M. P
Kavaratti	School & College	Nabeela Naureen
Kavaratti	School & College	Sajna Jahan M.P
Kavaratti	School & College	Jazeela .M.K
Kavaratti	School & College	Thamjeeda Parveen
Kavaratti	School & College	Raziya Beegum M.P
Kavaratti	School & College	Sara A.P
Kavaratti	School & College	Beebi Asoora C
Kavaratti	School & College	Burhanudheen A.K
Kavaratti	School & College	Hussaina Shamshad M.K

Kavaratti	School & College	Shabeena Mole P.A
Kavaratti	School & College	Sainababi T.P
Kavaratti	School & College	Beebi Asoora V.M
Kavaratti	School & College	Rameesa P.P
Kavaratti	School & College	Mohd Yousaf A.H
Kavaratti	School & College	Abdul Rasheeque
Kavaratti	School & College	Ishaque MP
Kavaratti	School & College	Mohd Fayaz P.S
Kavaratti	School & College	Mohd Ansal Ali
Kavaratti	School & College	Savad P
Kavaratti	School & College	Shamsudelin KO
Kavaratti	School & College	Mohd Irfan KP
Kavaratti	School & College	Arshad Khan TP
Kavaratti	School & College	Sarthaj Azeez S.M
Kavaratti	School & College	Mohd Zaheen C.N
Kavaratti	School & College	Mohd Suhail P.K
Kavaratti	School & College	Mohd Nigas T.K
Kavaratti	School & College	Mohd Iqbal J.M
Kavaratti	School & College	Abdu Salam NM
Kavaratti	School & College	Sameer K.C
Kavaratti	School & College	Mohd Nasarudheen PC

PUNJAB

Mohali	Informal & NGO	Mrs Mona Titus
Mohali	Informal & NGO	Premjeet Titus
Mohali	Informal & NGO	Raj Kumar
Mohali	Informal & NGO	Prabal Titus
Mohali	Informal & NGO	Yashwani Mishra
Mohali	Informal & NGO	Darshita Mishra
Mohali	Informal & NGO	Ranjana Mishra
Mohali	School & College	Gurdev Singh
Mohali	School & College	Rohit Kumar
Mohali	School & College	Rouble
Mohali	School & College	Binesh Bhatia
Mohali	School & College	Asmita Jaisa
Mohali	School & College	Raj Sukirat Singh
Mohali	School & College	Akshat Aggrawal
Mohali	School & College	Murtaze Ali
Mohali	School & College	Nikita
Mohali	School & College	Anmol Kapoor
Mohali	School & College	Gurpreet Kaur
Mohali	School & College	Richan
Mohali	School & College	Gurpreet Kaur
Mohali	School & College	Pooja Rani
Mohali	School & College	Jitender Pal
Mohali	School & College	Abhishek Kumar
Mohali	School & College	Monica
Mohali	RWA & Bulk Consumer	Neeraj Kumar
Mohali	RWA & Bulk Consumer	Gurcharan Singh
Mohali	RWA & Bulk Consumer	Balwinder Singh
Mohali	RWA & Bulk Consumer	Kulwinder Kaur
Mohali	RWA & Bulk Consumer	Sh. Nitin Kumar Rai
Mohali	RWA & Bulk Consumer	Sh. Akshay Kumar
Mohali	RWA & Bulk Consumer	Jagdeep Singh

MAHARASHTRA

Mumbai	RWA & Bulk Consumer	R. Bina
Mumbai	RWA & Bulk Consumer	Jaspal Singhnaol
Mumbai	RWA & Bulk Consumer	Aniket Katekar
Mumbai	RWA & Bulk Consumer	Amandeep Singh
Mumbai	RWA & Bulk Consumer	Nitin Mame
Mumbai	RWA & Bulk Consumer	Amit nikam
Mumbai	RWA & Bulk Consumer	Swapnil Pawar
Mumbai	RWA & Bulk Consumer	Pramod Cahadoge
Mumbai	RWA & Bulk Consumer	Shaikh Intekhal
Mumbai	Informal & NGO	karthik S Chetty
Mumbai	Informal & NGO	Pranay R Dhamal
Mumbai	Informal & NGO	Jagmohan S.Gupta
Mumbai	Informal & NGO	Rajan Thakur
Mumbai	Informal & NGO	Magesh Dvendran
Mumbai	Informal & NGO	Truph Amnwan
Mumbai	Informal & NGO	Samreen SK
Mumbai	Informal & NGO	Samina SK
Mumbai	Informal & NGO	Farook SK
Mumbai	Informal & NGO	Priyanka
Mumbai	Informal & NGO	Puja Pandey
Mumbai	Informal & NGO	Sangeeta Yadav
Mumbai	Informal & NGO	Amit Rajan
Mumbai	Informal & NGO	K. Ali
Mumbai	Informal & NGO	S. Khan
Mumbai	School & College	Poorva B. Shprgaonkar
Mumbai	School & College	Samiksha S. Madhami
Mumbai	School & College	Priyanka Solankhe
Mumbai	School & College	Akshata V. Devodigol
Mumbai	School & College	Rutuja D. Kulkarni

Mumbai	School & College	Pransta Mahajan
Mumbai	School & College	Mrinal Khadk
Mumbai	School & College	Dr. Snehal Kargirwar
Mumbai	School & College	Dr. Ramakrishan Bhhise
Mumbai	School & College	Ina Jain
Mumbai	School & College	Anindh Ramachandia
Mumbai	School & College	Mohit Shetty
Mumbai	School & College	Tapas Vashishtha
Mumbai	School & College	Shubham Mhamunear
Mumbai	School & College	Ajay B. Kasbe
Mumbai	School & College	Shazia Khan
Mumbai	School & College	Khan Rizwana
Mumbai	School & College	Usmani Samra
Mumbai	School & College	Mukadam Tuba
Mumbai	School & College	Shaikh Sumaiya
Mumbai	School & College	Baig Sumaiyer

ANDAMAN AND NICOBAR

Portblair	Informal & NGO	Robin Sarkar
Portblair	Informal & NGO	M. Karthik
Portblair	Informal & NGO	Vinod Korketta
Portblair	Informal & NGO	Remon Kullu
Portblair	Informal & NGO	Sumit Dung Dung
Portblair	Informal & NGO	Priyanka Karmarkar
Portblair	Informal & NGO	Sutapa Sarkar
Portblair	Informal & NGO	Nagaraj
Portblair	Informal & NGO	Ravi George
Portblair	Informal & NGO	Premjith.P
Portblair	Informal & NGO	M. Simon
Portblair	Informal & NGO	David Paul
Portblair	Informal & NGO	Adesh Kumar
Portblair	Informal & NGO	Mahima Jaini
Portblair	School & College	A. Gankalp Rao
Portblair	School & College	Manish Biswas
Portblair	School & College	Adithya Aryan Lall
Portblair	School & College	M Nandu Kumar
Portblair	School & College	Vignesh Shankar
Portblair	School & College	Manoh Biswas
Portblair	School & College	Charan
Portblair	School & College	Paveithman.M
Portblair	School & College	Parwathy Sewak
Portblair	School & College	Pratima Prabha
Portblair	School & College	D. Jyoti
Portblair	School & College	T. Ramesh
Portblair	School & College	Tapan Kr. Mandal
Portblair		R Srinivas Varma
Portblair	School & College	G. Anil Kumar
Portblair	School & College	Davender Prasad

Portblair	School & College	Vutteja varma
Portblair	School & College	K. Rajsekar
Portblair	School & College	B.Jagdish Kumar
Portblair	School & College	B. Akash
Portblair	School & College	Abhijeet Ram
Portblair	School & College	Sneha Prasad
Portblair	School & College	Kausalya
Portblair	School & College	Pandi Selvi
Portblair	School & College	Beeda Devi
Portblair	School & College	Mahalakshmi
Portblair	School & College	V.S. Srivarthani
Portblair	School & College	Aashika
Portblair	School & College	Rashmi
Portblair	School & College	Jhanvi Raj
Portblair	School & College	Trisha Sagar
Portblair	RWA & Bulk Consumer	R. Om Prakash
Portblair	RWA & Bulk Consumer	A. Nagraj
Portblair	RWA & Bulk Consumer	Prabin Majhi
Portblair	RWA & Bulk Consumer	Sneha Gupta

CHHATTISGARH

Raipur	Informal & NGO	Nitin Deol Gaonkar
Raipur	Informal & NGO	Md. Mobin Ansari
Raipur	Informal & NGO	Arti Patel
Raipur	Informal & NGO	Anjali Bhagat
Raipur	Informal & NGO	Shankuntala Ratre
Raipur	Informal & NGO	Preeti Kumari
Raipur	Informal & NGO	B. Hemlata
Raipur	Informal & NGO	Shahnaj
Raipur	Informal & NGO	Nilesh Jaiswal
Raipur	Informal & NGO	Sagar Dwivedi
Raipur	Informal & NGO	Amol Shende
Raipur	Informal & NGO	Mahendra Nishad
Raipur	Informal & NGO	Alpa Bhaigana
Raipur	Informal & NGO	Manik Lal Chandel
Raipur	Informal & NGO	Rohit Kumar Singh
Raipur	Informal & NGO	Mukesh Kumar Chaturwedi
Raipur	Informal & NGO	Ramesh Kumar Sanu
Raipur	Informal & NGO	Jageshwar Sahu
Raipur	Informal & NGO	Premin Sahu
Raipur	Informal & NGO	Sawarin Sahu
Raipur	Informal & NGO	Amitosh Giri
Raipur	Informal & NGO	Parvez Khan
Raipur	RWA & Bulk Consumer	Asishchandra Shamra
Raipur	RWA & Bulk Consumer	Priyanka Dayre
Raipur	RWA & Bulk Consumer	Shekh Azharuddin
Raipur	RWA & Bulk Consumer	Lukesh Baghel
Raipur	RWA & Bulk Consumer	Rakesh Goswami
Raipur	RWA & Bulk Consumer	Net Ram Ravi
Raipur	RWA & Bulk Consumer	Pooja Tiwari
Raipur	RWA & Bulk Consumer	Madhu Nathani

Raipur	RWA & Bulk Consumer	Deepak Kumar
Raipur	RWA & Bulk Consumer	Priya Dayre
Raipur	RWA & Bulk Consumer	Manik Lal Chandel
Raipur	RWA & Bulk Consumer	Rohit Kumar Singh
Raipur	RWA & Bulk Consumer	Navin Chandra Malviya
Raipur	RWA & Bulk Consumer	Ashok Chakvadhari
Raipur	RWA & Bulk Consumer	Vinay Dubey
Raipur	RWA & Bulk Consumer	Dharmendra Kumar
Raipur	RWA & Bulk Consumer	Yogeshdra Pratap Singh
Raipur	RWA & Bulk Consumer	R.K Mangtani
Raipur	RWA & Bulk Consumer	Sanjay Deshmukh
Raipur	RWA & Bulk Consumer	Amit MIshra
Raipur	RWA & Bulk Consumer	Mangal Pandey
Raipur	RWA & Bulk Consumer	Rahul Mangtani
Raipur	RWA & Bulk Consumer	Raju Jhamnani
Raipur	RWA & Bulk Consumer	Sameer Bajaj
Raipur	School & College	Sushma Majumdar
Raipur	School & College	Himani Joshi
Raipur	School & College	Shraddha Sahu
Raipur	School & College	Radhika Dwarakadas. K
Raipur	School & College	Nikita Shaogi
Raipur	School & College	Puja Sahu
Raipur	School & College	Nidhi Yadav
Raipur	School & College	Khushbu Sinha
Raipur	School & College	Anshu Kashyap
Raipur	School & College	Thakur Vikram Singh
Raipur	School & College	Keshaw Prakash Rajhans
Raipur	School & College	Sagar Kumar Rajak
Raipur	School & College	Abhishek Nanda
Raipur	School & College	Eshwar Sahu
Raipur	School & College	Alpa Bhargava
Raipur	School & College	Prerna Pandey

MEGHALAYA

Shillong	Informal & NGO	Mr Hillol Sonowal
Shillong	Informal & NGO	Ms Bandita Hazarika
Shillong	Informal & NGO	Ms.Taochila Longkumer
Shillong	Informal & NGO	Mr. Honreiso Vs
Shillong	Informal & NGO	Pynshai Lathong
Shillong	Informal & NGO	Geniousborn Syndor
Shillong	Informal & NGO	P Samborlang Syiemlieh
Shillong	Informal & NGO	Shiela Kharponthar
Shillong	Informal & NGO	Daniel Nanglait
Shillong	Informal & NGO	Baphiriahor Dan
Shillong	Informal & NGO	Reacius Pohrmer
Shillong	Informal & NGO	Bahunlang Lyngdoh
Shillong	School & College	Sumeet Agarwala
Shillong	School & College	Larisalin Syiemlieh
Shillong	School & College	George Lalmalsawm
Shillong	School & College	Nangjop Thabah
Shillong	School & College	Huidrom Nganthoi Devi
Shillong	School & College	Neema Warjri
Shillong	School & College	Ibapyntngen Da
Shillong	School & College	Adoreen Dawanbhalang Sohkhlet
Shillong	School & College	Ardorki Kamar
Shillong	School & College	Ksanbor Mukhim
Shillong	School & College	Eusebius Lawai Lyngdoh
Shillong	School & College	Celestial Passah
Shillong	School & College	Sangyal Tamang
Shillong	School & College	S. Sunil Chand
Shillong	School & College	Raymond Star Tyrwa
Shillong	School & College	Arnie Mawlong

HIMACHAL PRADESH

Shimla	School & College	Sangeeta Kaushal
Shimla	School & College	ITima Sharma
Shimla	School & College	Kashish
Shimla	School & College	Aryan
Shimla	School & College	Anu
Shimla	School & College	Harpreet Kaur
Shimla	School & College	Kiran
Shimla	School & College	Geetanjali
Shimla	School & College	Taniya
Shimla	School & College	Vipanshi
Shimla	School & College	Payal
Shimla	School & College	Divya Gulab
Shimla	School & College	Vanshika Thakur
Shimla	School & College	Arohi Sharma
Shimla	School & College	Lalit Chandel
Shimla	School & College	Diksha Thakur
Shimla	School & College	Ruchika
Shimla	School & College	Dimple Thakur
Shimla	School & College	Riya Bhatia
Shimla	School & College	Stuti Negi
Shimla	School & College	Arshit Thakur
Shimla	School & College	Devins Thakur
Shimla	School & College	Ayush Negi
Shimla	School & College	Kavyanjali Negi
Shimla	School & College	Purnima Bhatia
Shimla	School & College	Harsh Sahni

Shimla	School & College	Anshul Negi
Shimla	School & College	Rohit Thakur
Shimla	School & College	Sushant Sharma
Shimla	School & College	Shivam Kumar
Shimla	School & College	Surender
Shimla	School & College	Sushant
Shimla	School & College	Muskan
Shimla	RWA & Bulk Consumer	S.Deepak Rana
Shimla	RWA & Bulk Consumer	Neeraj Rana
Shimla	RWA & Bulk Consumer	Hari Singh Hada
Shimla	RWA & Bulk Consumer	Sandeep Patial
Shimla	RWA & Bulk Consumer	Virendra Mohan Vashu
Shimla	RWA & Bulk Consumer	Meena Vashisht
Shimla	RWA &Bulk Consumer	Vandana Kumari
Shimla	RWA & Bulk Consumer	Vikram Kanwar
Shimla	RWA & Bulk Consumer	Yog Raj Thallar

KERALA

Thiruvananthapuram	Informal & NGO	Ajith Kumar
Thiruvananthapuram	Informal & NGO	Vinayakan.Vs
Thiruvananthapuram	Informal & NGO	M.P.Thrideep K
Thiruvananthapuram	Informal & NGO	Shilpa.S
Thiruvananthapuram	Informal & NGO	Anna Joseph
Thiruvananthapuram	Informal & NGO	Sujith Saranjan
Thiruvananthapuram	Informal & NGO	Sanitta.S.Mathew
Thiruvananthapuram	Informal & NGO	Remya Rajasekharan. S
Thiruvananthapuram	Informal & NGO	Aisha Jubeen
Thiruvananthapuram	Informal & NGO	Sanjeev.S.J
Thiruvananthapuram	Informal & NGO	Lal.SS
Thiruvananthapuram	Informal & NGO	Vinod.V
Thiruvananthapuram	Informal & NGO	Namzad.N
Thiruvananthapuram	Informal & NGO	Abhilash SP
Thiruvananthapuram	Informal & NGO	Shiha.SP.Shabul
Thiruvananthapuram	Informal & NGO	Nizam Nazar
Thiruvananthapuram	Informal & NGO	Ajith Tomy
Thiruvananthapuram	Informal & NGO	Arun B
Thiruvananthapuram	Informal & NGO	Usha
Thiruvananthapuram	Informal & NGO	Tarithasree.KS
Thiruvananthapuram	Informal & NGO	Kannam Parabil
Thiruvananthapuram	Informal & NGO	Jayakaj
Thiruvananthapuram	Informal & NGO	SS.Nagesh Kumar
Thiruvananthapuram	Informal & NGO	D.P. Mohammed
Thiruvananthapuram	Informal & NGO	M.S. Shejahan
Thiruvananthapuram	School & College	Saritha. VS
Thiruvananthapuram	School & College	Sreelekshami. V
Thiruvananthapuram	School & College	Lipna.P.Issac
Thiruvananthapuram	School & College	Allan Sam
Thiruvananthapuram	School & College	Jishnu .RJ

Thiruvananthapuram	School & College	Abhishek Nair
Thiruvananthapuram	School & College	Rahul Raj
Thiruvananthapuram	School & College	Anegha Vinod
Thiruvananthapuram	School & College	Syam Kumar S
Thiruvananthapuram	School & College	Alex Mohan
Thiruvananthapuram	School & College	Sanu Wilson
Thiruvananthapuram	School & College	Ayashwarya Sunil
Thiruvananthapuram	School & College	Vishnu S
Thiruvananthapuram	School & College	Sangatha.J
Thiruvananthapuram	School & College	Rajasree.SS
Thiruvananthapuram	School & College	Akhila SR
Thiruvananthapuram	School & College	AL Ameen A
Thiruvananthapuram	School & College	Sreeraj T.K
Thiruvananthapuram	School & College	Soorya Prakash
Thiruvananthapuram	School & College	Anandam
Thiruvananthapuram	School & College	Ajay
Thiruvananthapuram	School & College	Anandhu
Thiruvananthapuram	School & College	Abhijith
Thiruvananthapuram	School & College	Harikrishnan
Thiruvananthapuram	School & College	Asudev
Thiruvananthapuram	School & College	Vysakh PN
Thiruvananthapuram	School & College	Shyju.SS
Thiruvananthapuram	School & College	Sathprabha
Thiruvananthapuram	School & College	Bhavya.S.Nair
Thiruvananthapuram	School & College	Vishav Prakash
Thiruvananthapuram	School & College	Reshmi.R.Russel
Thiruvananthapuram	School & College	Jishe
Thiruvananthapuram	School & College	Akhilnath.R
Thiruvananthapuram	School & College	Sanjana PS
Thiruvananthapuram	School & College	Aparna.M
Thiruvananthapuram	School & College	Abhijith

Thiruvananthapuram	School & College	Gayathri
Thiruvananthapuram	School & College	Mohaamed Ashiq
Thiruvananthapuram	School & College	Vishnu A
Thiruvananthapuram	School & College	M.P. Thrideep Kumar
Thiruvananthapuram	School & College	Shabeer
Thiruvananthapuram	School & College	Mohammed Asif
Thiruvananthapuram	School & College	S.Murugan
Thiruvananthapuram	RWA & Bulk Consumer	Shiji.S.J.
Thiruvananthapuram	RWA & Bulk Consumer	Chris
Thiruvananthapuram	RWA & Bulk Consumer	Laiju.B
Thiruvananthapuram	RWA & Bulk Consumer	Shajila.N
Thiruvananthapuram	RWA & Bulk Consumer	Shadiya.S
Thiruvananthapuram	RWA & Bulk Consumer	Namitha.MS
Thiruvananthapuram	RWA & Bulk Consumer	Thara.M.V
Thiruvananthapuram	RWA & Bulk Consumer	Indrajith
Thiruvananthapuram	RWA & Bulk Consumer	Gopikrishan S
Thiruvananthapuram	RWA & Bulk Consumer	Merlin.M.Varghese
Thiruvananthapuram	RWA & Bulk Consumer	Anushree N
Thiruvananthapuram	RWA & Bulk Consumer	Anju Mariyam Chandy
Thiruvananthapuram	RWA & Bulk Consumer	Joslin Jose
Thiruvananthapuram	RWA & Bulk Consumer	J.Murleedharan
Thiruvananthapuram	RWA & Bulk Consumer	Sihnzo
Thiruvananthapuram	RWA & Bulk Consumer	Rakesh.R
Thiruvananthapuram	RWA & Bulk Consumer	Reshmi.R.Russel
Thiruvananthapuram	RWA & Bulk Consumer	Suji.S
Thiruvananthapuram	RWA & Bulk Consumer	Saranya.R.V
Thiruvananthapuram	RWA & Bulk Consumer	Aishwarya.R
Thiruvananthapuram	RWA & Bulk Consumer	Joman Joseph
Thiruvananthapuram	RWA & Bulk Consumer	Joy D. Cruz
Thiruvananthapuram	RWA & Bulk Consumer	Parvathy Sajeev
Thiruvananthapuram	RWA & Bulk Consumer	Sithara.S

ANDHRA PRADESH

Vijayawada	Informal & NGO	D. Ravibabu
Vijayawada	Informal & NGO	M.Y. Ratnam
Vijayawada	Informal & NGO	P. Nagaraju
Vijayawada	Informal & NGO	Ramakrishore Gureja
Vijayawada	Informal & NGO	G. Jhansirani
Vijayawada	Informal & NGO	Shaik Riyazez
Vijayawada	Informal & NGO	D. Krishnarao
Vijayawada	Informal & NGO	G. Ranjith Kumar
Vijayawada	RWA & Bulk Consumer	G.vimal Kumar
Vijayawada	RWA & Bulk Consumer	E. Puralankar Rao
Vijayawada	RWA & Bulk Consumer	M. Ratnajirao
Vijayawada	RWA & Bulk Consumer	M. Vijaylalitha
Vijayawada	RWA & Bulk Consumer	G. Leelavathi
Vijayawada	RWA & Bulk Consumer	G. Varun Kumar
Vijayawada	RWA & Bulk Consumer	D. Mahesh
Vijayawada	School & College	G. Vijay Kumar
Vijayawada	School & College	Ravindra Kumar
Vijayawada	School & College	A. Uday Raju
Vijayawada	School & College	T Pranav
Vijayawada	School & College	K. Soutosh Kumar
Vijayawada	School & College	K. Ravendra Babu
Vijayawada	School & College	M. Deenanath Daya
Vijayawada	School & College	PS Krishnan Raju
Vijayawada	School & College	Ch. Rajani Kumari
Vijayawada	School & College	Y. Ammulee
Vijayawada	School & College	N. Lakshmi Prasanna
Vijayawada	School & College	L.V. Sarathbabu
Vijayawada	School & College	L.N. D.Raju
Vijayawada	School & College	J. Vamsi

Vijayawada	School & College	Imran Syed
Vijayawada	School & College	Dv. K.S. Karuna Hurthr
Vijayawada	School & College	E. Pedha Babu
Vijayawada	School & College	M. Surya
Vijayawada	School & College	K. Vamsi Teja
Vijayawada	School & College	S. Mohan Akshman Kumar
Vijayawada	School & College	D. Elijah Jayapaut
Vijayawada	School & College	G. Lokeswari
Vijayawada	School & College	S. Madhurama Durga
Vijayawada	School & College	S. Jyothirmayi
Vijayawada	School & College	K. Sandhya Rani
Vijayawada	School & College	J. Bhargavi
Vijayawada	School & College	L. Mounika
Vijayawada	School & College	O. Kruparani
Vijayawada	School & College	T. Vineela
Vijayawada	School & College	P. Priyanka
Vijayawada	School & College	L. Deepya
Vijayawada	School & College	P. Vyushnavi
Vijayawada	School & College	B. Geethanjali
Vijayawada	School & College	K Srawan Kumar

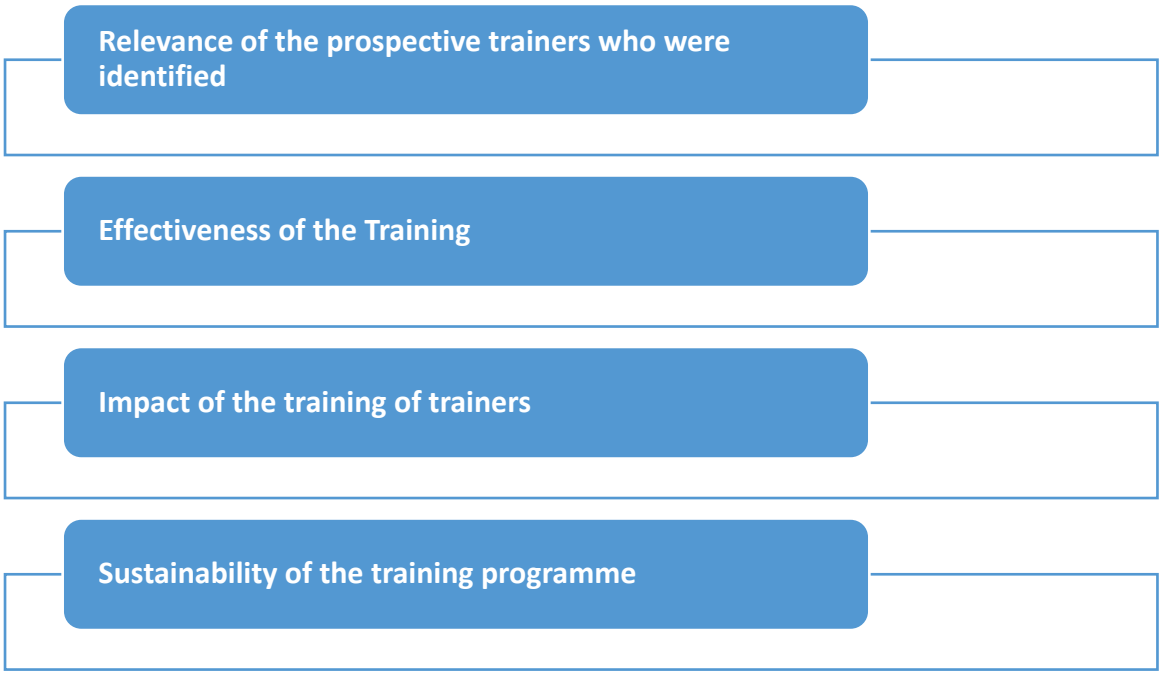
TRAINING OF TRAINERS

Training of Trainers (ToT) aims to facilitate a pool of competent future trainers to ensure that people from different regions will get timely and adequate training to complete their tasks in line with laid down regulations and procedures. ToT modules typically prepare instructors to present information effectively, respond to questions from trainees, and lead activities that reinforce learning. They also have to give exposure to future trainers on supplementary resources and reference materials to continuously update their knowledge base. . This curriculum consists of two main components. The first is relating to construct of the training, which includes relevance of the prospective trainers, effectiveness of the training, impact of the training of trainers and the sustainability of the programme. The second component is to equip the trainer, among other things, to customize the presentations and other materials made available prior to the training such as IEC materials &films and training manuals so that he/she can adapt to different situations depending on the groups that he is imparting the orientation such as schools, colleges, RWAs, bulk consumers, dealers, refurbishers, informal sector and manufacturers.

This report contains Training of Trainers (ToT) across 21centres in the country.

Construct of the Training

The construct of the Training programme had the following aspects, as depicted in the figure shown below:



Material made available prior to the Training

A few materials were made available prior to the Training. These included:

- Presentations customized to different sessions
- IEC Materials and Films
- Training Manuals aimed at different groups

Report: Training of Trainers conducted across 21 cities.

1. Agartala	2. Ahmedabad	3. Aizawl
4. Bengaluru	5. Chennai	6. Daman & Diu
7. Dehradun	8. Delhi	9. Gangtok
10. Gurugram	11. Hyderabad	12. Jaipur
13. Kavaratti	14. Mohali	15. Mumbai
16. Port Blair	17. Raipur	18. Shillong
19. Shimla	20. Thiruvananthapuram	21. Vijayawada

AGARTALA

Master Trainer: Saikat Mookherjee

Venue of the Training : NIELIT Campus of Agartala, which was not very accessible from all parts of the city.

- **Observation 1: Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

The composition of the different groups have been elucidated in the table given below. There were 141 attendees in total, which had predominant female dominance.

o **Composition of the Groups**

Table 1.1: Composition of the Groups

Groups	Female	Male	Total
NGOs & Informal Sector	6	49	55
RWA & Bulk Consumers	1	45	46
Teachers & Students – Schools & Colleges	12	28	40
Grand Total	**19**	**122**	**141**

Educational Qualifications of the Groups

The groups comprised of a varied educational background. However, Postgraduates ruled the roost with a representation of 33.3%, followed by Secondary and Senior Secondary.

Table 1.2: Educational Qualifications of the Groups

Groups	Female	Male	Total
NGOs& Informal Sector	6	49	55
Sr. Secondary	2	11	13
Secondary	1	34	35
Graduate	3	2	5
Postgraduate		2	2
RWAs & Bulk Consumers	1	45	46
Graduate		20	20
Postgraduate	1	25	26
Students & Teachers	12	28	40
Postgraduate	6	13	19
Senior Secondary	6	15	21
Grand Total	**19**	**122**	**141**

o Years of Work Experience of the Groups

As far as years of experience are concerned, a 48.9% had no experience;a considerable proportion (around 28.4%) of the attendees had up to 10 years of experience; and around 21.3% had experience upto 20 years of experience.

Table 1.3: Years of Work Experience

Years of Experience	NGOs & Informal Sector	RWAs& Bulk Consumers	Teachers & Students – Schools and Colleges	Total
No Experience	18	21	30	69
Upto 10 years	20	15	5	40
11 - 20 years	15	10	5	30
More than 20 years	2			2
Grand Total	**55**	**46**	**40**	**141**

o Years of Training Experience

The years of training experience of the different groups have been depicted in the table given below. Majority had little or no experience in imparting trainings. The representatives of the NGOs had as it has been depicted in the table given below:

Table 1.4: Years of Training Experience

Years of Training Experience	NGOs & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges	Total
No Experience	31	30	34	95
Less than – Up to 1 year	15	16	6	37
2 – 5 years	9			9
Grand Total	**55**	**46**	**40**	**141**

- **Inherent knowledge on Content and Training**

Each group required certain areas of improvement as far as knowledge of training was concerned. This has been highlighted in the table given below. Barring basic information and the hazard imparted by E-waste, most of the attendees were not aware about the different facets of E-waste, barring a couple of professionals who are already practising in the E-waste arena and were a part of the RWA, Bulk Consumer batch.

Table 1.5: Years of Training Experience

Parameters	NGOs & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges
Knowledge about Types of E-waste	√	√	√
Impact and Hazards imparted by E-waste	√	√	×
Nitty-gritties about the provisions and E-waste rules	×	×	×
Pedagogy and Training Modes to be adopted	×	×	×

- **Means to improve upon relevance of those attending Training**

Some specific suggestions to improve upon the relevance of those attending training

- Specific suggestions for each group
  - For Schools & Colleges:
    - No suggestions
  - Informal Sector & Refurbishers:
    - No suggestions
  - RWA & Bulk Consumers:
    - No suggestions

Observations with regard to effectiveness of the training

o Activities Undertaken

The following activities were conducted in a proper sequence and most effective participation was observed with regard to the following. The most effective mode, as per my perception, has been listed below:

Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges
Introducing the Partner	Introducing the Partner	Introducing the Partner
Group activity on Waste and E-waste	Group activity on Waste and E-waste	Group activity on Waste and E-waste
Narration of Personal Experience with E-waste	Narration of Personal Experience with E-waste	Narration of Personal Experience with E-waste
Quiz	Quiz	Quiz
Film appreciation and narration of key learnings	Film appreciation and narration of key learnings	Film appreciation and narration of key learnings
Action Planning & Group Presentation	Action Planning & Group Presentation	Action Planning & Group Presentation
Planning of Session & Group Presentation	Planning of Session & Group Presentation	Planning of Session & Group Presentation

Overall Observations in relation to activities:

The overall observations in relation to the different activities undertaken are as follows:

- Most of the attendees liked the concept of interactive activities as individuals or in groups.
- All the groups, especially NGOs, school and college students, were very receptive to the training imparted.
- Attendees from NGOs, especially the older lot, were very forthcoming in the activities or in case of interaction with the peers during the training session.
- A couple of participants from the RWAs and Bulk Consumers had received previous trainings in E-waste from MoEF and were very forthcoming in the discussions.

o Correlation of effectiveness of Training with Quality of Trainers

As illustrated earlier, majority of attendees were interested in the training imparted and the mode of activities undertaken. The specific observation for each group has been depicted below:

NGOs & Informal Sector	RWA & Bulk Consumers	Students – Schools and Colleges
The NGOs as well as the informal sector, I believe, have the best potential and some of them were avid learners and great performers.	I had a wonderful session with them and interactive as well, since a couple of them were already trained in the field and were willing to share their experiences specifically with events at Agartala.	They were very upbeat as depicted in the final group presentation on how they wish to impart the training. They were eager to learn and take this forward effectively.

o Rating the master training programme in leading to enhanced effectiveness of the training

I would rate the master training programme 4 on a scale of 1 – 5. The reasons for the same are elucidated in the table given below:

Major Head	Sub-heads
Key Learnings	• The Pedagogy, which enabled me to understand the mode of training and the delivery • The art of engagement – Not making the training boring and introducing different types of activities to keep the audience engaged. • The effective way of communicating • Quality of Master Trainers and interaction with them further enhanced my ability to think on my feet • My past experience at Gurgaon, Mumbai, Ahmedabad and Gangtok helped me to design the sessions more effectively.

Impact of the Training of Trainers

o Assessment of impact of training imparted

The assessment of impact imparted by the training has been depicted in the table given below. The impact has been reasonably good owing to the proactiveness and yearning to learn in most batches:

Target Groups	Short-Term Impact	Long-Term Impact
Refurbishers & Informal Sector	Was observed in the way they designed the Training Session for their peers in the last Session and also in designing an action plan to run an organized E-waste collection system	Some of the Trainers (I trained), particularly the students, conceptualized the training programmes in the most effective way.
RWAs & Bulk Consumers		
Teachers & Students – Schools and Colleges		

Recommendations: The Certificate needs to be made available to the worthy trainers at the earliest.

o Is the impact limited due to the quality of participants?

Target Groups	Opinion
NGOs & Informal Sector	No. Both of them were eager to learn and implement the outcomes of ToT.
RWAs & Bulk Consumers	Some of the trainers can be an asset for MeiTY to take this programme forward in the city of Agartala in the long run.
Teachers & Students – Schools and Colleges	No. On the contrary, they were most effective and enthusiastic batch.

- **What kind of changes did you make during the training to create a deeper impact with the participants?**

Target Groups	Opinion
Refurbishes & Informal Sector	• Making this more interactive • Inviting more participation from everyone • Motivating the shy ones to speak • Discussion about live examples • Narrating personal experiences
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

- **How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?**

Target Groups	Opinion
Refurbishes & Informal Sector	• The final session I do is explaining the pedagogy I followed in training them and asking them to prepare a plan based on Donna E. Walker's Learning Cycle. The most effective way they do this helps me to rate their performance and my performance as well in facilitating the sessions. • I judge them on the different facets of the learning cycle. The peers provide a rating and I provide a rating putting together my views on the same.
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

Sustainability of the Training Programme

The sustainability of the Training programme has been described in course of this section.

- **How would you rate the participants in terms of their interest in the training programme?**

The rating and reasons for each group has been depicted in the table given below:

Target Groups	Rating	Reasons
NGOs	4	Enthusiastic, forthcoming and willing to spread the knowledge
Informal Sector	4	
Students – Schools & Colleges	4	Enthusiastic, self-motivated and presented with a different perspective every time
RWAs & Bulk Consumers	4	Excellent participation

- **Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?**

Target Groups	Rating
NGOs	Yes
Informal Sector	Yes
Teachers – Schools & Colleges	Yes
Students – Schools & Colleges	Yes
RWAs	Yes
Bulk Consumers	Yes

- **What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?**

Target Groups	Opinion
NGOs & Informal Sector	• None
Teachers & Students – Schools and Colleges	• This is perfect as it stands for the city of Agartala.
RWAs & Bulk Consumers	• None

AHMEDABAD

Master Trainer: Saikat Mookherjee

Venue of the Training : Institute of Sesimological Research,Raysan Road, Gandhinagar.



Institute of Sesimological Research

- **Observation 1: Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

The composition of the different groups has been elucidated in the table given below. There were 71 attendants in total, which had predominant male dominance.

o Gender Composition of the Stakeholders

Table 1.1: Composition of the Stakeholders

Gender	Female	Male	Total
Bulk Consumers	4	4	8
Colleges	9	8	17
Informal		16	16
NGOs	7	17	24
Refurbishers		2	2
RWAs	1	3	4
Grand Total	**21**	**50**	**71**

o Formation of Groups

The formation of groups and were as depicted in the figures given below. Maximum representations were received from schools and colleges, Informal Sector and NGOs:

Table 1.2: Composition of Groups with Stakeholders

Groups	Bulk Consumers	Colleges	Informal	NGOs	Refurbish-ers	RWAs	Grand Total
Informal & NGOs			16	15	2		33
RWA & Bulk Consumers	3			9		4	16
Schools& Colleges	5	17					22
Grand Total	**8**	**17**	**16**	**24**	**2**	**4**	**71**

o Educational Qualifications of the Groups

The first Group (Informal Sector and NGOs) comprised of a varied educational background. However, it had a considerable number of graduates and postgraduates as well. The second Group had postgraduates ruling the roost. The third Group were predominantly students who were pursuing graduation.

Table 1.2: Educational Qualifications of the Groups

Educational Qualifications	Informal & NGOs	RWAs& BCs	Schools& Colleges	Grand Total
Graduate	26	1		27
Graduate Students	2		17	19
Postgraduate Students	9	11		20
Secondary	4			4
Senior Secondary	1			1
Grand Total	**42**	**12**	**17**	**71**

o Years of Work Experience of the Groups

As far as years of experience are concerned, a 36.5% had no experience; considerable proportion (around 50.7%) of the attendees had up to 10 years of experience; around 7.9% had upto 20 years of experience; and around three persons (4.7%) had more than 20 years of experience.

Table 1.3:Years of Work Experience

Years of Experience	NGOs & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges	Total
No Experience	14	8	6	28
Upto 10 years	18	2	11	31
11 – 20 years	10	2		12
Grand Total	**42**	**12**	**17**	**71**

o Years of Training Experience

The years of training experience of the different groups have been depicted in the table given below. Majority had little or no experience in imparting trainings as it has been depicted in the table given below:

Table 1.4: Years of Training Experience

Years of Training Experience	NGs & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges	Total
No Experience	16	10	15	41
Less than – Up to 1 year	12	1	1	14
2 – 5 years	14	1	1	16
Grand Total	**42**	**12**	**17**	**71**

This is certainly an area which needs to be addressed. A basic understanding about training may be a added to the recruitment criteria.

o Inherent knowledge on Content and Training

Each group required certain areas of improvement as far as knowledge of training was concerned. This has been highlighted in the table given below. Barring basic information and the hazard imparted by E-waste, most of the attendees were not aware about the different facets of E-waste rules and of course the brilliant pedagogy the training had to offer.

Table 1.5: Years of Training Experience

Parameters	Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges
Knowledge about the types of E-waste	√	×	√
Impact and Hazards imparted by E-waste	√	×	×
Nitty-gritties about the provisions and E-waste rules	×	×	×
Pedagogy and Training Modes to be adopted	×	×	×

o Means to improve upon relevance of those attending Training

Some specific suggestions to improve upon the relevance of those attending training

i. Common Aspects

- Location needs to be made more accessible so that the programme can be started at the right time and participants do not have a problem in accessing the venue
- Specific suggestions for each group
  - o For Schools & Colleges:
    - Larger number of schools and colleges to be targeted for recruitment. Currently, they were from 2–3 outfits only and from a specific locality only.
  - o RWAs & Bulk Consumers:
    - Larger number of RWAs to be targeted for training, preferably from all corners of a city.
    - Bulk Consumers were a better lot, but would love to have more participants in the group
    - What was invigorating was the fact that some of the bulk consumers had travelled from a different city in Gujarat to attend the training.
  - o Informal Sector & Refurbishers:
    - They were forthcoming and had considerable knowledge on the subject. Needed to be coaxed a little bit. But once they did, it was a smooth experience with them.
    - Refurbishers were most forthcoming in attending the training.

Observation with regard to effectiveness of the training

o Activities Undertaken

The following activities were conducted in a proper sequence and most effective participation was observed with regard to the following. The most effective mode, as per my perception, has been mentioned below:-

Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges
Introducing the Partner	Introducing the Partner	Introducing the Partner
Group activity on Waste and E-waste	Group activity on Waste and E-waste	Group activity on Waste and E-waste
Narration of Personal Experience with E-waste	Narration of Personal Experience with E-waste	Narration of Personal Experience with E-waste
Quiz	Quiz	Quiz
Film appreciation and narration of key learnings	Film appreciation and narration of key learnings	Film appreciation and narration of key learnings
Action Planning & Group Presentation	Action Planning & Group Presentation	Action Planning & Group Presentation
Planning of Session & Group Presentation	Planning of Session & Group Presentation	Planning of Session & Group Presentation

Overall Observation in relation to activities:

The overall observations in relation to the different activities undertaken are as follows:

- Most of the attendees liked the concept of interactive activities as individuals or in groups.
- All the groups, especially NGOs, school and college students were very receptive to the training imparted.
- Attendees from NGOs , especially the younger lot, were very forthcoming in the activities or in case of interaction with the peers during the training session.

o Correlation of effectiveness of Training with Quality of Trainers

As illustrated earlier, majority of attendees were interested in the training imparted and mode of activities undertaken. The specific observation for each group has been depicted below:

Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges
The Informal Sector as well as the refurbishers, I believe, has the best potential and some of them were avid learners and great performers. The refurbishers, propelled by their innate need of procuring business, were very participative. Some have started drawing up plans to take the training forward. This is truly the success of this design of training.	The RWAs as well as the bulk customers were very receptive to the training and were interested to take the learnings from this session in training their fellow members.	They were very upbeat as depicted in the final group presentation on how they wish to impart the training. They were eager to learn and take this forward effectively.

o Rating the master training programme in leading to enhanced effectiveness of the training

I would rate the master training programme 4 on a scale of 1 – 5. The reasons for the same are elucidated in the table given below:

Major Head	Sub-heads
Key Learnings	• The Pedagogy, which enabled me to understand the mode of training and the delivery • The art of engagement – Not making the training boring and introducing different types of activities to keep the audience engaged. • The effective way of communicating • Quality of Master Trainers and interaction with them further enhanced my ability to think on my feet • My past experience at Gurgaon helped me to design the sessions more effectively.

Impact of the training of trainers

o Assessment of impact of training imparted

The assessment of impact imparted by the training has been depicted in the table given below. The impact has been reasonably good owing to the proactiveness and yearning to learn in most batches:

Target Groups	Short-Term Impact	Long-Term Impact
Refurbishers & Informal Sector	Was observed in the way they designed the Training Session for their peers in the last Session and also in designing an action plan to run an organized E-waste collection system.	Some of the Trainers (I trained), particularly the NGOs and students, have already started drawing up plans to conduct trainings in line with what has been envisaged.
RWAs & Bulk Consumers		
Teachers & Students – Schools and Colleges		

Recommendations: The Certificate needs to be made available to the worthy trainers at the earliest.

o Is the impact limited due to the quality of participants?

Target Groups	Opinion
Refurbishers & Informal Sector	No, both of them were eager to learn and implement the outcomes of ToT.
RWAs & Bulk Consumers	No for both RWAs and Bulk Consumers
Teachers & Students – Schools and College	No. On the contrary, they were most effective and enthusiastic batch.

o What kind of changes did you make during the training to create a deeper impact with the participants?

Target Groups	Opinion
Refurbishes & Informal Sector	• Making this more interactive • More videos pertaining to E- waste may be made available • Inviting more participation from everyone • Motivating the shy ones to speak • Discussion about live examples • Narrating personal experiences
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

o How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?

Target Groups	Opinion
Refurbishes & Informal Sector	• The final session I do is explaining the pedagogy I followed in training them and ask them to prepare a plan based on Donna E. Walker's Learning Cycle. The most effective way they do this helps me to rate their performance and my performance as well in facilitating the sessions. • I judge them on the different facets of the learning cycle. The peers provide a rating and I provide a rating putting together my views on the same.
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

Sustainability of the Training Programme

The sustainability of the Training Programme has been described in course of this section.

o How would you rate the participants in terms of their interest in the training programme?

The rating and reasons for each group has been depicted in the table given below:

Target Groups	Rating	Reasons
Refurbishers	4	Enthusiastic and willing to spread the knowledge
Informal Sector	4	They were very forthcoming.
RWAs	3	A little low on the E-waste knowledge, but they picked up very fast in discussions.
Bulk Consumers	4	Knowledgeable, enthusiastic and willing to take this training forward
Teachers – Schools & Colleges	4	Enthusiastic, self-motivated and presented with a different perspective every time
Students – Schools & Colleges	4	Enthusiastic, highly motivated, willing to learn and pass on the knowledge

- **Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?**

Target Groups	Rating
Refurbishers	Yes
Informal Sector	Yes
RWAs	Yes
Bulk Consumers	Yes
Teachers – Schools & Colleges	Yes
Students – Schools & Colleges	Yes

- **What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?**

Target Groups	Opinion
Refurbishers & Informal Sector	• None. We need to have a little more in nos.
RWAs & Bulk Consumers	• RWAs from different parts of the city may be recruited.
Teachers & Students – Schools and Colleges	• This is perfect as it stands. Participants from more number of schools and colleges from different parts of the city should be done.

AIZAWL

Master Trainer: Amitaksha Nag

Section I - Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers

Number of trainers attended:

- Schools & Colleges: 19
- RWAs & Bulk Consumers: 22

Brief account of the experience of each of the group members in terms of their profile and the number of trainings that they would have conducted in the past:

- **Schools & Colleges**

There were 19 participants in the group, of which 14 were students and the rest were teachers. There was almost equal participation of female and male attendees. They were from five schools and colleges. Work experience of teachers ranges from 2 to 25 years, but training experience is not specified. The students expectedly didn't have any training experience.

Reference: Annex 1 – Audience Analysis of Schools & Colleges

- **RWAs & Bulk Consumers**

Most participants have at least a graduate degree; about 50% of the participants have 10 and more years of experience; and about 25% have 5–10 years of training experience. About 80% participants were male with an average age of 32. The participants were primarily from local NGOs as the local organizers could not arrange bulk consumers with significant electronic purchases and there are no RWAs in Aizawl. There was one participant from the Mizoram State Pollution Control Board, who has considerable experience and knowledge in the local E-waste situation. Her experience can be leveraged, going forward.

Reference Annexure II – Audience Analysis of RWAs and Bulk Consumers

Gap in the profile of the groups:

- **Schools & Colleges**

The aptitude of the participants from schools and colleges was adequate to carry the mission forward of spreading awareness as well as train others. They are likely to be more effective at influencing schools/ colleges and at the grassroots community level.

- **RWAs & Bulk Consumers**

None of the participants were RWAs or Bulk Consumers. They were from NGOs, local church, and local government.

Recommendation of how the quality of trainers could be enhanced:

- **Schools & Colleges**
  - Incorporate follow-up guidance for campaign in schools and colleges
  - Some assistance like funds for setting up collection bins, posters and banners will go a long way to motivate the students to take action.
- **RWAs & Bulk Consumers**
  - Better briefing of the reason for participation in the training
  - Better briefing of their roles after the training
  - Better clarity of the support and follow-up that they can expect post the training

Section II - Effectiveness of the Training

Activities conducted during the training that were effective in ensuring participation from the wider group:

- **Schools & Colleges:**

For the most part, the training was participatory, especially around the more technical content, for example:

- The participants selected an electronic item and identified the different hazardous substances present in the items. They participated in this activity in pairs, and were allowed to search online and prepare a presentation on drawing charts. The idea was to engage them with the content in their own way and keep them interested. They came up with new information and were creative in their presentation.

- In order for them to conceptualize the idea of circular economy of E-waste, they were asked to draw the chain of E-waste from the manufacturer to the recycler for reuse and disposal. “Playing” around with pen and paper allowed them to think through the process. The output was an illustration of the process on a chart that the students articulated themselves.
- At the end of the training, they prepared an action plan in their schools and colleges.

o **RWAs & Bulk Consumers:**

Apart from the standard presentations, there were some activities to facilitate understanding of the more technical part of the content.

- Group Activity 1 – Identifying the Hazardous Substances in Electronic Items: The objective of this activity was for participants to mind jog around the composition of hazardous substances present in different electronic items.
- Screenplay: Screenplay/Role play of characters from a fictitious situation.
- Group Activity 2 – Developing an Action Plan: The purpose of the group activity was to think about designing a community-based action plan.

Effectiveness of your training with the quality of trainers in the group

o **Schools & Colleges:**

There was considerable curiosity and enthusiasm from the students. That was a significant contributing factor in the delivery of the training and learning environment.

o **RWAs & Bulk Consumers:**

Since they were not Bulk Consumers and RWAs, it was difficult, initially, to relate to the functioning of the intended stakeholders. Enacting the roles of Bulk Consumers and RWAs with fictitious screenplays enhanced the participant’s understanding of the roles.

It was a tad difficult to keep the participants engaged during the more technical parts of the training relating to details of the chemical toxic compounds. So I engaged them through mind jogs and group activities to make the technical content more accessible.

Effectiveness of the Master Training Programme:

o **Schools & Colleges:**

The master training programme was helpful to have a structured approach to the training.

o **RWAs & Bulk Consumers:**

The master training programme was helpful to have a structured approach to the training.

Section III - Impact of the Training of Trainers

Assessment of the impact of training:

o **Schools & Colleges:**

In the participatory exercises, the participants were able to clearly articulate the concepts about E-waste.

It is likely that the impact will manifest through campaigns in the schools, hopefully with some support from the teachers and administration.

- **RWAs & Bulk Consumers:**

The participants have base-level understanding of the concepts of E-waste and management processes. That should be adequate for them to train others, provided they are proactive in further learning from the resources provided. Barring some participants, the quality of participants was adequate.

Section IV - Sustainability of the Training Programme

Participant's interest in the training programme:

- **Schools & Colleges:**

The interest was high, that reflected in their engagement during the training. The students and the teachers seemed to be motivated to take actions in their schools.

- **RWAs & Bulk Consumers:**

There was varied levels of interest and motivation of the participants. Mostly, the interest was in the recognition and certification as E-waste management expert. They were apprehensive, though, about the future application of the training they have received.

Ability of the trainers to train stakeholders at similar level of ability:

- **Schools & Colleges:**

The school and college students will be able to transfer knowledge and spread awareness among their peers. The training format has to be adapted according to the context of schools and the understanding expected at that level.

- RWAs & Bulk Consumers: The competency and aptitude is varied amongst the participants. Effectiveness as trainers will depend on how much they follow up with the content. It is likely that some participants will be more proactive than others. One participant from the Mizoram State Pollution Control Board has competency as a trainer and knowledge about E-waste.

Recommendation of changes in the training design in order to ensure a higher engagement with trainers:

- **Schools & Colleges:**

I used participatory techniques to engage the students to the more technical content. In my view, the content should be limited and the training should be more demonstrative. It should also have more guidance on how they can design an E-waste-related initiative in their schools and colleges.

- **RWAs & Bulk Consumers:**

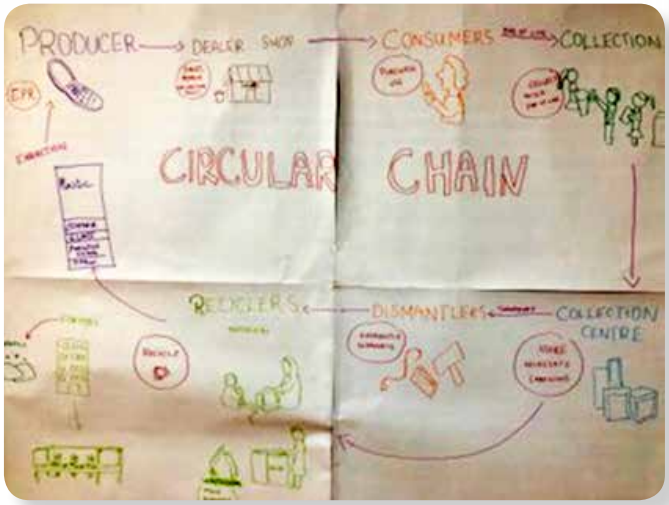
It will be important to develop content and design the training in the context of the local situation. For example, there are no RWAs as indicated by the participants. The functioning of the local communities most likely have a different dynamics than the rest of the country that need to be researched to decide whom to invite for the trainings.

The size of E-waste generated in Mizoram is negligible compared to many cities in the country. However, the training is oriented towards cities that have high volumes and many informal recyclers.

Some participants, especially in the RWA and Bulk Consumer group, were more comfortable in their local language. Local translation of the content will be useful. The local trainers should be able to meet the present local language gap.

3. Pictures – outcome of some participatory activities







BENGALURU

Master Trainer: Manju Minhas

Section I - Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers

Number of trainers who attended the training

- NGOs and Informal Sector: 19
- Schools & Colleges: 34
- RWAs & Bulk Consumers: 24

Annexure I: Audience Analysis Sheets of the groups

Profile details of the trainers

- **NGOs & Informal Sector:**

  This batch had participants from 05 active NGOs in Bangalore and around 47% of the group was female participation. Most of the participants had a training experience in their profile and were good with communication skills. The age group varied from 24 to 65 years in this batch.

- **Schools & Colleges:**

  Total participants were 34, out of which 15 were females (44% female participation). This batch had students and faculties of two streams only dental college and agriculture college (04 students from 05 campuses each). The participants were highly interactive and looking forward to learning about E-waste management issues. The faculties had a long experience of teaching and training and were involved with college NSS programme and student participants also were involved with NSS, though they did not have any prior training experience.

- **RWAs & Bulk Consumers:**

  The profiles of this batch were heterogeneous and not adhering to RWAs and Bulk Consumers. Part of the group was NGOs, authorized recyclers, informal recyclers. The batch comprised of 04 females and 20 males. Some of them,especially NGO members, were having long-time experience in trainings related to waste management.



Image 1: Participants in different groups

Gap in the trainer profiles

- NGOs & Informal Sector: The participants were all from NGOs and informal sector participation was not there in this group.
- **Schools & Colleges:**

  Participation was only from dental college and agricultural college. With more than 1,000 colleges in Bangalore, it seems the outreach to ask for participation was not effective.
- **RWAs & Bulk Consumers:**

  This group of participants had work experience with at least 50% involved already in awareness regarding waste or E-waste management related firms. RWAs representation was not there.

Recommendations on how the profiles of trainers can be enhanced

- **NGOs and Informal Sector:**

  More NGOs should be invited from different parts of the state where they are already active so that awareness can reach different parts of the state fast.
- **Schools & Colleges:**

  With Bangalore being the hub of a large number of colleges, the reach for participation seemed limited to two colleges only and could have been from more colleges to make training going to more stakeholders.

  More number of schools and colleges should have been reached and participation should have been encouraged and ensured from them.

  The top management like directors of colleges and NSS coordinators, faculties from different colleges should have been contacted and invited so that fewer problems are faced during implementation of the way forward.
- **RWAs & Bulk Consumers:**

  Though participants were not from RWA members, some were from NGOs and a few others were recyclers or collectors of E-waste and other scrap waste.

Section II - Effectiveness of the Training

- **Activity response from the trainers**

- **NGOs:**

  The participants of the group were very interactive and responded well to sessions. They also seemed to have a great response to designing action plan.
- **Schools & Colleges:**

  The activity which gave this batch most clarity and had 100% involvement was making action plan. Other than this, the group also enjoyed learning through videos.
- **RWAs & Bulk Consumers:**

  Learning through video and about E-waste management rules to understand the guidelines to start a PRO as well as setting up a recycling in an authorized manner interested this group as many were already in this business.

Correlation of the effectiveness of the training with the trainers

- **NGOs:**

  The training was very effective for this batch since the entire batch had similar profile and the same objectives behind attending the session.

- **Schools & Colleges:**

  The students were willing to learn about this "new topic" and were motivated to contribute to the cause and take the awareness forward with different activities under NSS.

- **RWAs & Bulk Consumers:**

  It was a mixed group, but all the participants were involved and some of them were very keen to authorize their business of recycling or become PROs.

Comments on effectiveness of the Master Training Programme

- **NGOs&Informal Sector:**

  The master training programme has all the information required for trainings related to E-waste.

- **Schools & Colleges:**

  The programme module has been designed greatly, but lacks at gathering the participants from more number of schools and colleges. Ideally, 02-04 students from each institution should have been there. There were more than 10 participants from each college. Only two institutes were involved.

- **RWAs & Bulk Consumers:**

  The programme module has been designed well, but lacks at gathering. The participants from RWAs and Bulk Consumers may leave out this important stakeholder category from awareness.

In all the groups, the participants were only from Bangalore city for achieving state-level awareness.

Section III - Impact of the Training of Trainers

- **Assessment of training's impact**

- **NGOs:**

  The training went off well, and I can surely assess that everything discussed with the group was very well taken and understood.

- **Schools & Colleges:**

  The training was impactful. Since the students and faculty attending the session, looking forward to having a career in business, this workshop came as a great opportunity for them to learn about E-waste recycling and how they can play a role in it.

- **RWAs & Bulk Consumers:**

  Many in this group were recyclers and from NGOs too. The training went well off and there were very interested participants. Many of them took this forward immediately and were keen to become authorized PROs or recyclers. One of the participants joined on the last day only and was very critical about SPCB and was not clear about the objective of the programme as he was missing on the first day.



Image 2: Action plan activity being done for different batches

Correlation of training's impact with quality of participants

- **NGOs:**

  The impact was not limited in this batch and the quality of participants was also up to the mark.

- **Schools & Colleges:**

  In my point of view, the impact was appropriate and so was the quality of participants.

- **RWAs & Bulk Consumers:**

  The impact of the training for RWAs could have been better if participants with this profile would have attended.

Modifications done at my end for delivering a better training

- **NGOs:**
  - Due to highly interactive and friendly participation, training was more informal.
  - Activities didn't have to be altered or changed per say.
  - Videos were very effective.
- **Schools & Colleges:**
  - Mind jogs had to be altered a little in the beginning to address larger number of audience.
  - Group activities had to be altered to cater that most of the participants were from the same organizations /colleges. Instead of forming groups of 5–6 people, at places individuals represented themselves.
  - Videos were highly effective.
- **RWAs & Bulk Consumers:**
  - Due to more recyclers and NGOs in this group, the module had to be focussed accordingly.
  - Videos and activities were effective.

Trainer's ability to take the project forward

- **NGOs:**

  This batch will very effectively be able to carry forward the project and conduct and engage a wider audience in the project further.

- **Schools & Colleges:**

  The participants will be able to conduct workshops amongst other students and in their respective colleges/schools as well as nearby RWAs.

- **RWAs & Bulk Consumers:**

  The participants were more from the recycling and NGO background and were keen to start PRO or recycling facilities in an authorized manner.

Section IV - Sustainability of the Training Programme

Interest of the participants in the programme

- **NGOs:**

  Participants showed great interest in the entire programme and seemed to have gained better insight on E-waste.

- **Schools & Colleges:**

  Participants showed great interest in the entire programme and seemed to have gained better insight on E-waste, the current situation in the state and their role in the entire project.

- **RWAs & Bulk Consumers:**

  Participants showed great interest in the entire programme and seemed to have gained better insight on E-waste, the current situation in the state and their role in the entire project.




Image 3: Sessions being conducted for different batches

Recommendations for the training design

- **NGOs:**

  Participants had confusion about the location of the programme and complained about inconvenience caused due to this. Also, all the participants were from Bangalore. So if the participants are from different cities in the state, the dispersion of knowledge throughout the state will be better.

- **Schools & Colleges:**

  It seemed like the information regarding the workshop was not conveyed in due time to various schools and colleges. Students and staff from only two colleges were present.

- **RWAs & Bulk Consumers:**

  Coordination with the participants before the trainings is to convey location properly and appropriate stakeholders should be approached thoughout the state.

CHENNAI

Master Trainer: Shefali Bakshi

Section I - Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers

Number of trainers attended:

- Schools & Colleges: 16
- RWAs & Bulk Consumers: 17
- Informal Sector & Refurbishers: 17

Give a brief account of the experience of each of these group members in terms of their profile and the number of trainings that they would have conducted in the past.

- **Schools & Colleges:**

  14 participants were postgraduate students in social innovation and entrepreneurship from Rajiv Gandhi University and a few other academic fellows. One professor from Rajiv Gandhi University also attended the programme. The participants were familiar with social aspects and entrepreneurship. However, most of them had minimal training experience. One participant, Mr Raja, was a professional trainer and informed the group that he had made several videos and presentations in the past as well.

Reference: Annexure 1 – Audience Analysis of Schools & Colleges

- **RWAs & Bulk Consumers:**

  There was minimal participation from RWAs. 04 government officials from TNPCB and remaining representatives of NGOs attended the training. Most of the participants were social workers and had varying experience of conducting awareness programmes with rural and urban audience. One participant was a toast master and had been conducting various training programmes professionally.



Image 1: Participants on 24th & 25th Oct, 2018

Reference: Annexure 2 – Audience Analysis of RWAs and Bulk Consumers

- **Informal Sector & Refurbishers:**

  14 participants represented different NGOs from in and around the city.) 5 participants were females, while the rest were males. 02 participants were informal recyclers and had been working in Chennai for the last five years. The participants age group varied from 20 to 55 years and most of them had experience in conducting awareness campaigns in rural areas on varying social subjects.



Image 2: Participants on 22nd & 23rd Oct, 2018

Reference: ***Annexure 3 – Audience Analysis of Informal Sector & Refurbishers***

Gap in the profile of the groups:

- **Schools & Colleges:**

  The profile of college students was appropriate for the training programme. They were enthused and interested in the subject and were willing to inculcate the knowledge gained during the training in their department. However, there was no participation from school students, which limited the scope and reach of the training.

- **RWAs & Bulk Consumers:**

  There was no representation from RWAs. Most participants were from social work background and were suited for the training.

- **Informal Sector & Refurbishers:**

  There were two participants from the informal sector and the rest were from NGOs with social work background and were suited for the training. More participation from the informal sector might have been proven useful on ground.

Recommendations on how the quality of trainers could be enhanced

- **Schools & Colleges:**
  - Encouraging participation of teachers/eco-club members
  - Provision for introduction of inter-school competitions to collect maximum E-waste and appreciation from state/central PCBs as reward
  - Standard list of activities and events post training can be made
- **RWAs & Bulk Consumers:**
  - More conscious and effective selection of participants. State PCB can help in the task as they deal with such representatives daily.
  - Clarity on role and responsibility of the trainers post training

- Standard activities that can be taken up and also monitoring of the same

o **Informal Sector & Refurbishers:**

- Better follow-up and handholding for post-training events
- Clarity on scope and expansion of certification to be received after the training

Section II - Effectiveness of the Training

Activities conducted during the training that were effective in ensuring participation from the wider group:

o **Schools & Colleges:**

- **Activity 1:** The video "Citizens at risk" (Link:) had a huge impact on the college students. It is an eye-opener and leaves the audience in shock and awe. Different aspects of the video were broken down into smaller segments and participants were divided into groups. Each group had to answer one question in the table. This kept the group involved and attentive, thereby increasing the impact.
- **Activity 2:** The participants were divided into groups and were asked to identify hazardous and recyclable items from different E-waste items. They were also asked to come up with solutions on the 3Rs (Reduce, Reuse and Recycle) scheme for their product.



Image 3: Participants presenting the action plan

- **Activity 3:** The participants had to make an action plan for representatives of public/RWAs/colleges/ recyclers.

Reference for Table: Annexure 4 – Sample tabulation after video

o **RWAs & Bulk Consumers:**

- **Activity 1:** The video and tabulation of effects was done in a similar manner as above.



Images 4 & 5: Participants engage in group activity

- **Role Playing and Action Plan:** The participants who were divided into groups were asked to represent educational institute/NGO/Government/Recycler and prepare an action plan for the same. This activity enables the participants to see various roadblocks in the implementation of E-waste management on ground from the point of view of different sectors.

o **Informal Sector & Refurbishers:**

- **Activity 1:** The video and tabulation of effects were done in a similar manner as above.
- **Activity 2:** The participants were divided into groups and were asked to identify hazardous and recyclable items from different E-waste items. They were also asked to come up with solutions on the 3Rs (Reduce, Reuse and Recycle) scheme for their product.
- The informal recyclers were asked to share their experiences about collection, awareness and dismantling status on ground at present to get a clear image of the present situation.

Effectiveness of training with the quality of trainers in the group

o **Schools & Colleges:** The training was very effective as the participants were very enthusiastic and willing to learn new information. They actively indulged in discussions and created a positive learning atmosphere.

o **RWAs & Bulk Consumers:** The training was effective. The participants from NGOs were enthusiastic and those from the Pollution Control Board in the group were willing to take up the cause further and also assist other participants.

o **Informal Sector & Refurbishers:** The training was very effective. The NGO workers had experience of working on ground and were aware about training techniques for rural people. The informal sector representatives were eager to learn new information.



Image 6: Students take pledge at the end of training

Effectiveness of the Master Training Programme

o **Schools & Colleges:** The module design was hugely appreciated as students could understand the complete cycle of E-waste management.

o **RWAs & Bulk Consumers:** The module design was appreciated. However, some participants wanted data in the Tamil language for better understanding.

o **Informal Sector & Refurbishers:** The programme was appreciated, but the informal sector preferred having IEC in their local Tamil language.

Section III - Impact of the Training of Trainers

Impact of your training

o **Schools & Colleges:** The participants actively indulged and understood the concepts of E-waste management. They should be able to take the propaganda further given they maintain the enthusiasm and also get support from institutions and state PCB.

- **RWAs & Bulk Consumers:** The participants understood the concepts of E-waste and management process. The NGO workers pledged to take up this cause in their upcoming events.
- **Informal Sector & Refurbishers:** The participants were involved and engaged in the training. The NGO representatives should be able to take the cause further. The informal sector representatives, however, will need more handholding to take up and further apply the concepts learnt during the training.

Modifications done at my end for delivering a better training

- **Schools & Colleges:** Since the students were of social innovation background, added information about 3Rs – Reduce, Reuse and Recycle – and how they can apply this for E-waste management.
- **RWAs & Bulk Consumers:** The groups for making action plan were given roles that would make them analyze the problem from a different point of view.
- **Informal Sector & Refurbishers:** Since most participants were more comfortable in speaking in Tamil, I took help from nodal officer to translate content into the local language for better understanding. The groups for making action plan were given roles that would make them analyze the problem from a different point of view.



Image 7: Participants engage in discussion during training

Trainers ability to take the project forward:

- **Schools & Colleges:** The participants will be able to deliver and generate necessary awareness and interest in the audience they interact with. Some support from administration and MAIT in conducting post-training activities is more likely to keep the interest of participants going.
- **RWAs & Bulk Consumers:** The participants being from the social sector are well capable of taking the cause further. They have knowledge of the subject and will be able to deliver it to a large audience.
- **Informal Sector & Refurbishers:** The participants from NGOs will be able to take the knowledge further. The participants from informal recyclers will need more guidance and handholding in order to achieve the desired output from the training.

Section IV - Sustainability of the Training Programme

Interest of participants in the Training Programme:

- **Schools & Colleges:** The participants were energetic, involved and very motivated. They participated in discussions and had some interesting takebacks from the programme.
- **RWAs & Bulk Consumers:** The participants showed great involvement in the training. They enganged in discussions and asked various queries about the laws and rules and were keen on knowing how they can continue working on this post the training.

- **Informal Sector & Refurbishers:** The participants were very interested. The informal recyclers gave feedback that they had not learnt so much about E-waste in their five years of work experience as they did in two days of training.

Recommendations training design in order to ensure a higher engagement with trainers

- **Schools & Colleges:** Participation from school teachers/management may help on-ground application after training. The programme can be immediately followed by an awareness session and E-waste collection drive. There can be guidelines on what these institutions can do to tackle E-waste and spread awareness at their end.
- **RWAs & Bulk Consumers:** Selection of right participants is quite crucial. Since no RWA participated, the point of view of the local residents could not be collected and reviewed. The IEC material can be provided in the local language for the comfort of participants.
- **Informal Sector & Refurbishers:** Besides more conscious participants selection involving more informal and formal recyclers, participants should be given more clear guidelines on how the certificate is going to help them and how they can be benefited by the project.

Special Mention: Nodal Officer, Mrs Nalini from TNPCB, was very helpful and involved in the training programme. She helped with the translations and also responded to queries from SPCB's point of view. Also, Mr Rahul from GEMS made best efforts in the smooth conduct of the programme.

DAMAN & DIU

Master Trainer: Aparna Gupta

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

Number of trainers who attended the training

- Schools & Colleges: 22(floating participation)
- RWAs & Bulk Consumers: 11
- NGOs: 12

Profile details of the trainers

- Schools & Colleges:

This batch had a lot of floating population; students that came left early and some attended only one-day of training. The constant population was of 6–8 students, all of whom were highly interactive and looking forward to learning about E-waste recycling. Since they were students, none of them had any past experience of conducting workshops.

- RWAs & Bulk Consumers:

The profiles of this batch were completely different from one another which made the group heterogeneous. Part of the group was young school students and the rest were government employees. The batch comprised of 11 participants, out of which some were Pollution Control Board employees, two students and the rest were office-going men. They did not have any experience in conducting workshops, but they were very much interested in learning about how to deal with E-waste-related issues.

- **NGOs:**

This batch was an all-female batch, comprising members of a local NGO. The batch was highly interactive and concerned about the workshop issue. The participants had an experience of public speaking and organizing/participating in multiple events.

Gap in the trainer profiles

- **Schools & Colleges:**

  Even though, profile-wise, the batch was homogenous and apt, but the batch did lack in number of participants.

- **RWAs & Bulk Consumers:**

  This group of participants did not have a common profile. The group was heterogeneous. The participants did not have much in common which affected the training.

- **NGOs:**

  This was, more or less, a perfect batch with participants having a similar profile and interest in the workshop.

Recommendations on how the profiles of trainers can be enhanced

- **Schools & Colleges:**

  1. Involvement of teachers along with students could have been done.
  2. The students were not really encouraged by the university to participate in the workshop; that is something which should be looked into

- **RWAs & Bulk Consumers:**

  1. Group should have had people belonging to same age group or at least belonging to similar occupational background.
  2. A strict follow-up and handholding would be required initially for enhancing the group and their better participation.

- **NGOs:**

i. This group had the capability to carry forward the entire project in Daman.

ii. The group activities can be enhanced if they are given more precise task and surplus time in hand.

Section II - Effectiveness of the Training

Activity response from the trainers

- **Schools & Colleges:**

The activity which gave this batch most clarity and had 100% involvement was role play to demonstrate different sectors involved in E-waste management. Other than this, the group also enjoyed learning through videos.

- **RWAs & Bulk Consumers:**

Since this was a relatively small group, the sessions were conducted in more of a one-to-one interaction form. Other than this, designing action plans and "follow the leader" mind jog seemed to have involved the participants to a great extent in the workshop. The participants also showed keen interest in watching more videos.

- **NGOs:**

The participants of the group were very interactive and responded best to verbal sessions. They also seemed to have a great response to designing action plan and pledge in the end.



Image 1 Participants from different batches participating in pledge

Correlation of the effectiveness of the training with the trainers

- **Schools & Colleges:**

  The students were willing to learn about this "new topic" and asked every single doubt they had. They were curious and excited which made the training highly effective in terms of delivering the information that I was supposed to.

- **RWAs & Bulk Consumers:**

  Since the group was heterogeneous, it was a bit difficult to indulge all the participants in the same activities. Even though the group was interactive and eager to learn, the effectiveness of the training was limited due to the difference in their concerns and objectives behind attending the sessions.

- **NGOs:**

  The training was very effective for this batch since the entire batch had a similar profile and same objectives behind attending the session.

Comments on effectiveness of the Master Training Programme

- **Schools & Colleges:**

  The programme module has been designed greatly, but lacks in gathering the participants.

- **RWAs & Bulk Consumers:**

  The programme module has been designed greatly, but lacks in gathering the participants.

- **Informal Sector & Refurbishers:**

  The Master Training Programme has all the information required for trainings related to E-waste.

Section III - Impact of the Training of Trainers

Assessment of training's impact

- **Schools & Colleges:**

  The training was very impactful. Since the students attending the session, looking forward to having a career in business, this workshop came as a great opportunity for them to learn about E-waste recycling and how they can play a role in it.

- **RWAs & Bulk Consumers:**

  The training went well, and I can surely assess that everything discussed with the group was very well taken and understood. The impact might be able to have been more if the group was a bit more homogeneous.

- **NGOs:**

  The training went well, and I can surely assess that everything discussed with the group was very well taken and understood.





Image 2 Action plan activity being done for different batches

Correlation of training's impact with quality of participants

- **Schools & Colleges:**

  In my point of view, the impact was appropriate and so was the quality of participants.

- **RWAs & Bulk Consumers:**

  Yes, the impact of the training could have been better if the quality of participants in terms of their profiles and numbers be improved.

- **NGOs:**

  The impact was not limited in this batch and the quality of participants was also up to the mark.

Modifications done at my end for delivering a better training

- **Schools & Colleges:**
  - Mind jogs had to be altered a little in the beginning to address a smaller number of audience. And since the participants who joined later were not interactive at all, the mind jogs again had to be altered to fit their comfort to some extent.
  - Group activities had to be altered to cater to smaller groups. Instead of forming groups of 5–6 people, at places individuals represented themselves.
  - Videos were used more since the group was more comfortable watching videos and verbal discussions.
- **RWAs & Bulk Consumers**:
  - Due to a floating participation, and having a constant of around 10–11 participants during both days, the training became more of a one-to-one discussion.
- **NGOs:**
  - Due to highly interactive and friendly participation, training was more informal.
  - The training had more of interaction than just presentations.
  - Activities didn't have to be altered or changed per se.

Trainer's ability to take the project forward

- **Schools & Colleges:**

  The participants will be able to conduct workshops amongst other students and in their respective colleges/schools.

- **RWAs & Bulk Consumers:**

  The participants, with the help of some handholding and overviewing, will be able to spread the information amongst their office colleagues and neighbours.

- **NGOs:**

  This batch will very effectively be able to carry forward the project and conduct and engage a wider audience in the project further.

**The ones who have attended the sessions for both days will definitely be able to take this forward.*

Section IV - Sustainability of the Training Programme

Interest of the participants in the programme

- **Schools & Colleges:**

  Participants showed great interest in the entire programme and seemed to have gained better insight on E-waste, the current situation in Daman and their role in the entire project.

- **RWAs & Bulk Consumers:**

  Participants showed great interest in the entire programme and seemed to have gained better insight on E-waste, the current situation in Daman and their role in the entire project.

- **NGOS:**

  Participants showed great interest in the entire programme and seemed to have gained better insight on E-waste, the current situation in Daman and their role in the entire project.




Image 3 Sessions being conducted for different batches

Recommendations for the training design

- **Schools & Colleges:**

  It seemed like the information regarding the workshop was not conveyed in due time to various schools and colleges. Many of them were not aware that it is a 2- day workshop.

- **RWAs & Bulk Consumers:**

  Coordination with the participants before the trainings is required so that there are not many last-minute cancellations.

- **NGOs:**

  Timely coordination is required to reach out to locals for participant involvement.

DEHRADUN

Master Trainer: Sonal Chaturvedi

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

How many trainers attended the training programme across all 3 ToTs which were covered in the city?

- **Schools & Colleges:** 47 participants
- **RWAs & Bulk Consumers:** NA
- **Informal Sector & NGO & Refurbishers:** 33 participants

Give a brief account of the experience of each of these group members in terms of their profile and the number of trainings that they would have conducted in the past.

- **Schools & Colleges:**

  The students represented Doon Business School, Graphic Era University and ICM. The students were pursuing different courses like BCA, Management and were from across the years. As a part of their courses, they had to do projects and make presentations. This has helped them gain confidence to face large groups and put across their point effectively. During the course of this training also, it was observed that in their presentations the students came up with innovative ideas and were able to energize and engage the audience well.

- **RWAs & Bulk Consumers:** NA

- **Informal Sector & Refurbishers & NGOs:**

  In this group, we had participants who had knowledge about the issue and were also directly working in the field. Few of them have been working in the field of waste management so they had on-ground, practical experience of dealing with waste. Others have worked as a trainer in different sectors so they did have some background in designing and facilitating workshop sessions.

What, in your assessment, was lacking in the different groups as far as their profile is concerned?

- **Schools & Colleges:**

  The students group were high on learning orientation and enthusiasm. They had some novel ideas and zeal to implement them. However, they would be requiring mentoring and direction to effectively put their plans into practice.

- **Informal Sector & Refurbishers & NGOs:**

  This group had an understanding of the issue. Going forward, they would require building more self-ownership and bringing in fresh ideas for taking people along.

How could the relevance of those attending the training could have been improved to ensure that the quality of trainers could be enhanced?

- **Schools & Colleges:**

  In order to enhance the quality of training, having a participant workbook would have been a useful tool. The handbook would have helped the participants to express and consolidate their learnings better and use it for future reference. Also having separate trainings for teachers and students group would have helped in eliciting increased participation. Going forward, the students can take up internship projects in the field of E-waste management.

- **Informal Sector & Refurbishers & NGOs:**

  Including a practical exposure through a visit to an authorized recycling centre, would have added more to their knowledge and insight.

Section II - Effectiveness of the Training

What kind of activities which were conducted with specific sets of stakeholders which, according to you, was the most effective in ensuring participation from the wider group?

The design and methodology was adapted and tweaked as per the specific sets of stakeholders. These changes proved to be useful for bringing forth enhanced engagement and contribution from the participants.

- **Schools & Colleges:**

  For this group, we did fun games, role plays to help them connect with the topic while maintaining the gravity of the issue. The sessions were interspersed with movie screenings which helped us to drive the point across.

- **Informal Sector & Refurbishers & NGOs:**

  This group was engaged in a lot of group work, mock practice sessions to ensure increased participation. More of Hindi language was used for delivering the session as most of the participants felt more at ease with understanding and expressing in Hindi.

Please correlate the effectiveness of your training with the quality of trainers in the group

- **Schools & Colleges:**

  This group was an enthusiastic lot and was high on learning orientation. The students readily and sincerely participated in the activities. These are important qualities for a trainer and our training methodology also kept them engaged and inquisitive throughout the process.

- **Informal Sector & Refurbishers & NGOs:**

  There were members in the group who have been trainers and teachers. So they had proficient skills of communication. Our sessions helped them gain deeper insight into framing engaging designs and using the experiential learning cycle model to build stronger connect between the audience and the issue.

How would you rate the master training programme in leading to enhanced effectiveness of the training that you provided at the city level?

The master training programme helped to frame specific and clear objectives. It made us understand the significance of using different methodologies like presentations, role plays, movies, reflection, etc within a session, as this helps to cater to the differing learning orientation and needs of the audience. The readily available manuals and the session plans aided in sharing the content related to the issue and prototype of action plans with the participants.

- Schools & Colleges:
- Informal Sector & Refurbishers & NGOs:

Section III - Impact of the Training of Trainers

How do you assess the impact of your training?

- **Schools & Colleges:**

  The average feedback rating received from this group was 4.5 out of 5. Converting into percentage, the participants found the training to be 90% effective. The participants in their feedback shared that the training was well defined in terms of its objective, content and delivery. They also stated in their feedback that the training was informative, added to their knowledge and was fruitful for them.

- **Informal Sector & Refurbishers & NGOs:**

  For this group, the average rating we got was 4.6 out of 5, which means the participants found the training was 92% useful. In their feedback also, the participants shared that it was a great experience for them in terms of increasing their knowledge and for their work.

Do you think the impact was limited due to the quality of participants?

- **Schools & Colleges:**

  The participants in this group were curious and had fervour to learn about the issue. They were a confident lot. One thing that they need to learn is taking constructive feedback which will help in their own improvement.

- **Informal Sector & Refurbishers & NGOs:**

  This group had people from varied backgrounds. They had a basic level awareness about the issue. For some of them, the hindrance was their lack of confidence and conviction in expressing themselves in front of large groups. During the mock session, few of them shared that it was the first time they have come on to the centre stage to address an audience.

What kind of changes did you make during the training to create a deeper impact on the participants?

In order to make the training more effective and impactful for the specific stakeholders, the design and methodology was modified as per the audience.

- **Schools & Colleges:**

  For this group, we had games like quizzes, dumb charades, treasure hunt, role plays. Lot of movie screenings were done, followed by processing of what has been their learnings and takeaways from the movies. These enjoyable activities helped create a better connect of the participants with the issue and kept them engaged.

- **Informal Sector & Refurbishers & NGOs:**

  With this group, we did more of group work activities, case study analysis, mock practice session. These processes helped the participants to add to their knowledge base and freely express themselves. This also aided in consolidating their learnings and refinement of their presentation skills.

How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?

- **Schools & Colleges:**

  The group comprised of young minds. The participating students were high on energy and open to learning about the issue. They were excited and keen to share the new knowledge gained about the issue with their peers.

- **Informal Sector & Refurbishers & NGOs:**

  This group consisted of participants with varied background. Some members had experience in teaching and conducting workshops; others had been practically working in the field of scrap dealing. Their background experience and additionally the new knowledge acquired about the issue will help them to effectively deliver and make their respective communities aware about the E-waste.

Section IV - Sustainability of the Training Programme

How would you rate the participants in terms of their interest in the training programme?

- **Schools & Colleges:**

  The participants had a lot of inquisitiveness to learn about the issue. They were highly engaged and readily participated and contributed in the games and activities. In their action projects, they reflected and used the information gained and added various modalities to make it an interesting process of exchange for their stakeholders. This showed that they were attentive and could effectively comprehend the essence of the workshop.

- **Informal Sector & Refurbishers & NGOs:**

  The participants had some information about the issue. The workshop added to their knowledge base. The group work aided in peer learning and the practice session helped them learn new engagement skills. All these activities helped maintain the interest of the group members in the workshop.

Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?

- **Schools & Colleges:**

  The training was designed in a way in which learning happened in an enjoyable way, without losing out on the gravity of the issue. The knowledge gained and the fervour with which the students participated in the training, added to that their effective communication skills will help them to train their peers well in the issue.

- **Informal Sector & Refurbishers & NGOs:**

  The content shared in terms of the manual and the practice done through mock sessions was very beneficial for the group. The practical real-life experiences of the participants in terms of dealing with waste management and conducting workshops will help them to effectively transact the awareness around E-waste with their stakeholders.

What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?

- **Schools &Colleges:**

  Having separate groups of students and teachers for the training would be useful. Also, as it is an upcoming field of work, creating courses and internship opportunities in this field will help in creating more buy in with the issue.

- **Informal Sector & Refurbishers & NGOs:**

  In this design, having an exposure / field visit to a formal recycling unit will be helpful for these groups.

Participants Speak

❝ The facilitator was of sound knowledge and interacted well with the trainees. It was a perfect knowledge gained workshop.❞
– Vinod Kumar R,
Doon Business School

❝ The effort made by the government, the trainers was really appreciating. Content, style,and delivery were excellent. ❞
– Rashmi Joshi, ICM

❝ Would like to assign 5 rating as it was systematically designed and methods of delivering the content was very innovative and participative. It was well designed by keeping the audience in mind.❞

❝ 5 rating because it was really good and it was very interactive which was the best part and through those activities we learned very well. ❞
– Prakhar Srivastava, BCA Second Year, Graphic Era University

❝ The trainers were extremely learned persons about the content and objectives of training. They were highly appreciative, welcoming and positive about the ideas given by the trainees. Kudos! ❞
– Priyum Agarwal, Student, Doon Business School

❝ It is five because the session was related to a realistic issue and the facilitators were too good. They delivered the right thing in the right manner. Thank you for the session. ❞
– Bipsha Nayak

❝ 5/5, because the facilitators taught the content, the problem in a very effective manner. ❞
– Neelesh Aggarwal

DELHI

Master Trainers: Sonal Chaturvedi and Indu Verma

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

How many trainers attended the training programme across all 3 ToTs which were covered in the city?

- Schools & Colleges: 20
- RWAs & Bulk Consumers: 15
- Informal Sector, NGOs & Refurbishers: 25

Give a brief account of the experience of each of these group members in terms of their profile and the number of trainings that they would have conducted in the past.

- **Schools & Colleges:**

  The students attending the workshop were primarily from two universities, i.e. Delhi University and Amity University. The group comprised of students representing both undergraduate and postgraduate courses. Mostly, the representation was from the social sciences background. The students demonstrated high levels of commitment towards the issue of E-waste and were keen to take the learnings back to their universities and colleges. Few students attending the workshop had an aspiration to start their own recycling businesses and were looking to establish linkages with like-minded individuals and institutions. Teachers part of the group were engaged in extracurricular and awareness-generation activities in their schools, including awareness on the E-waste issue.

- **RWAs & Bulk Consumers:**

  The RWA members attending the workshop were mostly retired educationists who have had long stints in academics.The group members demonstrated high levels of enthusiasm and energy and a learning orientation to learn about the issue of E-waste and take back the learnings to their societies. The bulk consumers in the group were represented by officials from the Ministry of Labour. Though sceptical in the beginning, they were ready to take responsibility to bring a change in their offices.

- **Informal Sector & Refurbishers:**

  This group included NGO representatives who were working in the communities on diverse social issues and who have the desire to initiate an E-waste awareness project in their communities. The participants attending the workshop were from NGOs such as SHARP NGO, Humanity Foundation, Independent India Trust, SADRAG, PHASE. In addition, there were representatives from private limited companies such as E-waste Recyclers India, who are engaging in recycling activities.

What, in your assessment, was lacking in the different groups as far as their profile is concerned?

- **Schools & Colleges:**

  While the students were high on energy and ideas to work on E-waste awareness, going forward. They will need constant guidance, support and mentoring to bring their ideas to fruition. This will enable to build their confidence in their own abilities and knowledge on E-waste and also help them to implement their E-waste project ideas with quality, consistency and rigour in their institutes.

- **RWAs & Bulk Consumers:**

  While many of the participants in this group were senior citizens and have long experience behind them, they will require the skills of taking people along as they work in their communities which comprises of diverse populations. They will also require to build networks in their communities for effective implementation of their project ideas.

- **Informal Sector & Refurbishers:**

  The participating NGOs' scope of work was restricted in addressing the issue of solid waste management, and not E-waste. Going forward, they would require support to develop a project on E-waste and implement it in their communities.

How could the relevance of those attending the training could have been improved to ensure that the quality of trainers could be enhanced?

While the specifics vis a vis areas of improvements have been captured below for the three groups, one recommendation across the three groups is the need to create an individual participant workbook for the ToT participants with a space for writing their reflections and learnings from the workshop . This will help the participants to consolidate their learnings and reflections during the workshop and continue to use it post the workshop for greater impact and application of the learnings in their networks.

- **Schools & Colleges:**

  A separate ToT for teachers and students could help align to the aspirations of both the groups. For students interested in pursuing a career in the recycling business,an internship programme can be organized to help them learn the technical and the business aspects of operating a recycling enterprise.

- **RWAs & Bulk Consumers:**

  Diversity of age became one of the impediments in the participation of the younger group members. Efforts should be made to have a homogeneity in terms of age so that there is active group participation.

- **Informal Sector & Refurbishers:**

  An exposure visit to a recycling or a dismantling unit may be added to enhance the learning expectations of the group.

Section II - Effectiveness of the Training

What kind of activities which were conducted with specific sets of stakeholders who, according to you, were the most effective in ensuring participation from the wider group?

The training used the Donna E. Walker's experiential learning cycle to design the workshop for all three groups. The five stages including the Mind Jog, Personnel Connect, Information Exchange, Information Application and Real-World Connect were used to develop an engaging workshop for the participants. The design was able to communicate the knowledge and information on the issue of E-waste in a lucid, simple and comprehensible manner which was able to build the commitment and competence of the participants. The activities used in the workshop were aligned to the Kolb's learning theory that addressed the needs of different types of learners. The activities in the workshop comprised of diverse methodologies such as film screenings, quiz, games, group work, individual and group presentations, case study, power point presentations, reflective exercises and action project planning to enhance the quality of content and delivery of the workshop.

- **Schools & Colleges:**

  Film screenings, games and group work, individual and group presentations worked well with the group

- **RWAs & Bulk Consumers:**

  Case study, presentations, reflective exercises were some of the activities that worked well with this group.

- **Informal Sector & Refurbishers:**

  Presentations and Action project planning were most effective for the group

Please correlate the effectiveness of your training with the quality of trainers in the group

A pre-training Audience Analysis Forum was administered to the participants to ensure that the quality of the participants attending the programme was high. The process supported in aligning to the aspirations and expectations of the stakeholders and maximizing the learning outcomes.

- **Schools & Colleges:**

  The training was effective as it provided an opportunity to college students to develop their project ideas on E-waste via group activities. The students got opportunities to strengthen their E-waste project ideas via the feedback process. These processes supported in enhancing the quality of their projects and has also motivated them to implement their projects in their communities.

- **RWAs & Bulk Consumers:**

  The bulk consumers and the RWAs were keen to understand the processes of managing E-waste in their offices and societies, respectively and the training provided them with the information and the recyclers in their areas.

- **Informal Sector & Refurbishes:**

  The informal sector was interested in the practical aspects of managing E-waste and the inputs helped them with knowledge and information about doing the same.

How would you rate the master training programme in leading to enhanced effectiveness of the training that you provided at the city level?

The master training programme conducted was rated at as high as 96-percent learning effectiveness by the trainees.

- **Schools & Colleges:**

  The master training programme helped the Master Trainers to design effective, participative and engaging sessions for young people at the city level for maximum learning outcomes. Many of the students in the groups shared that it was the first time that they attended a training that was meaningful and participative.

- **RWAs & Bulk Consumers:**

  The master training programme helped the RWAs to learn the techniques and the skills to develop deep engagement with audience on the issue of E-waste.

- **Informal Sector & Refurbishers:**

  Key concepts such as Donna E. Walker's Cycle was explained to the participants and the participants were supported to practise the sessions plans explained in the E-waste manual during the master trainer workshop. Kolb's theory, Learning Style Inventories, IGNITE model of facilitation skills were taught to the participants to enhance their engagement with diverse groups. In addition, the trainers gave practical tips to the participants to engage the audiences towards positive transformation.

Section III - Impact of the Training of Trainers

How do you assess the impact of your training?

A feedback form was administered to the participants to learn about the feedback of the workshop in terms of content, design and facilitation skills of the trainers. For all the three groups, the training effectiveness was rated very high by the participants.

- Schools andcolleges reported 92-percent learning effectiveness.
- RWAs and Bulk Consumers reported 95-percent learning effectiveness.
- Informal Sector & Refurbishers reported 88-percent learning effectiveness.

Do you think the impact was limited due to the quality of participants?

The design was able to address the expectations of the participants in a targeted manner. While an overall training design was developed for the 6-day intervention, there were changes based on the expectations of the three groups.

- **Schools &Colleges:**

  The trainers made an effort to include the activities to suit the needs and interest of the participants. For example, for student groups, film screenings, games and group work, individual and group presentations were included that worked well to enhance their learning outcomes

- **RWAs & Bulk Consumers:**

  The trainers were sensitive and observant to the progress of the participants and were focussed to support less-motivated participants via ideas and one-on-one conversations. Case studies, presentations, reflective exercises were some of the activities that worked well with this group.

- **Informal Sector & Refurbishers:**

  This group was equipped with information on the E-waste rules and other practical aspects of managing E-waste. Presentations and Action Project planning were most effective for the group.

What kind of changes did you make during the training to create a deeper impact with the participants?

A six-day training design was developed and aligned to the needs and expectations of the groups. The first objective was to build the knowledge of the participants on the issue of E-waste. The second objective focussed on building the engagement skills of the participants via action project planning and practice sessions, and the third objective was to develop the participants as effective change-makers in their communities. To achieve all the above objectives, efforts were made to make use of the existing resources available in the form of the E-waste Manual, GreenE Website and the Audio Visual Aids in the creative and

innovative ways for high effectiveness. For example, case studies in the manual were creatively used in the form of role plays to highlight the problems faced due to E-waste and the solutions to overcome the same.

- **Schools & Colleges:**

  The design was changed to include informative games, quiz and group presentations to create a deeper impact amongst the participants. New components such as action project designing and learning plan creation were added to build the commitment and competence of the young people.

- **RWAs & Bulk Consumers:**

  Group work was used to discuss the case study as it was found to be effective vis a vis time optimization.

- **Informal Sector & Refurbishers:**

  In order to maximize the training effectiveness, a session on revision was added to help participants revise the learnings from the workshop.

How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?

- **Schools & Colleges:**

  The college students and the teachers will undertake activities such as awareness drives, workshops, film screenings, competitions to create greater impact in their institutes.

- **RWAs & Bulk Consumers:**

  The RWAs will make citizens aware about the need for a scientific disposal mechanism of E-waste in their communities and provide for collection points to address the issue of E-waste in their societies/ offices.

- **Informal Sector & Refurbishers:**

  The group will be able to spread awareness on the issue of E-waste via showcasing positive stories of change and also spread awareness about the laws governing E-waste for dismantlers and recyclers.

Section IV - Sustainability of the Training Programme

How would you rate the participants in terms of their interest in the training programme?

- **Schools & Colleges:**

  The students demonstrated a high level of interest to implement projects in their colleges. Few students were also interested to set up their own entrepreneurial initiatives.

- **RWAs & Bulk Consumers:**

  RWAs were passionate to create awareness in their communities and they have created a plan of action to sensitize their residents. The Bulk Consumers and shopkeepers laid down a process to create awareness in their offices and localities.

- **Informal Sector & Refurbishers:**

  NGOs have high enthusiasm to work on the issue of E-waste. They have created E-waste action projects aligned to their existing programmes which will help them to implement their projects in a cost-effective manner.

Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?

The trainers are committed to building awareness about the issue in their communities. However, since many of them are first-time trainers, the competence in delivery can be a challenge that can impact the quality of engagement. A support and guidance can be provided to the trainers by the experienced trainers for quality of delivery and enhanced engagement with stakeholders.

- Schools & Colleges: Yes. However, mentoring and guidance will be needed to address the challenges they face when they are training stakeholders.
- RWAs & Bulk Consumers: Yes. They would require support from experienced trainers in adapting and contextualizing the training design based on the emerging needs of the members.
- Informal Sector & Refurbishers: Yes. They would require support and handholding and a constant feedback to improve their training delivery by experienced trainers.

What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?

The pre-training process can be streamlined to facilitate higher engagement with the trainers. First, the commitment taking process is to be streamlined to ensure that only interested and committed participants join the programme and there are less dropouts post registration process. This needs to be followed by an audience analysis which should be completed at least a week before the programme to ensure quality of trainers.

- **Schools & Colleges:**

  The training design needs to focus on behavioural change for young people. To this end, the design should include components such as LOHAS and carbon footprint concepts that needs to be connected to a young person's life that will lead to higher engagement of the trainers and will enable young people to adopt sustainable lifestyle choices. For young people interested in starting their own income-generation projects, an advanced entrepreneurship course can be crafted with some seed funding and mentoring support to convert their ideas into action.

- **RWAs & Bulk Consumers:**

  There has to be increased focus on engagement skills by the RWA trainers that will help them to connect better with residents.

- **Informal Sector & Enhanced Refurbishers:**

  There has to be greater impetus on the knowledge and the information part, i.e. Enhanced knowledge on E-waste rules, sharing available technologies on dismantling and recycling and exposure to state-of-the-art recycling units for greater learning and exchange.

Participants Speak

❝ The training was very interesting and very helpful for me. ❞

❝ I will rate the training 100 percent effective as I was able to understand each and everything of E-waste in a very simple way. ❞

The workshop was well planned and executed. I had a very basic knowledge about the E-waste, but this enhanced it to great limits. It was quite interactive and fun learning through movies games, case studies, etc.

❝ The way of conducting the training was excellent as it was activity based. ❞

❝ The workshop was designed well for the target audience. It was filled with activities to facilitate thinking, learning speaking and understanding on the subject of E-waste. ❞

❝ The method of conducting the training was awesome and the trainers made us learn through many activities and games. ❞

Annexure 2 - SNAPSHOTS OF THE ToT PROGRAMME

Group presentations by School teachers



Facilitator explaining the importance of Listening



GANGTOK

Master Trainer: Saikat Mookherjee

Venue of the Training: Tulku Hall, C Block – Forest, Environment and Wildlife Department, Government of Sikkim, Deorali, Gangtok.

- **Observation 1: Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

The composition of the different groups have been elucidated in the table given below. There were 40 attendants in total, who had predominant female dominance.

o **Composition of the Groups**

Table 1.1: Composition of the Groups

Groups	Female	Male	Total
NGOs & Informal Sector	5	8	13
Teachers & Students – Schools & Colleges	18	9	27
Grand Total	**23**	**17**	**40**

o **Educational Qualifications of the Groups**

The first group comprised of a varied educational background. However, it had a handful of postgraduates, in addition to Secondary and Senior Secondary passouts as well. The second Group were predominantly students who were pursuing graduation and also Secondary courses.

Table 1.2: Educational Qualifications of the Groups

Groups	Female	Male	Total
NGOs& Informal	5	8	13
Sr. Secondary	1	1	2
Secondary	1	1	2
Graduate	2	3	5
Postgraduate	1	3	4
Students & Teachers	18	9	27
Graduate Students	15	6	21
School Students	2	2	4
Teachers	1	1	2
Grand Total	**23**	**17**	**40**

o Years of Work Experience of the Groups

As far as years of experience are concerned, a 36.5% had no experience;a considerable proportion (around 50.7%) of the attendees had up to 10 years of experience; around 7.9% had upto 20 years of experience; and around 3 persons (4.7%) had more than 20 years of experience.

Table 1.3: Years of Work Experience

Years of Experience	NGOs & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges	Total
No Experience	9	9	5	23
Upto 10 yrs	6	8	18	32
11 – 20 yrs	1	2	2	5
More than 20 years	1		2	3
Grand Total	17	19	27	63

o Years of Training Experience

The years of training experience of the different groups have been depicted in the table given below. Majority had little or no experience in imparting trainings. The representatives of the NGOs had (?)as it has been depicted in the table given below:

Table 1.4: Years of Training Experience

Years of Training Experience	**NGOs & Informal Sector**	**Teachers & Students – Schools and Colleges**	**Total**
No Experience		25	25
Less than – Up to 1 year	2		2
2 – 5 years	4		4
6 – 10 years	5		5
Above 10 years	2	2	2
Grand Total	**13**	**27**	**40**

o Inherent knowledge on Content and Training

Each group required certain areas of improvement as far as knowledge of training was concerned. This has been highlighted in the table given below. Barring basic information and the hazards imparted by E-waste, most of the attendees were not aware about the different facets of E-waste.

Table 1.5: Years of Training Experience

Parameters	NGOs & Informal Sector	Teachers & Students – Schools and Colleges
Knowledge about Types of E-waste	√	√
Impact and Hazards imparted by E-waste	√	×
Nitty-gritties about the provisions and E-waste rules	×	×
Pedagogy and Training Modes to be adopted	×	×

- **Means to improve upon relevance of those attending Training**

Some specific suggestions to improve upon the relevance of those attending the training

- Specific suggestions for each group
  - For Schools & Colleges:
    - Larger number of schools and colleges to be targeted for recruitment. Currently, they were from 2–3 outfits only and from a specific locality only.
  - Informal Sector & Refurbishers:
    - They were forthcoming and had considerable knowledge on the subject. Needed to be coaxed a little bit. But once they did, it was a smooth experience with them

Observations with regard to effectiveness of the training

- **Activities Undertaken**

The following activities were conducted in a proper sequence and most effective participation was observed with regard to the following. The most effective mode, as per my perception, has been shaded below:

Refurbishers & Informal Sector	Teachers & Students – Schools and Colleges
Introducing the Partner	Introducing the Partner
Group activity on Waste and E-waste	Group activity on Waste and E-waste
Narration of Personal Experience with E-waste	Narration of Personal Experience with E-waste
Quiz	Quiz
Film appreciation and narration of key learnings	Film appreciation and narration of key learnings
Action Planning & Group Presentation	Action Planning & Group Presentation
Planning of Session & Group Presentation	Planning of Session & Group Presentation

Overall Observations in relation to activities:

The overall observations in relation to the different activities undertaken are as follows:

- Most of the attendees liked the concept of interactive activities as individuals or in groups.
- All the groups, especially NGOs, school and college students were very receptive to the training imparted.
- Attendees from NGOs, especially the younger lot, were very forthcoming in the activities or in case of interaction with the peers during the training session.

o Correlation of effectiveness of Training with Quality of Trainers

As illustrated earlier, majority of attendees were interested in the training imparted and the mode of activities undertaken. The specific observation for each group has been depicted below:

NGOs & Informal Sector	Teachers & Students – Schools and Colleges
The NGOs as well as the informal sector, I believe, has the best potential and some of them were avid learners and great performers.	They were very upbeat as depicted in the final group presentation on how they wish to impart the training. They were eager to learn and take this forward effectively.

o Rating the master training programme in leading to enhanced effectiveness of the training

I would rate the master training programme 4 on a scale of 1 – 5. The reasons for the same are elucidated in the table given below:

Major Head	Sub-heads
Key Learnings	• The Pedagogy, which enabled me to understand the mode of training and the delivery • The art of engagement – not making the training boring and introducing different types of activities to keep the audience engaged • The effective way of communicating • Quality of Master Trainers and interaction with them further enhanced my ability to think on my feet • My past experience at Gurgaon, Mumbai and Ahmedabad helped me to design the sessions more effectively.

Impact of the training of trainers

Assessment of impact of training imparted

The assessment of impact imparted by the training has been depicted in the table given below. The impact has been reasonably good owing to the proactiveness and yearning to learn in most batches:

Target Groups	Short-Term Impact	Long-Term Impact
Refurbishers & Informal Sector	Was observed in the way they designed the Training Session for their peers in the last Session and also in designing an action plan to run an organized E-waste collection system	Some of the Trainers (I trained), particularly the NGOs, conceptualized the training programmes in the most effective way.
RWAs & Bulk Consumers		
Teachers & Students – Schools and Colleges		

Recommendations: The Certificate needs to be made available to the worthy trainers at the earliest.

- **Is the impact limited due to the quality of participants?**

Target Groups	Opinion
NGOs & Informal Sector	No, both of them were eager to learn and implement the outcomes of ToT.
Teachers & Students – Schools and Colleges	No. On the contrary, they were most effective and enthusiastic batch.

- **What kind of changes did you make during the training to create a deeper impact on the participants?**

Target Groups	Opinion
Refurbishes & Informal Sector	• Making this more interactive, • Inviting more participation from everyone • Motivating the shy ones to speak • Discussion about live examples • Narrating personal experiences
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

- **How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?**

Target Groups	Opinion
Refurbishes & Informal Sector	• The final session I do is explaining the pedagogy I followed in training them and asking them to prepare a plan based on Donna E. Walker's Learning Cycle. The most effective way they do this helps me to rate their performance and my performance as well in facilitating the sessions. • I judge them on the different facets of the learning cycle. The peers provide a rating and I provide a rating putting together my views on the same.
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

Sustainability of the Training Programme

The sustainability of the Training programme has been described in course of this section.

- **How would you rate the participants in terms of their interest in the training programme?**

The rating and reasons for each group has been depicted in the table given below:

Target Groups	Rating	Reasons
NGOs	4	Enthusiastic, forthcoming and willing to spread the knowledge
Informal Sector	4	
Teachers – Schools & Colleges	4	Enthusiastic, self-motivated and presented with a different perspective every time
Students – Schools & Colleges	4	Enthusiastic, self-motivated and presented with a different perspective every time

- **Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?**

Target Groups	**Rating**
NGOs	Yes
Informal Sector	Yes
Teachers – Schools & Colleges	Yes
Students – Schools & Colleges	Yes

- **What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?**

Target Groups	**Opinion**
NGOs & Informal Sector	• None. We need to have a little more in nos.
Teachers & Students – Schools & Colleges	• This is perfect as it stands. Participants from more number of schools and colleges from different parts of the city should be done.

GURUGRAM

Master Trainer: Saikat Mookherjee

Venue of the Training: HARTRON – IAMAI–ASSCOM startup near the Kapashera border, Gurugram.

- **Observation 1: Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers Programme**

The composition of the different groups has been elucidated in the table below. There were 59 attendants in total, which had male dominance in the first two groups and the composition changed to female dominance in the third or last group.

o **Composition of the Groups**

Table 1.1: Composition of the Groups

Groups	Female	Male	Total
Refurbishers & Informal Sector	6	14	20
RWAs & Bulk Consumers	6	13	19
Teachers & Students – Schools &Colleges	14	6	20
Grand Total	**26**	**33**	**59**

o **Educational Qualifications of the Groups**

The first group comprised predominantly Graduates. However, it had a handful of Postgraduates and Senior Secondary passouts as well. The second group also had a similar makeup with Graduates ruling the roost. The third group was predominantly students who were pursuing graduation.

Table 1.2: Educational Qualifications of the Groups

Groups	Female	Male	Total
Refurbishers & Informal Sector	6	14	20
Graduates	3	9	12
Postgraduates	3	1	4
Sr.Secondary		4	4
RWAs & Bulk Consumers	6	13	19
Graduates	3	9	12
Postgraduates	3	4	7
Teachers & Students – Schools&Colleges	14	6	20
Postgraduates	3		3
Pursuing Graduation	11	6	17
Grand Total	**26**	**33**	**59**

- **Years of Work Experience of the Groups**

As far as years of experience are concerned, a considerable proportion (around 54%) of the attendees had up to 10 years of experience; around 30% had no experience; around 12% had upto 20 years of experience; and around two persons had more than 20 years of experience.

Table 1.3: Years of Work Experience

Years of Experience	Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges	Total
No Experience	1		17	18
Upto 10 years	16	16		32
11 – 20 years	1	3	3	7
More than 20 years	2			2
Grand Total	**20**	**19**	**20**	**59**

- **Years of Training Experience**

The years of training experience of the different groups have been depicted in the table below. Majority had little or no experience in imparting trainings.

Table 1.4: Years of Training Experience

Years of Training Experience	Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools & Colleges	Total
No Experience	15	9	17	41
Less than – Up to 1 year		5		5
2 - 5 years	2	4		6
6 -10 years	3	1		4
More than 10 years			3	3
Grand Total	20	19	20	59

This is certainly an area which needs to be addressed. A basic understanding about training may be a recruitment criterion.

- **Inherent knowledge on Content and Training**

Each group required certain areas of improvement as far as knowledge of training was concerned. This has been highlighted in the table given below. Barring basic information and the hazard caused due to E-waste, most of the attendees were not aware about the different facets of E-waste.

Table 1.5: Years of Training Experience

Parameters	Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges
Knowledge about Types of E-waste	√	×	×
Impact and Hazard caused by E-waste	√	×	×
Nitty-gritties about the provisions and E-waste rules	×	×	×
Pedagogy and Training Modes to be adopted	×	×	×

- **Means to improve upon relevance of those attending Training**

Some specific suggestions to improve upon the relevance of those attending training

i. Common Aspects

- In the recruitment stage, the intent/ motivation of attendees needs to be understood from the audience. There were a few de-motivated government employees (over and above the ones trained), who would not make best of trainers. Hence, such attendees may not be recruited.
- Objective of the Training needs to be made clear
- Specific suggestion for each group
  - For Schools & Colleges:
    - A larger number of schools and colleges to be targeted for recruitment. Currently, they were from two outfits only.
  - RWAs & Bulk Consumers:
    - A larger number of RWAs to be targeted for training, preferably from four corners of a city.
    - Bulk Consumers, only those interested in should be recruited. Trainings should not be a burden for them, or it should be a forum.
  - Informal Sector & Refurbishers:
    - These two batches need to be split, if possible.
    - Medium and mode of instruction has to be amended considerably for both these groups, which puts the facilitator in a considerable stress.

Observation with regard to effectiveness of the Training

- **Activities Undertaken**

The following activities were conducted in a proper sequence and most effective participation was observed with regard to the following. The most effective mode, as per my perception, has been shown below:

Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges
Introducing the Partner	Introducing the Partner	Introducing the Partner
Group activity on Waste and E-waste	Group activity on Waste and E-waste	Group activity on Waste and E-waste
Narration of Personal Experience with E-waste	Narration of Personal Experience with E-waste	Narration of Personal Experience with E-waste
Quiz	Quiz	Quiz
Film appreciation and narration of key learnings	Film appreciation and narration of key learnings	Film appreciation and narration of key learnings
Action Planning & Group Presentation	Action Planning & Group Presentation	Action Planning & Group Presentation
Planning of Session & Group Presentation	Planning of Session & Group Presentation	Planning of Session & Group Presentation

Overall Observations in relation to activities:

The overall observations in relation to the different activities undertaken are as follows:

- Most of the attendees liked the concept of interactive activities as individuals or in groups.
- The school and college students were very receptive to the training imparted and so were the refurbishers.
- Attendees from NGOs, especially the younger lot, were very forthcoming in the activities or in case of interaction with the peers during the training session.
- Government employees (bulk customers in this case), were a little sceptical lot and their recommendation was not up to the mark.

o Correlation of Effectiveness of Training with Quality of Trainers

As illustrated earlier, majority of attendees were interested in the training imparted and mode of activities undertaken. The specific observation for each group has been depicted below:

Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges
The Informal Sector, I believe, has the best potential and some of them were avid learners and great performers. How they would be taking this along to the next level remains to be seen. The refurbishers, propelled by their innate need of procuring business, were very participative. Some have started training corporates as well as RWAs drawing nuances from our training programme. This is truly the success of this design of training.	The RWAs were very receptive about the training and were interested to take the learnings from this session in training their fellow members. The Bulk Consumers unfortunately were not the receptive lot and a lot needs to be done in this space. The way E- waste is accumulated in the HARTRON Complex itself is stark example of the apathy to the subject. This, however, helped me in driving home the message of our ToTs in the best possible way.	They were very upbeat as depicted in the final group presentation on how they wish to impart the training. They were eager to learn and take this forward effectively.

o **Rating the master training programme in leading to enhanced effectiveness of the training**

Major Head	Sub-heads
Key Learnings	• The Pedagogy, which enabled me to understand the mode of training and the delivery • The art of engagement – Not making the training boring and introducing different types of activities to keep the audience engaged. • The effective way of communicating • Quality of Master Trainers and interaction with them • Further enhanced my ability to think on my feet
What Would have helped a little more	• Some more time should have been planned for effective assimilation of the concepts. • The Pedagogy in the E-waste concept could have been included in one session, maybe in the form of a demo.

Impact of the Training of Trainers

o **Assessment of impact of training imparted**

The assessment of impact imparted by the training has been depicted in the table below. The impact has been reasonably good owing to the proactiveness and yearning to learn in most batches:

Target Groups	Short-Term Impact	Long-Term Impact
Refurbishers & Informal Sector	Was observed in the way they designed the Training Session for their peers in the last Session	Some of the Trainers (I trained), particularly the Refurbishers & Students, have already started with training of corporate and fellow students much in line with what has been envisaged. They have shared pics and videos of these sessions with me.
RWAs & Bulk Consumers		
Teachers & Students – Schools and Colleges		

Recommendations: The certificate needs to be made available to the worthy trainers at the earliest.

o **Is the impact limited due to the quality of participants?**

Target Groups	Opinion
Refurbishers & Informal Sector	No, both of them were eager to learn and implement the outcomes of ToTs.
RWAs & Bulk Consumers	No for RWAs. Yes, for Bulk Consumers. The participants (Bulk Consumers / Government Employees) were not the motivated lot. They were nominated by HARTRON and the quality of stuffs recommended to the trainers were not apt.
Teachers & Students – Schools and Colleges	No. On the contrary, they were most effective and enthusiastic batch.

- **What kind of changes did you make during the training to create a deeper impact with the participants?**

Target Groups	Opinion
Refurbishes & Informal Sector	• Making this more interactive, • Inviting more participation from everyone • Motivating the shy ones to speak • Discussion about live examples • Narrating personal experiences
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

- **How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?**

Target Groups	Opinion
Refurbishes & Informal Sector	• The final session I do is explaining the pedagogy, I followed in training them and asking them to prepare a plan based on Donna E. Walker's "Learning Cycle". The most effective way they do this helps me to rate their performance and my performance as well in facilitating the sessions. • I judge them on the different facets of the learning cycle. The peers provide a rating and I provide a rating putting together my views on the same.
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

Sustainability of the Training Programme

The sustainability of the Training Programme has been described in the course of this section.

- **How would you rate the participants in terms of their interest in the training programme?**

The rating and reasons for each group has been depicted in the table given below:

Target Groups	Rating	Reasons
Refurbishers	4	Enthusiastic and willing to spread the knowledge
Informal Sector	4	Surprise of the lot. They were very forthcoming.
RWAs	3	A little low on the E-waste knowledge, but they picked up very fast in the Group activity on the last day.
Bulk Consumers	1	A strict No, No. They were the most disinterested lot.
Teachers – Schools &Colleges	4	Enthusiastic, self-motivated and presented with a different perspective every time
Students – Schools&Colleges	4	Enthusiastic, highly motivated, willing to learn and pass on the knowledge

- **Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?**

Target Groups	Rating
Refurbishers	Yes
Informal Sector	Yes
RWAs	Yes
Bulk Consumers	No
Teachers – Schools & Colleges	Yes
Students – Schools&Colleges	Yes

- **What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?**

Target Groups	Opinion
Refurbishers & Informal Sector	• Splitting the groups would work, as per my opinion. Medium of instruction and depth of information are different for this target group. One day for each group may help. Design may be amended accordingly.
RWAs & Bulk Consumers	• RWAs from different parts of the city may be recruited. • Only motivated bulk consumers need to be recruited who can take this forward. Recommendations may not work as we saw in this case.
Teachers & Students – Schools and Colleges	• This is perfect as it stands. Participants from more number of schools and colleges from different parts of the city should be done.

HYDERABAD

Master Trainer: Sonal Chaturvedi and Indu Verma

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

How many trainers attended the training programme across all 3 ToTs which were covered in the city?

- Schools & Colleges: 34
- RWAs & Bulk Consumers: 17
- Informal Sector, NGOs & Refurbishers: 36

Give a brief account of the experience of each of these group members in terms of their profile and the number of trainings that they would have conducted in the past.

- **Schools & Colleges:**

  The students attending the workshop were a mix from schools and colleges. The school students were from IX grade from prominent schools in Hyderabad such as MA Ideal High school and Rosary School. The college group comprised of students from MBA and engineering courses. The students were eager to learn about the issue of E-waste and demonstrated high levels of passion to work towards the issue of E-waste and were keen to take the learnings back to their colleges and schools. Teachers part of the group were from Loyola Academy Degree and PG College and were engaged in teaching engineering courses and wanted to institutionalize an E-waste course in their college.

- **RWAs & Bulk Consumers:**

  This group included active citizens, bulk shopkeepers and small business owners who were keen to learn about the issue of E-waste from the business opportunity angle.

- **Informal Sector & Refurbishers:**

  This group included participants from NGOs such as AIM Education and Research Societ, Dharani, Yuvatha, Society for Solidarity, Sheressu, Sparsha Society, Janvikas Rural Development Society, Vision Rural development Society and Sahara NGO. In addition, there were independent activists and social workers who were keen to learn about the E-waste issue and take the awareness in their communities.

What, in your assessment, was lacking in the different groups as far as their profile is concerned?

- **Schools & Colleges:**

  Diversity of schools would have added to the discussions and sharing of experiences.

- **RWAs & Bulk Consumers:**

  Representation from the state government departments would have enhanced the leadership at the state level.

- **Informal Sector & Refurbishers:**

  More representation from the kabaddi walas would have made the learning more connected to the issues of the city.

How could the relevance of those attending the training could have been improved to ensure that the quality of trainers could be enhanced?

Overall, a commitment taking process from the trainers prior to the workshop can result in enhanced engagement of the trainers during and post the workshop making the training more relevant and quality focussed.

- Schools & Colleges:
- RWAs & Bulk Consumers:
- Informal Sector & Refurbishers:

Section II - Effectiveness of the Training

What kind of activities which were conducted with specific sets of stakeholders which, according to you, were the most effective in ensuring participation from the wider group?

- **Schools & Colleges:**

  Film screenings, games and group work, individuals and group presentations worked well with the group.

- **RWAs & Bulk Consumers:**

  Case study, presentations, reflective exercises were some of the activities that worked well with this group.

- **Informal Sector& Refurbishers:**

  Presentations and Action project planning were the most effective for the group.

Please correlate the effectiveness of your training with the quality of trainers in the group

- **Schools & Colleges:**

  The training was effective as it helped the student trainers to see a connect between them and the issue of E-waste. Along with global and national data, the student trainers were introduced to the concepts of sustainable consumption and lifestyle changes which inspired them to bring changes in their lifestyle to become quality trainers.

- **RWAs & Bulk Consumers:**

  This group was keen to understand the procedures for authorizations and compliances to be followed to upgrade their business and the training helped them to understand the same.

- **Informal Sector & Refurbishes:**

  The NGOs were interested in conducting awareness sessions in their communities and the training provided them with knowledge, skills and lots of information to plan and conduct sessions in their communities to bring about a sustainable change.

How would you rate the master training programme in leading to enhanced effectiveness of the training that you provided at the city level?

The master training programme conducted was rated at as high as 96-percent learning effectiveness by the participants.

- **Schools & Colleges:**

  The master training programme helped the Master Trainers to design effective participative and engaging sessions for young people at the city level for maximum learning outcomes. Many of the students in the groups shared that it was the first time that they attended a training that was meaningful and participative.

- **RWAs & Bulk Consumers:**

  The master training programme helped the RWAs to learn the techniques and the skills to develop deep engagement with audience on the issue of E-waste.

- **Informal Sector & Refurbishers:**

  Key concepts such as Donna E. Walker's Cycle was explained to the participants and the participants were supported to practise the sessions plans explained in the E-waste manual during the master

trainer workshop. Kolb's theory, Learning style inventories, IGNITE model of facilitation skills were taught to the participants to enhance their engagement with diverse groups. In addition, the trainers gave practical tips to the participants to engage the audiences towards positive transformation.

Section III - Impact of the Training of Trainers

How do you assess the impact of your training?

A feedback form was administered to the participants to learn about the feedback of the workshop in terms of content, design and facilitation skills of the trainers. For all the three groups, the training effectiveness was rated very high by the participants.

- Schools & Colleges reported 98-percent learning effectiveness.
- RWAs & Bulk Consumers reported 94-percent learning effectiveness.
- Informal Sector & Refurbishers reported 93-percent learning effectiveness.

Do you think the impact was limited due to the quality of participants?

The design was able to address the expectations of the participants in a targeted manner. While an overall training design was developed for the 2-day intervention. There were changes based on the expectations of the three groups.

- Schools & Colleges: No
- RWAs & Bulk Consumers: No
- Informal Sector & Refurbishers: No

What kind of changes did you make during the training to create a deeper impact on the participants?

- **Schools & Colleges:**

  The design was changed to include informative games, quiz and group presentations to create deeper impact amongst the participants. A film on recycling was added to expose the students to the operations of a recycling business.

- **RWAs & Bulk Consumers:**

  Group work was used to discuss the case study as it was found to be effective vis a vis time optimization.

- **Informal Sector & Refurbishers:**

  A session on facilitation and design skills was introduced to help the NGO trainers engage deeply with their target audiences.

How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?

- Schools & Colleges: High
- RWAs & Bulk Consumers: Moderate
- Informal Sector & Refurbishers: High

Section IV - Sustainability of the Training Programme

How would you rate the participants in terms of their interest in the training programme?

- **Schools & Colleges:**

  The students demonstrated high level of interest to implement projects in their colleges.

- **RWAs & Bulk Consumers:**

  RWAs have created a plan of action to sensitize their residents. The shopkeepers have created their awareness projects to create awareness in their offices and localities.

- **Informal Sector & Refurbishers:**

  The NGOs have high enthusiasm to work on the issue of E-waste. They have created E-waste action projects aligned to their existing programmes and have developed plans to implement them in their communities.

Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?

The trainers are committed to building awareness about the issue in their communities, However, since many of them are first-time trainers, the competence in delivery can be a challenge that can impact the quality of engagement. A support and guidance can be provided to the trainers by the experienced trainers for quality of delivery and enhanced engagement with stakeholders.

- **Schools & Colleges:**

  Yes. However, mentoring and guidance will be needed to address the challenges they face when they are training stakeholders.

- **RWAs & Bulk Consumers:**

  Yes. They would require support from experienced trainers in adapting and contextualizing the training design based on the emerging needs of the members.

- **Informal Sector & Refurbishers:**

  Yes. They would require support and handholding and a constant feedback to improve their training delivery by experienced trainers.

What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?

- **Schools & Colleges:**

  An inter-school competition should be introduced for school students to participate in the training. This will ensure that only highly committed students will join the training.

- **RWAs & Bulk Consumers:**

  RWA participants need to discuss their project ideas in their respective RWAs before coming for the training. This will again ensure quality of the implementation post the training.

- **Informal Sector & Enhanced Refurbishers:**

The selection of NGO participants needs to be streamlined such that only highly committed NGO participants join the programme.

Participants Speak

❝ It was an amazing workshop. I gained a lot of knowledge. I came to know about E-waste. ❞
– Ashwini Tare, Student

❝ Thank you for this workshop. This has made me alert to the responsibilities towards environment. ❞
– M. Sarada, Student

❝ Everything about the workshop deserves a 5-star rating. I am extremely thankful to have gotten this opportunity that has shaped our thinking process. I am extremely thankful to the Ministry for such a great initiative. I am keenly loooking forward to more such fun-filled and knowledge enriching workshops. ❞
– Shriya P. Rao, College Student

❝ The method of delivering the knowledge was very creative and helpful by engaging us on the topic of E-waste. ❞
– Mukim Ahmed

❝ It is the need of the hour to do the E-waste workshop. It has given complete knowledge on E-waste. It has also given networking opportunities with people working on the E-waste issue in the city. ❞
– Achula Muralidhar, NGO

❝ I enhanced my knowledge regarding E-waste. I can use the given booklet for taking seminars and I have learnt how to dispose of electronic waste. ❞
– Shameem Sultana, Student

❝ We learnt about E-waste. This will help in our way to set up an E-waste project. ❞
– Dr Mohammad Masood, AIM Education & Research Society

❝ Learning was very effective and the knowledge shared was very informative. The facilitator had a lot of patience in answering all questions. Handbook provided was very nice and it has options to give feedback on each and every topic covered in the 2 days training. ❞
– Srujan Seri, Yuvatha NGO

SNAPSHOTS OF THE ToT PROGRAMME





Facilitator explaining the challenges of E-waste management in India



Group Work in action with school students



Presentations by school students

TRAINING OF TRAINERS REPORT FOR JAIPUR

Master Trainer: Aparna Gupta

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

Number of trainers who attended the training

- NGOs: 15
- School and College Students: 35
- RWAs & Bulk Consumers: 19

Annexure I: Audience Analysis sheet

Profile details of the trainers

- **NGOs:**

  The batch had 15 participants from different NGOs. All the participants had past experience in public speaking and conducting awareness sessions.

- **Students:**

  This batch had participants from one school and the rest of the batch comprised of college students. The batch was heterogeneous in the way that school students were comparatively young and many of them were unable to work in groups or understand multiple topics. Since they were students, none of them had any experience of trainings in the past.

- **RWAs and Bulk Consumers:**

  This batch had many participants belonging to the manufacturing company or recyclers. Even though the batch did not have experience of trainings in the past, they had a good knowledge of the subject and were interested in participating more.

Gap in the trainer profiles

- **NGOs:**

  This was, more or less, a perfect batch with participants having a similar profile and interest in the workshop.

- **Students:**

  Even though, profile-wise, the batch was homogenous and apt, but the batch lacked homogeneity in the way that there was a huge age gap between school and college students and hence it made it difficult for the school students to participate in the workshop more actively.

- **RWAs & Bulk Consumers:**

  This was, more or less, a perfect batch with participants having a similar profile and interest in the workshop.



Image 1: Participants of different batches

Recommendations on how the profiles of trainers can be enhanced

- **NGOs:**

  The profile of this batch was apt. The only improvement which can be done is trying to engage more NGOs to have better participation.

- **Students:**

  Group should have had people belonging to the same age group.

  Students from class 9th or above should be the only ones involved in the workshop since they are more likely expected to carry the project forward.

- **RWAs and Bulk Consumers:**

  The profile of this batch's participants was, more or less, precise which resulted in good communication during the entire workshop.

Section II - Effectiveness of the Training

Activity response from the trainers

- **NGOs:**

  This group best responded to team interaction and group discussions. Since the participants were experienced people, the training was held in more of a discussion manner than study sessions.

- **Students:**

  The activity which gave this batch most clarity and had 100% involvement was role play to demonstrate different sectors involved in E-waste management. Other than this, the group also enjoyed learning through videos.



Image 2 Participants from different batches engaged in group activities

- **RWAs & Bulk Consumers:**

The participants of the group were a little uptight and did not show much interest in mind jogs or activities. The group very well responded to the activity of designing an action plan.

Correlation of the effectiveness of the training with the trainers

- **NGOs:**

The training was very effective for this batch since the entire batch had a similar profile and was looking forward to conduct further trainings and take the project forward.

- **Students:**

The batch comprised of highly active college students who were really excited to conduct trainings at their level and hence the training proved effective in shaping their knowledge about conducting trainings and E-waste.

- **RWAs & Bulk Consumers:**

The training was very effective for this batch since the entire batch had similar profile and same objectives behind attending the session.

Comments on effectiveness of the master training programme

- **NGOs:**

The master training programme has all the information required for trainings related to E-waste. The module can be improved a bit though if made available in Hindi.

- **Students:**

The master training programme has all the information required for trainings related to E-waste.

- **RWAs & Bulk Consumers:**

The master training programme has all the information required for trainings related to E-waste.

Section III - Impact of the Training of Trainers

Assessment of training's impact

- **NGOs:**

The training was very impactful. Since most of the NGO participants had experience in training, they were very keen to learn about E-waste and conduct trainings on the same.

- **Students:**

The training went off well. Everything discussed with the group was very well taken and understood. The impact might be able to have been more if the group was a bit more homogeneous in case of age groups covered.

- **RWAs and Bulk Consumers:**

The training went off well, and I can surely assess that everything discussed with the group was very well taken and understood.



Image 3 Action plan activity being done for different batches

Correlation of training's impact with quality of participants

- **NGOs:**

  In my point of view, the impact was appropriate and so was the quality of participants.

- **Students:**

  The impact of the training could have been better if the quality of participants in terms of their age groups could be more filtered.

- **RWAs and Bulk Consumers:**

  The impact was not limited in this batch and the quality of participants was also up to the mark.

Modifications done at my end for delivering better training

- **NGOs:**

  Since the participants were experienced people, the batch showed less interest towards mind jogs and fun activities for ice breakers. Hence, the batch had more discussions and to the point sessions.

- **Students:**

  The only modification done during the sessions was to indulge in a more casual discussion to make the school students comfortable. Also, the batch showed great interest in videos and designing action plan.

- **RWAs and Bulk Consumers:**

  - Due to highly interactive participation, training was formal but efficient.
  - The training had more of interaction than just presentations.

Trainer's ability to take the project forward

- **NGOs:**

  The participants will be able to conduct workshops amongst a large group of locals if provided with the right amount of help and assistance.

- **Students:**

  The participants, with the help of some handholding and overviewing, will be able to spread the information amongst their fellow students and respective institutes.

- **RWAs and Bulk Consumers:**

  This batch will very effectively be able to carry forward the project and conduct and engage a wider audience in the project further.

Section IV - Sustainability of the Training Programme

Interest of the participants in the programme

- **NGOs:**

  Participants showed great interest in the entire programme and seemed to have gained better insight on E-waste, the current situation in Jaipur and their role in the entire project.

- **Students:**

  Participants showed great interest in the entire programme and seemed to have gained better insight on E-waste, the current situation in Jaipur and their role in the entire project.

- **RWAs and Bulk Consumers:**

  Participants showed great interest in the entire programme and seemed to have gained better insight on e-waste, the current situation in Jaipur and their role in the entire project.

Recommendations for the training design

- **NGOs:**

  Proper information about the project and some agenda needs to be shared with the potential participants in the beginning itself.

- **Students:**

  Proper information about the project and some agenda needs to be shared with the potential participants in the beginning itself.

- **RWAs and Bulk Consumers:**

  Proper information about the project and some agenda needs to be shared with the potential participants in the beginning itself.

KAVARATTI

Master Trainer: Saikat Mookherjee

Venue of the Training : The Training was conducted at Administrative Training Institute, Kavaratti.

- **Observation 1: Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

The composition of the different groups has been elucidated in the table given below. There were 111 attendants in total, who had predominant female dominance.

- **Composition of the Groups**

Table 1.1: Composition of the Groups

Groups	Female	Male	Total
NGOs & Informal Sector	36	14	50
Teachers & Students – Schools & Colleges	37	24	61
Grand Total	**73**	**38**	**111**

- **Educational Qualifications of the Groups**

The first group comprised of a varied educational background. However, Senior Secondary and Graduates ruled the roost. The second Group were predominantly students who were pursuing postgraduation.

Table 1.2: Educational Qualifications of the Groups

Groups	Female	Male	Total
NGOs& Informal Sector	36	14	50
Sr. Secondary	16	11	27
Secondary	1		1
Graduate	18		18
Postgraduate	1	3	4
Students & Teachers	37	24	61
Postgraduate	37	7	44
Senior Secondary		17	17
Grand Total	**73**	**38**	**111**

- **Years of Work Experience of the Groups**

As far as years of experience are concerned, a 58.6% had no experience;a considerable proportion (around 34.2%) of the attendees had up to 10 years of experience;and around 7.2% had upto 20 years of experience.

Table 1.3:Years of Work Experience

Years of Experience	NGOs & Informal Sector	Teachers & Students – Schools and Colleges	Total
No Experience	20	45	65
Upto 10 years	22	16	38
11 – 20 years	8		8
More than 20 years			
Grand Total	50	61	111

- **Years of Training Experience**

The years of training experience of the different groups have been depicted in the table given below. Majority had little or no experience in imparting training. The representatives of the NGOs had(?)as it has been depicted in the table given below:

Table 1.4: Years of Training Experience

Years of Training Experience	NGOs & Informal Sector	Teachers & Students – Schools and Colleges	Total
No Experience	20	45	65
Less than – Up to 1 year	22	16	38
2 – 5 years	8		8
Grand Total	**50**	**61**	**111**

- **Inherent knowledge on Content and Training**

Each group required certain areas of improvement as far as knowledge of training was concerned. This has been highlighted in the table given below. Barring basic information and the hazards imparted by E-waste, most of the attendees were not aware about the different facets of E-waste.

Table 1.5: Years of Training Experience

Parameters	NGOs & Informal Sector	Teachers & Students – Schools and Colleges
Knowledge about Types of E-waste	√	√
Impact and Hazards imparted by E-waste	√	×
Nitty-gritties about the provisions and E-waste rules	×	×
Pedagogy and Training Modes to be adopted	×	×

- **Means to improve upon relevance of those attending Training**

Some specific suggestions to improve upon the relevance of those attending training

- Specific suggestions for each group
  - For Schools & Colleges:
    - No suggestions.
  - Informal Sector & Refurbishers:
    - Medium of instruction was aproblem, to begin with. This was managed by pulling a person from the group who was conversant in both the languages.

Observation with regard to effectiveness of the training

- Activities Undertaken

The following activities were conducted in a proper sequence and most effective participation was observed with regard to the following. The most effective mode, as per my perception, has been mentioned below:-

Refurbishers & Informal Sector	Teachers & Students – Schools and Colleges
Introducing the Partner	Introducing the Partner
Group activity on Waste and E-waste	Group activity on Waste and E-waste
Narration of Personal Experience with E-waste	Narration of Personal Experience with E-waste
Quiz	Quiz
Film appreciation and narration of key learnings	Film appreciation and narration of key learnings
Action Planning & Group Presentation	Action Planning & Group Presentation
Planning of Session & Group Presentation	Planning of Session & Group Presentation

Overall Observations in relation to activities:

The overall observations in relation to the different activities undertaken are as follows:

- Most of the attendees liked the concept of interactive activities as individuals or in groups.
- All the groups, especially NGOs, school and college students were very receptive to the training imparted.
- Attendees from NGOs, especially the younger lot, were very forthcoming in the activities or in case of interaction with the peers during the training session.

o Correlation of effectiveness of Training with Quality of Trainers

As illustrated earlier, majority of attendees were interested in the training imparted and mode of activities undertaken. The specific observation for each group has been depicted below:

NGOs & Informal Sector	Students – Schools and Colleges
The NGOs as well as the informal sector, I believe, have the best potential and some of them were avid learners and great performers.	They were very upbeat as depicted in the final group presentation on how they wish to impart the training. They were eager to learn and take this forward effectively.

o Rating the Master Training Programme in leading to enhanced effectiveness of the training

I would rate the master training programme 4 on a scale of 1 – 5. The reasons for the same are elucidated in the table given below:

Major Head	Sub-heads
Key Learnings	• The Pedagogy, which enabled me to understand the mode of training and the delivery • The art of engagement – Not making the training boring and introducing different types of activities to keep the audience engaged. • The effective way of communicating • Quality of Master Trainers and interaction with them further enhanced my ability to think on my feet • My past experience at Gurgaon, Mumbai, Ahmedabad and Gangtok helped me to design the sessions more effectively.

Impact of the Training of Trainers

o Assessment of impact of training imparted

The assessment of impact imparted by the training has been depicted in the table given below. The impact has been reasonably good owing to the proactiveness and yearning to learn in most batches:

Target Groups	Short-Term Impact	Long-Term Impact
Refurbishers & Informal Sector	Was observed in the way they designed the Training Session for their peers in the last Session and also in designing an action plan to run an organized E-waste collection system	Some of the trainers (I trained), particularly the students, conceptualized the training programmes in the most effective way.
RWAs & Bulk Consumers		
Teachers & Students – Schools and Colleges		

Recommendations: The Certificate needs to be made available to the worthy trainers at the earliest.

o Is the impact limited due to the quality of participants?

Target Groups	Opinion
NGOs & Informal Sector	No. Both of them were eager to learn and implement the outcomes of ToT.
Teachers & Students – Schools and Colleges	No. On the contrary, they were most effective and enthusiastic batch

o What kind of changes did you make during the training to create a deeper impact on the participants?

Target Groups	Opinion
Refurbishes & Informal Sector	• Making this more interactive, • Inviting more participation from everyone • Motivating the shy ones to speak • Discussion about live examples • Narrating personal experiences
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

o How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?

Target Groups	Opinion
Refurbishes & Informal Sector	• The final session I do is explaining the pedagogy I followed in training them and ask them to prepare a plan based on Donna E. Walker's Learning Cycle. The most effective way they do this helps me to rate their performance and my performance as well in facilitating the sessions. • I judge them on the different facets of the learning cycle. The peers provide a rating and I provide a rating putting together my views on the same.
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

Sustainability of the Training Programme

The sustainability of the Training programme has been described in course of this section.

- **How would you rate the participants in terms of their interest in the training programme?**

The rating and reasons for each group has been depicted in the table given below:

Target Groups	Rating	Reasons
NGOs	4	Enthusiastic, forthcoming and willing to spread the knowledge
Informal Sector	4	
Students – Schools & Colleges	4	Enthusiastic, self-motivated and presented with a different perspective every time

- **Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?**

Target Groups	Rating
NGOs	Yes
Informal Sector	Yes
Teachers – Schools & Colleges	Yes
Students – Schools&Colleges	Yes

- **What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?**

Target Groups	Opinion
NGOs & Informal Sector	• None
Teachers & Students – Schools and Colleges	• This is perfect as it stands. Participants from more number of schools and colleges from different parts of the city should be done.

MOHALI

Master Trainer: Sonal Chaturvedi and Indu Verma

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

How many trainers attended the training programme across all 3 ToTs which were covered in the city?

- Schools & Colleges: 16
- RWAs & Bulk Consumers: 7
- Informal Sector & NGOs & Refurbishers: 7

Give a brief account of the experience of each of these group members in terms of their profile and the number of trainings that they would have conducted in the past.

- **Schools & Colleges:**

  We had students from the Institute of Social Sciences Education and Research (ISSER) Punjab University, Chandigarh; Department of Defence Studies, Punjab University; Nehru Yuva Kendra Sangathan; and Government ITI, Lalru, Derabassi. The students were high on energy and confidence. As many of them were from the social sciences field, volunteers with NYK and some were pursuing courses in the electronic field, they had some understanding about the E-waste and its hazardous impact on life forms and environment. As a part of their course curriculum requirements, they have to make projects and do presentations which have helped them to come up with novel ideas and effectively put across their point.

- **RWAs & Bulk Consumers:**

  The participants in this group were representatives from the Software Technology Parks of India, which work for the Government, from companies and small enterprises dealing with waste management and Jal Vayu Tower Apartments Owners' Association. As some of the participants were directly engaged in the field of waste management, they had knowledge about the issue. Others have worked as capacity building experts in different sectors so they did have some background in designing and facilitating workshop sessions.

- **Informal Sector & Refurbishers & NGOs:**

  This group comprised of participants who have their own NGOs and a good experience of conducting awareness raising activities, motivating people for change, formulating income-generation programmes, etc. This is an emerging issue of environmental and social concern and the group had a high learning orientation to explore and work around creating understanding about the E-waste issue and its hazards.

What, in your assessment, was lacking in the different groups as far as their profile is concerned?

- **Schools & Colleges:**

  The students were a dynamic lot and high on enthusiasm. They had creative ideas and were full of confidence. However, what they would require is mentoring inputs and clarity of direction to successfully implement their plans.

- **RWAs & Bulk Consumers:**

  The participants balanced energy and on-ground experience of the field were the high point of the group. However, going forward, they would require support in terms of effectively designing their awareness activities.

- **Informal Sector & Refurbishers & NGOs:**

  Being from the NGO sector, the group members had the knowledge and experience of mobilizing people, motivating people to work for a cause, campaigning, etc. To successfully implement the programme, the group would require to gain more conceptual understanding and a deeper insight into the issue.

How could the relevance of those attending the training could have been improved to ensure that the quality of trainers could be enhanced?

- **Schools & Colleges:**

  For enhancing the quality of trainers, having more participants from across different colleges and universities would have been beneficial. This would have aided in better peer learning opportunities and more inputs and suggestion on action plans.

- **RWAs & Bulk Consumers:**

  More participation from across bulk consumers, RWA representatives would have been useful in terms of understanding the practical challenges and ground realities. This could have helped in building a better network of exchange.

- **Informal Sector & Refurbishers & NGOs:**

  Having representation from organizations engaged directly in the field of waste management and an exposure visit to an authorized recycling centre would have helped the group to get better insight and build their confidence around E-waste management.

Section II - Effectiveness of the Training

What kind of activities which were conducted with specific sets of stakeholders which, according to you, was the most effective in ensuring participation from the wider group?

The design and methodology was altered and modified for the different groups to keep the participants engaged and involved. These changes turned out to be useful for bringing forth participation from everyone and maximizing learning for all.

- **Schools & Colleges:**

  For this group, having case study analysis, enjoyable group games, creative chart works helped in building connect with the topic. We also had movie screenings, reflection exercises in the handbook that supported in the consolidation of the learnings.

- **RWAs & Bulk Consumers:**

  Sharing of individual understanding and experiences, creation of action plans specific to their work and target groups were done to help build a personal connect to the issue.

- **Informal Sector & Refurbishers & NGOs:**

  To ensure effective engagement, the participants were made to do group work across the teams, fun activities, presentations.

Please correlate the effectiveness of your training with the quality of trainers in the group.

- **Schools & Colleges:**

  This group was an energetic, creative lot. They had the qualities of confidence, conviction and good communication skills. All of these are essential prerequisites for a trainer. Our training design and methodology was framed in such a way that learning and fun could go together hand in hand. This

helped the group also to experience that training on a grave issue can also be transacted in an enjoyable manner without compromising on the seriousness of the issue and quality of delivery.

- **RWAs & Bulk Consumers:**

  The participants in this group had a good knowledge base and experience of engaging with the issue. They had qualities of maturity and balanced levels of energy. These are desirable qualities for a trainer. Our inputs helped the group to gain insight into framing engaging designs and effective facilitation skills to build stronger connect between the audience and the issue.

- **Informal Sector & Refurbishers & NGOs:**

  This group consisted of members who have their own NGO set-ups. Being from the development sector, they had proficient skills of communication, mobilization and instilling inspiration for change. We helped the group to gain deeper insight about the issue and getting them acquainted with experiential learning cycle. Recognizing and respecting that our audience has varying learning needs and styles makes it critical that our design should have tools to cater to the diverse styles of learning.

How would you rate the master training programme in leading to enhanced effectiveness of the training that you provided at the city level?

The master training programme was extremely beneficial and a great value add in terms of becoming acquainted with the ways of conceptualizing definite and effective objectives; creating engaging designs based on experiential learning cycle and knowing technique of facilitation for impactful learning and positive behaviour / attitude change. Alongside, the training programme also gave an insight about the various characteristics of different learning styles and the criticality of using varied tools of engagement (like audio-visuals; writing own self-reflection, group work; creative presentations, etc) within a session to address the diverse learning needs and orientation of the audience.

- Schools & Colleges
- RWAs & Bulk Consumers
- Informal Sector & Refurbishers & NGOs

Section III - Impact of the Training of Trainers

How do you assess the impact of your training?

- **Schools & Colleges:**

  For this group, the average feedback rating received was 4.79 out of 5. Converting into percentage, the group found this training to be 95% effective. The participants in their feedback shared that the workshop was very well structured. Overall, the flow of the training was convenient, interactive and creative, conducted via fun learning. For many, gaining the understanding about E-waste, was a knowledgeable experience and they felt motivated to spread and share the message across with others.

- **RWAs & Bulk Consumers:**

  The average rating given by this group was 4.8 out of 5, which makes it 96% impactful for the participants. As shared in the feedback, the participants felt that the training covered and clarified all the doubts

around E-waste management. The information was delivered in a simple manner and added to one's knowledge. Moreover, it also helped to bring out a very sensitive issue in the public domain and the realization of our role and responsibility towards respecting and preserving our environment.

- **Informal Sector & Refurbishers & NGOs:**

  The average rating received from this group was 4.9 out of 5, which shows that the participants found the training to be 98% useful. The feedback says, training was structured from basics to advanced level, which helped in ease of understanding. It was very informative, interactive, inspiring and interesting.

Do you think the impact was limited due to the quality of participants?

- **Schools & Colleges:**

  The participants in this group were confident and a creative lot. They had the zeal and eagerness to put their ideas into action. Going forward, they need to gain better insight and in-depth knowledge about the issue. Also, applying and practising the experiential cycle of learning for their sessions would be beneficial.

- **RWAs & Bulk Consumers:**

  There were very less participants in this group. However, they were a dedicated lot and had the knowledge about the issue. The areas they need to focus on are bringing in passion and enthusiasm in their presentation and also being more forthcoming in establishing linkages.

- **Informal Sector & Refurbishers & NGOs:**

  The members in this group had basic level understanding of the issue. Being from the development sector, they had the energy and effective communication skills to express themselves in front of large groups. One thing they need to work upon is to gain more knowledge about the issue and ways of converting it into entrepreneurial and income generation possibility.

What kind of changes did you make during the training to create a deeper impact on the participants?

To create a deeper impact of the training, the session design and methodology were tweaked as per the profile, learning needs and requirements of the participants in different groups.

- **Schools & Colleges:**

  In order to create better engagement from students, fun activities like chain game, treasure hunt, using analysis method, self-reflection and group presentations were employed. This made the learning process interesting and effective.

- **RWAs & Bulk Consumers:**

  With this group, deeper and detailed sharing of their understanding of the issue was done. The practical, on-ground challenges, were talked about and alternatives were discussed. Designing definite and realistic plan of action helped in the consolidation of learnings and creating a way forward.

- **Informal Sector & Refurbishers & NGOs:**

  Having innovative activities, creating opportunities for cross-team engagement, elucidating the concept of experiential cycle and IGNITE model of facilitation helped in strengthening the knowledge base of the participants and making the training experience valuable for all.

How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?

- **Schools & Colleges:**

  The young minds were full of confidence and fervour. They were curious to learn about the issue and take forward the learnings to their family, peers and community. With their conviction and the new knowledge gained they will be able to do effective trainings.

- **RWAs & Bulk Consumers:**

  The group consisted of participants who had an understanding about the issue. Post the training, having gained knowledge about the experiential learning cycle and useful skills of facilitation would help them create deeper connect and engagement with the audience.

- **Informal Sector & Refurbishers & NGOs:**

  The participants in this group had the expertise of mobilizing, doing awareness activities, conducting trainings, etc. The new knowledge and skills acquired about the E-waste issue and framing of engaging designs, would help them to successfully create awareness in their relevant stakeholders' groups.

Section IV - Sustainability of the Training Programme

How would you rate the participants in terms of their interest in the training programme?

- **Schools & Colleges:**

  The students were highly motivated and actively participated in the games and group activities. They had lot of curiosity to learn about the issue and contributed in the peer learning process. In their action project presentations, they were creative and incorporated various skills learned to make it engaging for their audience. This illustrated that they have been able to connect to the E-waste issue and are also eager to make others aware.

- **RWAs & Bulk Consumers:**

  The members in this group had an understanding of the issue and an openness to share it with others. They showed keen interest in knowing about the recent aspects connected to E-waste like the rules, setting up of collection points/ centres, location of authorized recyclers, etc. Moreover, they took the training as an opportunity to build linkages and work together for the issue.

- **Informal Sector & Refurbishers & NGOs:**

  The participants in this group have been working around the matters related to development. The E-waste issue is deeply connected with our environment so it requires critical attention, which made group members keenly interested in the training. The use of the experiential cycle model and combination of various tools in their methodology were the highlight of their presentations. This showed that participants have been well able to internalize and implement the learnings.

Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?

- **Schools & Colleges:**

  The design and modalities of the training was such that while respecting the criticality of the issue, there was both learning and fun at the same time. The new understanding gained about the issue and engagement techniques aided by their creativity and confidence, the students will be able to effectively put the message across to their peers.

- **RWAs & Bulk Consumers:**

  Having an insight about the issue and practical experience was a big advantage for the group. Added to that, the learnings gained about ways of framing engaging designs and facilitation skills will help them to effectively spread awareness with their relevant stakeholders.

- **Informal Sector & Refurbishers & NGOs:**

  The participants in this group were an experienced lot in terms of doing awareness sessions, workshops, planning and management. With new knowledge and skills acquired, various resources like the website, manual, videos, etc, and practice of formulating engaging designs will help them to efficiently reach out to their audience.

What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?

On the last day, getting all the participants from across the three groups together would have helped to build cross linkages and a support group for organizing awareness activities and taking forward the learnings to others.

- **Schools & Colleges:**

  Having representation from more and diverse colleges/institutions would be useful. Also, creating some E-waste course curriculum, internship opportunities, mentorship possibilities will help create longer and deeper connect with the issue.

- **RWAs & Bulk Consumers:**

  More representation from and across government sector/departments would have been beneficial, in terms of expanding the network of influence. This would have also helped participants become cognizant to the various practical challenges in terms of government processes for getting approvals and various licences.

- **Informal Sector & Refurbishers & NGOs:**

  An exposure/field visit to an authorized, formal recycling unit would have been useful. Also, having participants who have practical experience of working in the field of waste management would have added to the peer learning.

Participants Speak

❝The training was structured from basics to advance level. There was ease of understanding in training. My experience (of using the participant workbook) was great. As it was a good opportunity to reflect on everything, you learned on the spot. ❞
– Darshita Mishra, SWAAS TRUST

❝ It was informative, fluidic, well planned and put together, was extremely interactive. The workbook was interactive and had good activities which were related well with the info projected in the session. And, it was well structured. ❞
– Prabal Titus

❝ Rating 5, for they have been really patient with us with their behaviour being always sweet and giving. We learned to the best of our knowledge and now we are ready to train and aware others. Participant workbook was engaging and interesting. Workbook helped us retain all the info and the activities.❞ – Rouble, Punjab University, Chandigarh

❝ The workshop was very well structured and the facilitators delivered the message in a very creative way. The participant workbook was really helpful and guided us in a good direction. ❞
– Anmol Kapoor, Punjab University

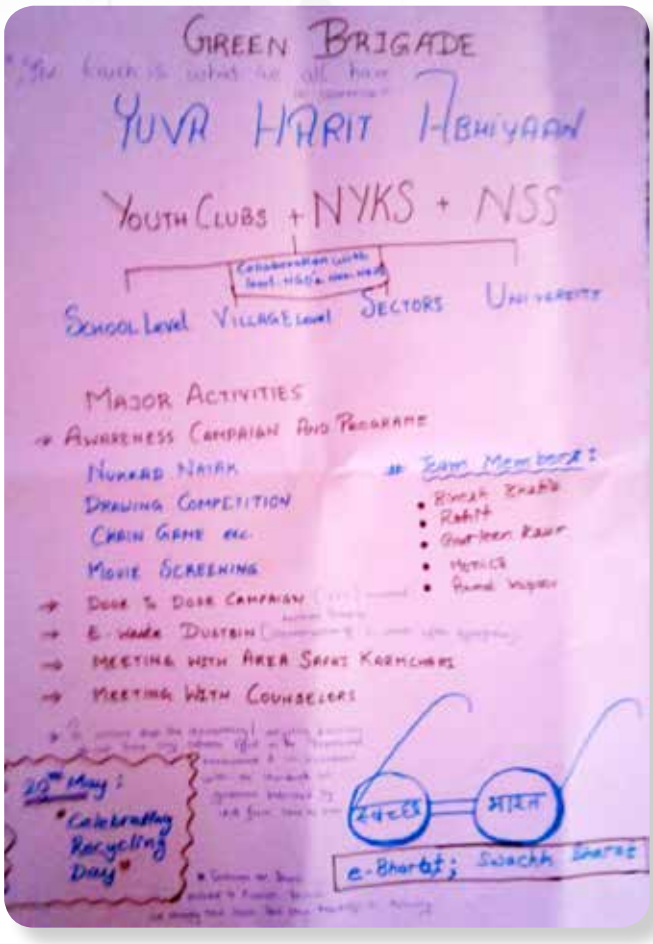
❝ Amazingly delivered by the facilitators in a fun way, I didn't feel left out andthe workshop was not monotonous at all. All of the trainees were enthusiastically involved and all are ready to initiate the campaign as a positive outcome of the training. Whatever we learnt from the workshop, we were able to jot down the same in the workbook in our own way. This kept us involved with the workshop. ❞
– Gurleen Kaur Puri, NYK, Chandigarh

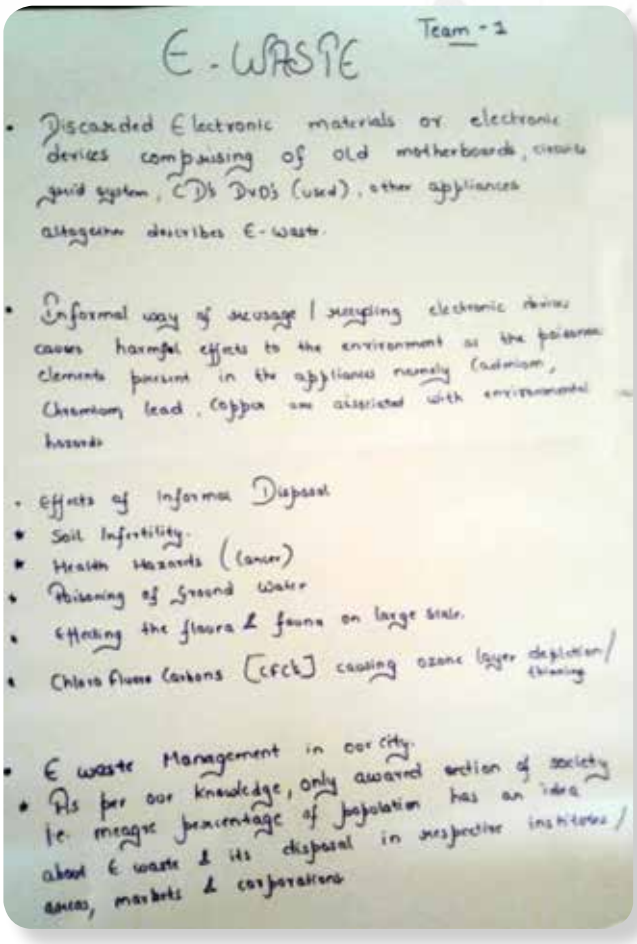
❝ In this 2-day workshop, my experience has been very good and meaningful for me and also added to my knowledge and my responsibilities about the environment. Experience of workbook is wonderful. ❞
– Akshay Kumar, STPI

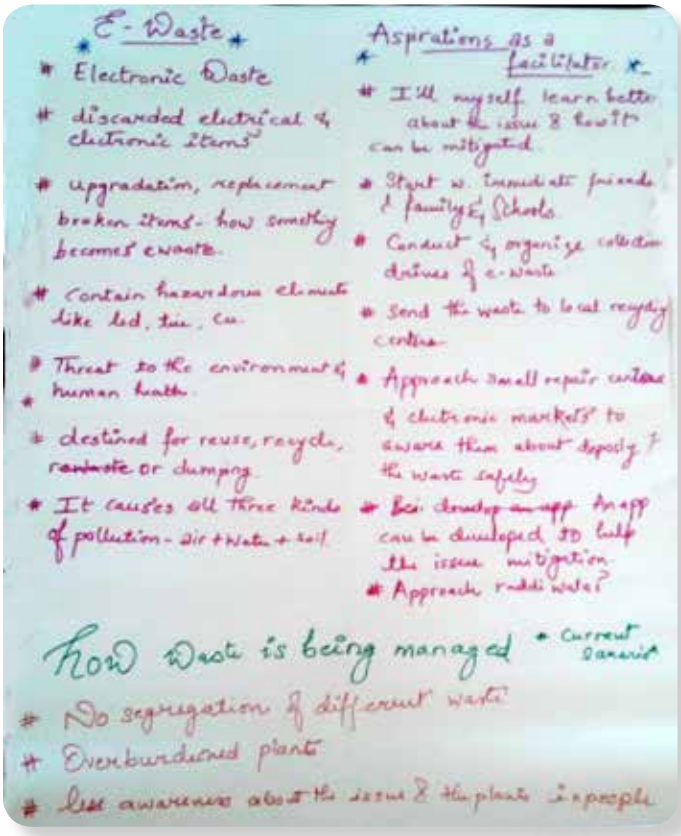
❝ 5, very informative workshop as it brings out a very sensitive issue in the public domain. The workbook is excellently designed. It connects the participants with the proceedings of the programme. ❞
– Balwinder Singh, Entrepreneurship Training & Rural Development Initiatives (ETRDI), Mohali, Punjab

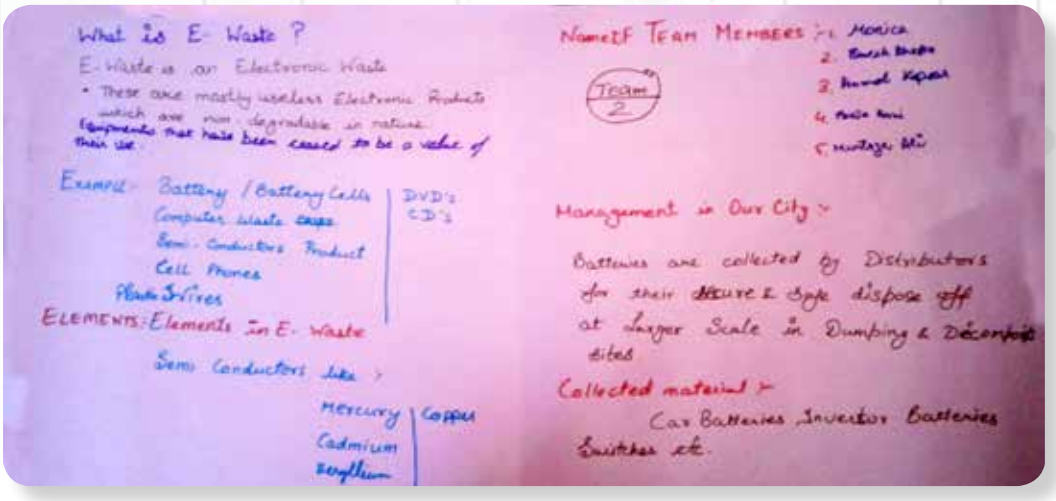
❝ Rating 5, because this training covered all doubts which I have in mind about E-waste management. This book is very interesting about knowledge of E-waste. ❞
– Gurucharan Singh, M/s Shivalik Solid Waste Management Limited

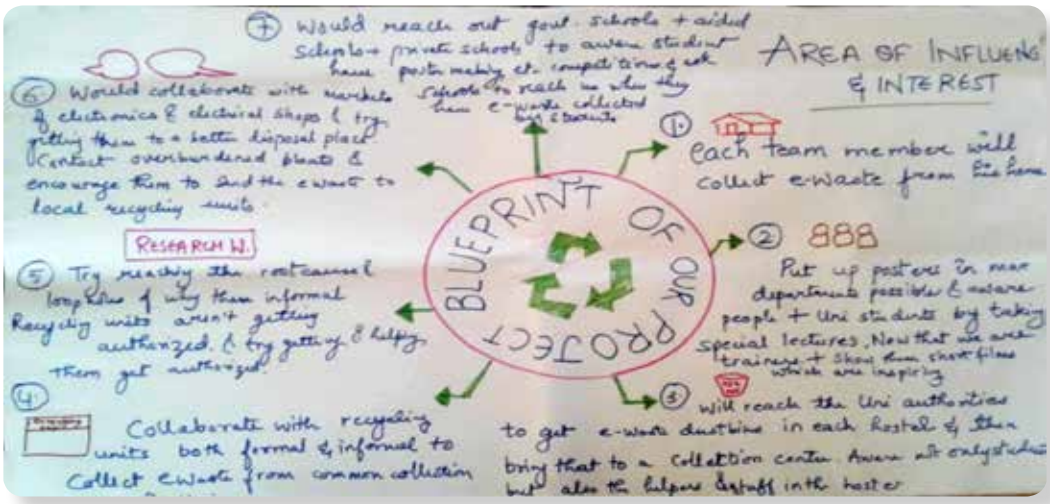
GLIMPSES OF PROJECTS AND CREATIVE WORK

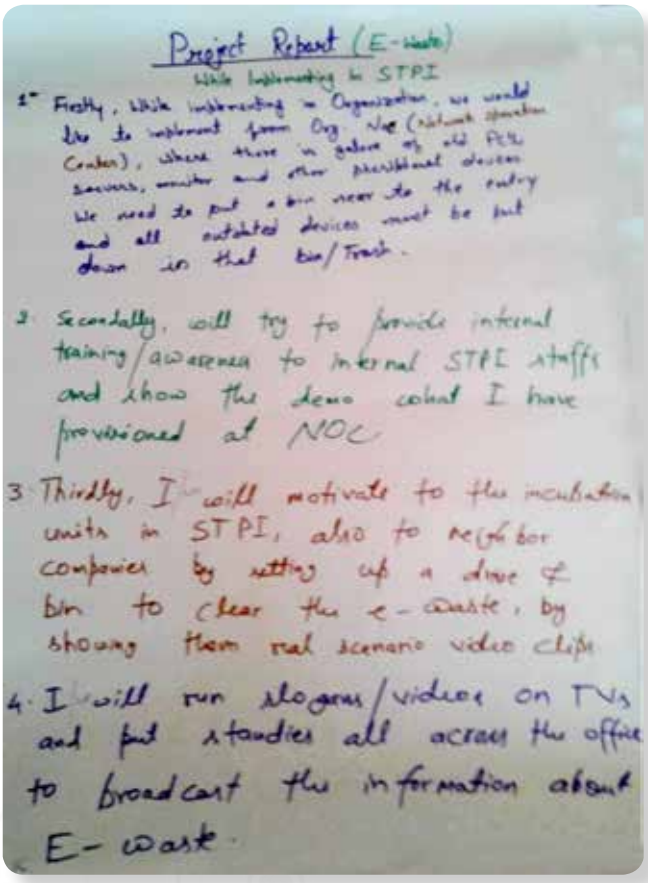







What is E- Waste ?
E-Waste is an Electronic Waste
Name of Team Members :-
Team 2
Management in Our City :-
Batteries are collected by Distributors
Collected material :-
Car Batteries, Inverter Batteries
Switches etc.


BLUEPRINT OF OUR PROJECT
AREA OF INFLUENCE & INTEREST
Each team member will collect e-waste from his home
Put up posters in our departments possible & make people + Uni students by taking special lectures. Now that we are trained + show them short films which are inspiring
Will reach the Uni authorities to get e-waste dustbins in each Hostel & then bring that to a Collection center. Aware all only students but also the Kalpana Chawla staff in the hostel
Collaborate with recycling units both formal & informal to collect e-waste from common collection
RESEARCH W.
Try reaching the root cause & long Run of why these informal Recycling units aren't getting authorized & try getting & helping them get authorized.
Would collaborate with markets & electronics & electrical shops & try getting them to a better disposal place. Contact overburdened plants & encourage them to send the e-waste to local recycling units.
Would reach out govt. schools + aided Schools + private schools to aware students here particularly etc. competitions & ask Schools to reach us when they have e-waste collected by students


Project Report (E-waste)
While Interning in STPI
1. Firstly, while interning in Organization, we would like to implement from Org Net (National Informatics Centre), where there is galore of old PCs, servers, monitor and other peripheral devices. We need to put a bin near to the entry and all outdated devices must be put down in that bin/Trash.
2. Secondally, will try to provide internal training/awareness to internal STPI staffs and show the demo cabinet I have provisioned at NOC.
3. Thirdly, I will motivate to the incubation units in STPI, also to neighbor companies by setting up a drive & bin to clear the e-waste, by showing them real scenario video clips.
4. I will run slogans/videos on TVs and put stickies all across the office to broadcast the information about E-waste.


PROJECT ERASE!! YOUR E-WASTE!!
IDEA!!
Step I : Set a date & collection drive & E-WASTE in Punjab University Campus & UIET Campus (Section 14 & 25)
Step II : Make posters, social media content & collaborate with people & ROTARACT UIET, NSS, NCC for formal permission from university to make a "GREENIE CLUB".
Step III : Conduct a collection drive on the given date with the possible students & PU as the engineering committee. Give the collected E-waste to the engineering committee for proper disposal & recycling units.
Step IV : Conduct another collection drive after 3/6 months, but invite new students to be a part of the OC. Provide them incentives such as certificates.
Step V : Replay the cycle every 3/6 months & engage new set of students & broaden our club & committee.
MEMBERS: ASMITA, AMITESHWAR, RICHAN, MURTAZA

MUMBAI

Master Trainer: Saikat Mookherjee

Venue of the Trainin: Nirmal Bhawan, X4/5A, Shil Phata – Mahape Road, Reliance Corporate Park, MIDC Industrial Area, Ghansoli, Navi Mumbai, Maharashtra–400 701.



Nirmal Bhawan, Navi Mumbai

- **Construct of the Training**
- **Observation 1: Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

The composition of the different groups has been elucidated in the table given below. There were 63 attendants in total, which had predominant male dominance.

- **Composition of the Groups**

Table 1.1: Composition of the Groups

Groups	Female	Male	Total
NGOs & Informal Sector	3	14	17
RWAs & Bulk Consumers	3	16	19
Teachers & Students – Schools&Colleges	12	15	27
Grand Total	**20**	**44**	**63**

o Educational Qualifications of the Groups

The first group comprised of a varied educational background. However, it had a handful of postgraduates and Senior Secondary passouts as well. The second Group also had a similar makeup with graduates and postgraduates ruling the roost. The third Group were predominantly students who were pursuing graduation.

Table 1.2: Educational Qualifications of the Groups

Groups	Female	Male	Total
NGOs & Informal	3	14	17
12th		4	4
Diploma Mechanical		1	1
Graduate	1	5	6
ITI		1	1
Ph.D.	1		1
Postgraduate	1	3	4
RWAs & Bulk Consumers	3	16	19
12th		2	2
BE Chemical		1	1
B.Com		1	1
Electronic Engineer	1		1
Graduate	1	6	7
Metrics		1	1
Postgraduate	1	5	6
Schools & Colleges	12	15	27
Graduate	1		1
Mechanical Engineers	1		1
Students	10	15	25
Total	**18**	**45**	**63**

o Years of Work Experience of the Groups

As far as years of experience are concerned, a 36.5% had no experience; considerable proportion (around 50.7%) of the attendees had up to 10 years of experience; around 7.9% had upto 20 years of experience; and around 3 persons (4.7%) had more than 20 years of experience.

Table 1.3: Years of Work Experience

Years of Experience	NGOs & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges	Total
No Experience	9	9	5	23
Upto 10 years	6	8	18	32
11 – 20 years	1	2	2	5
More than 20 years	1		2	3
Grand Total	17	19	27	63

- **Years of Training Experience**

The years of training experience of the different groups have been depicted in the table given below. Majority had little or no experience in imparting trainings as it has been depicted in the table below:

Table 1.4: Years of Training Experience

Years of Training Experience	Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges	Total
No Experience	14	9	11	34
Less than – Up to 1 year	2	5	5	12
2 – 5 years	1	5	6	12
6 – 10 years			5	5
Grand Total	17	19	27	63

This is certainly an area which needs to be addressed. A basic understanding about training may be a added to the recruitment criteria.

- **Inherent Knowledge on Content and Training**

Each group required certain areas of improvement as far as knowledge of training was concerned. This has been highlighted in the table given below. Barring basic information and the hazard imparted by E-waste, most of the attendees were not aware about the different facets of E-waste.

Table 1.5: Years of Training Experience

Parameters	Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges
Knowledge about Types of E-waste	√	×	√
Impact and Hazard imparted by E-waste	√	×	×
Nitty-gritties about the provisions and E-waste rules	×	×	×
Pedagogy and Training Modes to be adopted	×	×	×

o Means to improve upon relevance of those attending Training

Some specific suggestions to improve upon the relevance of those attending training

i. Common Aspects

- Location needs to be made more accessible so that the programme can be started at the right time and participants do not have a problem in accessing the venue.
- Objective of the Training needs to be made clear
- Specific suggestions for each group

o For Schools & Colleges:

– A larger number of schools and colleges to be targeted for recruitment. Currently, they were from 2–3 outfits only and from a specific locality only.

o RWAs & Bulk Consumers:

– A larger number of RWAs to be targeted for training, preferably from all corners of a city.

– Bulk Consumers were a better lot, but would love to have more participants in the group.

o Informal Sector & Refurbishers:

– They were forthcoming and had considerable knowledge on the subject. Needed to be coaxed a little bit. But once they did, it was a smooth experience with them.

o Observations with regard to effectiveness of the training

o Activities Undertaken

The following activities were conducted in a proper sequence and most effective participation was observed with regard to the following. The most effective mode, as per my perception, has been listed below:

Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges
Introducing the Partner	Introducing the Partner	Introducing the Partner
Group activity on Waste and E-waste	Group activity on Waste and E-waste	Group activity on Waste and E-waste
Narration of Personal Experience with E-waste	Narration of Personal Experience with E-waste	Narration of Personal Experience with E-waste
Quiz	Quiz	Quiz
Film appreciation and narration of key learnings	Film appreciation and narration of key learnings	Film appreciation and narration of key learnings
Action Planning & Group Presentation	Action Planning & Group Presentation	Action Planning & Group Presentation
Planning of Session & Group Presentation	Planning of Session & Group Presentation	Planning of Session & Group Presentation

Overall Observation in relation to activities:

The overall observations in relation to the different activities undertaken are as follows:

- Most of the attendees liked the concept of interactive activities as individuals or in groups.
- All the groups, especially NGOs, school and college students were very receptive to the training imparted.
- Attendees from NGOs, especially the younger lot, were very forthcoming in the activities or in case of interaction with the peers during the training session.

o Correlation of effectiveness of Training with Quality of Trainers

As illustrated earlier, majority of attendees were interested with the training imparted and mode of activities undertaken. The specific observation for each group has been depicted below:

Refurbishers & Informal Sector	RWAs & Bulk Consumers	Teachers & Students – Schools and Colleges
The Informal Sector as well as the Refurbishers I believe has the best potential and some of them were avid learners and great performers. The refurbishers, propelled by their innate need of procuring business, were very participative. Some have started training corporates as well as RWAs drawing nuances from our training programme. This is truly the success of this design of training.	The RWAs as well as the Bulk Consumers were very receptive about the training and were interested to take the learnings from this session in training their fellow members.	They were very upbeat, as depicted in the final group presentation on how they wish to impart the training. They were eager to learn and take this forward effectively.

o Rating the Master Training Programme in leading to enhanced effectiveness of the Training

I would rate the Master Training Programme 4 on a scale of 1 to 5. The reasons for the same are elucidated in the table given below:

Major Head	Sub-heads
Key Learnings	• The Pedagogy, which enabled me to understand the mode of training and the delivery • The art of engagement – Not making the training boring and introducing different types of activities to keep the audience engaged. • The effective way of communicating • Quality of Master Trainers and interaction with them further enhanced my ability to think on my feet • My past experience at Gurgaon helped me to design the sessions more effectively

- **Impact of the Training of Trainers**

- Assessment of impact of training imparted

The assessment of impact imparted by the training has been depicted in the table given below. The impact has been reasonably good owing to the proactiveness and yearning to learn in most batches:

Target Groups	Short-Term Impact	Long-Term Impact
Refurbishers & Informal Sector	Was observed in the way they designed the Training Session for their peers in the last Session and also in designing an action plan to run an organized E-waste collection system	Some of the Trainers (I trained), particularly the NGOs and students, have already started with training of corporate and fellow students much in line with what has been envisaged. They have shared pics and videos of these sessions with me.
RWAs & Bulk Consumers		
Teachers & Students – Schools and Colleges		

Recommendations: The Certificate needs to be made available to the worthy trainers at the earliest.

- **Is the impact limited due to the quality of participants?**

Target Groups	**Opinion**
Refurbishers & Informal Sector	No. Both of them were eager to learn and implement the outcomes of ToT.
RWAs & Bulk Consumers	No for both RWAs and Bulk Consumers
Teachers & Students – Schools and Colleges	No. On the contrary, they were most effective and enthusiastic batch.

- **What kind of changes did you make during the training to create a deeper impact with the participants?**

Target Groups	**Opinion**
Refurbishes & Informal Sector	• Making this more interactive, • Inviting more participation from everyone • Motivating the shy ones to speak • Discussion about live examples • Narrating personal experiences
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

- **How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?**

Target Groups	Opinion
Refurbishes & Informal Sector	• The final session I do is explaining the pedagogy I followed in training them and asking them to prepare a plan based on Donna E. Walker's Learning Cycle. The most effective way they do this helps me to rate their performance and my performance as well in facilitating the sessions. • I judge them on the different facets of the learning cycle. The peers provide a rating and I provide a rating putting together my views on the same.
RWAs & Bulk Consumers	
Teachers & Students – Schools and Colleges	

o Sustainability of the Training Programme

The sustainability of the Training programme has been described in course of this section.

o How would you rate the participants in terms of their interest in the training programme?

The rating and reasons for each group has been depicted in the table given below:

Target Groups	Rating	Reasons
Refurbishers	4	Enthusiastic and willing to spread the knowledge
Informal Sector	4	Surprise of the lot. They were very forthcoming.
RWAs	3	A little low on the E-waste knowledge, but they picked up very fast in the Group activity on the last day.
Bulk Consumers	4	Enthusiastic and willing to take this training forward
Teachers – Schools & Colleges	4	Enthusiastic, self-motivated and presented with a different perspective every time
Students - Schools&Colleges	4	Enthusiastic, highly motivated, willing to learn and pass on the knowledge

o Do you think the trainers would be able to train stakeholders at the similar level of ability as yourself at the city level?

Target Groups	Rating
Refurbishers	Yes
Informal Sector	Yes
RWAs	Yes
Bulk Consumers	Yes
Teachers – School &Colleges	Yes
Students – Schools & Colleges	Yes

- **What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?**

Target Groups	Opinion
Refurbishers & Informal Sector	• None. We need to have a little more in nos.
RWAs & Bulk Consumers	• RWAs from different parts of the city may be recruited.
Teachers & Students – Schools and Colleges	• This is perfect as it stands. Participants from more number of schools and colleges from different parts of the city should be done.

PORT BLAIR

Master Trainer: Sonal Chaturvedi and Indu Verma

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

How many trainers attended the training programme across all 3 ToTs which were covered in the city?

- Schools & Colleges: 32 participants
- RWAs & Bulk Consumers: 4 participants
- Informal Sector & NGOs & Refurbishers: 12 participants

Give a brief account of the experience of each of these group members in terms of their profile and the number of trainings that they would have conducted in the past.

- **Schools & Colleges:**

  We had students from Swadhin Pvt ITI and Navy Children School. The school students were studying in grade 9th and those from ITI were pursuing different courses in the electrical and electronic fields from across the years. The students were aware of the critical issue of E-waste generation and hazards it is causing to human life and the environment. They made creative presentations and had innovative ideas for spreading awareness. During the course of training, the students confidently displayed their knowledge and learnings about the issue and came up with diverse methods like exhibitions, pledge taking, role plays to further spread the awareness.

- **RWAs & Bulk Consumers:**

  The participants in this group were shop-owners who deal with sale and purchase of electronic items and electrical gadgets. Some of them were from the engineering background and had worked in technology-based companies which has helped them to gain in-depth knowledge about the electronic equipments. As a part of their educational training and work experience, they had done projects and made presentations which have made them confident in planning and putting their point across effectively.

- **Informal Sector & Refurbishers & NGOs:**

  In this group, we had participants who were keen to learn about the issue as it is an upcoming area of concern. Being from the development sector, most of them had been conducting workshops and meetings on various issues and topics so they did have experience of educating and training people.

What, in your assessment, was lacking in the different groups as far as their profile is concerned?

- **Schools & Colleges:**

  The student group was an active lot and keen to put their ideas into practice. However, they need to gain more in-depth knowledge about the issue as well as in terms of designing their awareness sessions.

- **RWAs & Bulk Consumers:**

  The participant's knowledge and inventive ideas were the high point of this group. In order to practically put their projects into action, they need to work towards building linkages with the other stakeholders like the Municipal Corporation, Authorized Recyclers, etc.

- **Informal Sector & Refurbishers & NGOs:**

  This group had a learning orientation towards gaining more understanding of the issue. Going forward, they would require coming up with innovative and novel ideas for attracting people commitment towards working for the issue.

How could the relevance of those attending the training could have been improved to ensure that the quality of trainers could be enhanced?

- **Schools & Colleges:**

  In order to enhance the quality of trainers, separate training sessions could have been organized for the college and school students. Also restricting the number of participants to 20 would have been better as this would have given opportunity and time for making individual presentations and feedback rather than group ones.

- **RWAs & Bulk Consumers:**

  Having a bigger group in terms of participants would have aided in more peer learning and for creating a network of sharing.

- **Informal Sector & Refurbishers & NGOs:**

  Representation from the organizations working in the field of waste management would have helped the group to know more about the ground realities and practical experience of dealing with E-waste.

Section II - Effectiveness of the Training

What kind of activities which were conducted with specific sets of stakeholders which, according to you, was the most effective in ensuring participation from the wider group?

The design had a mix of a variety of activities to keep the participants motivated and elicit participation. The participant handbook was immensely liked by everyone and turned out to be a useful tool for engagement.

- **Schools & Colleges:**

  For the students having group presentations, games, movie screenings helped in building the connect with the topic and understanding the seriousness of the issue.

- **RWAs & Bulk Consumers:**

  Personal reflections and sharing of experiences were done to bring across ideas for working on management of E-waste.

- **Informal Sector & Refurbishers & NGOs:**

  The participants were engaged in group games, making projects, practice sessions to ensure increased participation.

Please correlate the effectiveness of your training with the quality of trainers in the group.

- **Schools & Colleges:**

  This group was an active, creative lot and keen to put ideas into practice. The students energetically engaged themselves with the learning process and also reflectively wrote in their handbook. Enthusiasm, creativity, reflection all are essential qualities needed for a trainer. Our design had elements placed in such a way which help ensured engagement of participants with different learning styles and needs.

- **RWAs & Bulk Consumers:**

  This group was a confident, knowledgeable and experienced lot. All these qualities are desirable for being an effective trainer. We helped the group to build on their understanding of the issue and work towards creating collaboration with other stakeholders.

- **Informal Sector & Refurbishers & NGOs:**

  There were members in the group who are working in the development sector, so they had the skills of mobilizing and effectively communicating/ sharing about any issue. Our sessions helped them gain deeper insight about E-waste issue, framing engaging designs and using various methodologies to help cater to varying learning styles and needs of the audiences.

How would you rate the master training programme in leading to enhanced effectiveness of the training that you provided at the city level?

The master training programme helped to frame specific and clear objectives. It made us understand the significance of using different methodologies like presentations, role plays, movies, reflection, etc within a session, as this helps to cater to the differing learning orientation and needs of the audience. The readily available manuals and the session plans aided in sharing the content related to the issue and prototype of action plans with the participants.

- Schools & Colleges
- Informal Sector & Refurbishers & NGOs

Section III - Impact of the Training of Trainers

How do you assess the impact of your training?

- **Schools & Colleges:**

  The average feedback rating received from this group was 4.69 out of 5, converting into percentage the participants found the training to be 93.8% effective. The participants in their feedback shared that the overall flow of the workshop was smooth; the sessions and activities designed were useful for understanding the issue in an interesting manner. The training ensured active engagement of the participants and also gave them an opportunity to present themselves and their ideas in a proficient manner.

- **RWAs & Bulk Consumers:**

  This group average rating was 4.5 out of 5, which makes it 90% impactful for the participants. The feedback says that the workshop was useful for enlightening ones knowledge about E-waste, its hazards on human health and environment and ways of proper disposal. It made one to reflect and redefine future purchase decisions. This shows seeds for responsible decision- making have been planted.

- **Informal Sector & Refurbishers & NGOs:**

  For this group, the average rating we got was 4.38 out of 5 which means the participants found the training 87.6% useful. In their feedback also, the participants shared that the programme was well designed and will help to bring more awareness about E-waste issue in the island. It was suggested that more participants should come for the training programme to learn about the issue and make the mission a success.

Do you think the impact was limited due to the quality of participants?

- **Schools & Colleges:**

  The participants in this group were an active and creative lot, all excited to put their ideas into action. One area they need to work towards is gaining more knowledge about the issue and learning skills for planning their awareness and engagement sessions. Also, it would have been better to have a separate group of school and college students for the workshop.

- **RWAs & Bulk Consumers:**

  This was a very small group however, being from the field of technology they had good knowledge and experience of the subject matter. The areas they need to work on is networking skills and bringing in more enthusiasm and fervour to their presentations.

- **Informal Sector & Refurbishers & NGOs:**

  The participants in this group had a basic level awareness about the issue. Most of them had the confidence and conviction in expressing themselves in front of large groups. One thing that they need to learn is taking constructive feedback which will help in their own improvement.

What kind of changes did you make during the training to create a deeper impact with the participants?

We customized the session design and processes in order to make the training more effective and impactful for the specific stakeholders.

- **Schools & Colleges:**

  Having fun games, quizzes, movie screenings, reflective exercises helped in building deeper commitment with the topic in an engaging and interesting manner. This made the learning process enjoyable and impactful.

- **RWAs & Bulk Consumers:**

  Keeping in mind the knowledge and experience of the group, we had a lot of detailed discussions, sharing of personal insights and collaboration of project ideas to make the training experience valuable for all.

- **Informal Sector & Refurbishers & NGOs:**

  With this group, we got only one day for doing the workshop so we redesigned the placement and timings of the sessions to ensure no loss of information happens. We extended our timings for the day after taking the participants into confidence and did more of group activities, making of projects, practice session. This helped in consolidation of the learnings and building self-assurance for talking about the issue.

How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?

- **Schools & Colleges:**

  The young audiences were an energetic and innovative lot. The group had the zeal and dedication to put their ideas into action. They were energized to share the knowledge gained with their friends in creative ways.

- **RWAs & Bulk Consumers:**

  The group members, by virtue of their education and experience, had an in-depth knowledge about the issue. The new information gained and linkages established helped further build their confidence to create awareness about the issue and systems to deal with it.

- **Informal Sector & Refurbishers & NGOs:**

  Being from the NGOs, this group consisted of participants who had the skills of planning, organizing and communicating about development issues. With the deeper insight gained about the issue and knowledge of using the experiential learning cycle model, the group will be able to effectively drive across the message of E-waste management.

Section IV - Sustainability of the Training Programme

How would you rate the participants in terms of their interest in the training programme?

- **Schools & Colleges:**

  The students were curious and keen to learn about E-waste and its management. They energetically participated in the games and activities and deeply reflected on their learnings in their handbook. The group's enthusiasm and creativity was also seen in the action projects prepared by them. Through this, we could infer that the students were able to effectively comprehend and engage with the issue.

- **RWAs & Bulk Consumers:**

  The group had a good knowledge base and understanding of the issue. The workshop was significant for the participants as it provided them a platform to build linkages for putting their project ideas into action for managing E-waste efficiently. In the feedback also, the members had shared that the workshop was enlightening for them.

- **Informal Sector & Refurbishers & NGOs:**

  The participants had inquisitiveness to learn about the issue. The group work processes aided in peer learning. In their presentations, the members talked about using the newly learnt engagement skills and modalities to make their awareness programme interesting. This illustrated that participants could effectively comprehend the essence of the workshop and use the learnings gained into action.

Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?

- **Schools & Colleges:**

  The knowledge sharing process was done in an interesting and organized manner with fun games and activities created around the issue of E-waste management. The enthusiasm of the students along with the new information gained will help them to confidently and effectively create the awareness about the issue among their peers as well.

- **RWAs & Bulk Consumers:**

  Keeping in mind the education and experience of the group with regards to the subject matter along with the confidence gained through the training, the members will be able to successfully share the message across.

- **Informal Sector & Refurbishers & NGOs:**

  With the deeper understanding gained about the issue and the experiential learning cycle model, added to the effective communication skills of the participants will help them to well transact the awareness around E-waste with their stakeholders.

What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?

- **Schools & Colleges:**

  It would be better to have separate trainings for school and college students. Containing the number of participants to 20 would help to create more prospects for individual presentations and sharing of positive and constructive feedback.

- **RWAs & Bulk Consumers:**

  Having representation from the Government sector, more participants would help in creating additional opportunities for peer learning and building linkages.

- **Informal Sector & Refurbishers & NGOs:**

  In the design, having an exposure / field visit to a formal recycling unit would help the group learn about practical experience of dealing with E-waste and serve as an opportunity to create networks for further dissemination of information.

Participants Speak

❝ The workshop was very useful for enlightening my knowledge on E-waste, its hazards and ways of proper disposal. It also helped me to redefine my future purchase decisions and in disposing of E-waste in a proper way for the betterment of environment and the future generations. The handbook was useful and interactive. Helped to make me understand the concepts about E-waste in a simple way. ❞

– R. Om Prakash

❝ The workshop conducted was excellent, connected the people, knowledge gaining, contained activities, group discussions, videos, presentations and the facilitators were very inspiring. Participant's workbook helps us to write our feelings about each and every activity. The quiz given in this workbook was excellent through which we were able to gain knowledge. Activities were good. The workbook given contained act play, which we were told to write and present. We saw many videos which were informative and we were able to write our feelings regarding that."

– Beeda Devi, Teacher, NCS

❝ It encouraged me very much. I will definitely tell my friends about this workshop and suggest them to reduce E-waste. The participant's workbook helped me a lot to express my views. It was like a slam book which consisted many questions. I am very happy to be a participant of this workshop. ❞

– Trisha Sagar

❝ I have benefited by the session much and I am boosted to work for E-waste. The handbook was so good to use. ❞

– M. Simon

❝ Rating 5, because the facilitators have given the maximum efforts for knowledge as well as contents for this training. ❞

– Mr Tapan

❝ Mostly (5), I enjoyed a lot with my friends and was a very motivating workshop. I had a lot of fun with my mates and college didi, bhaiyas. If possible, I will move to the next procedure of this training. We all learn very interesting values in this workshop. I found it a very valuable booklet. It consists of many activities which we have practised and written it down in the booklet. There were many videos, films and activities for getting more interesting, valuable thoughts to move ahead. ❞

– Jhanvi Raj

Project for E-Waste Awareness Program

- R Om Prakash and Sneha Gupta, Port Blair

Mobile Phone Application (E-Waste Aggregator)

Logins and respective functions of different users in the workflow:

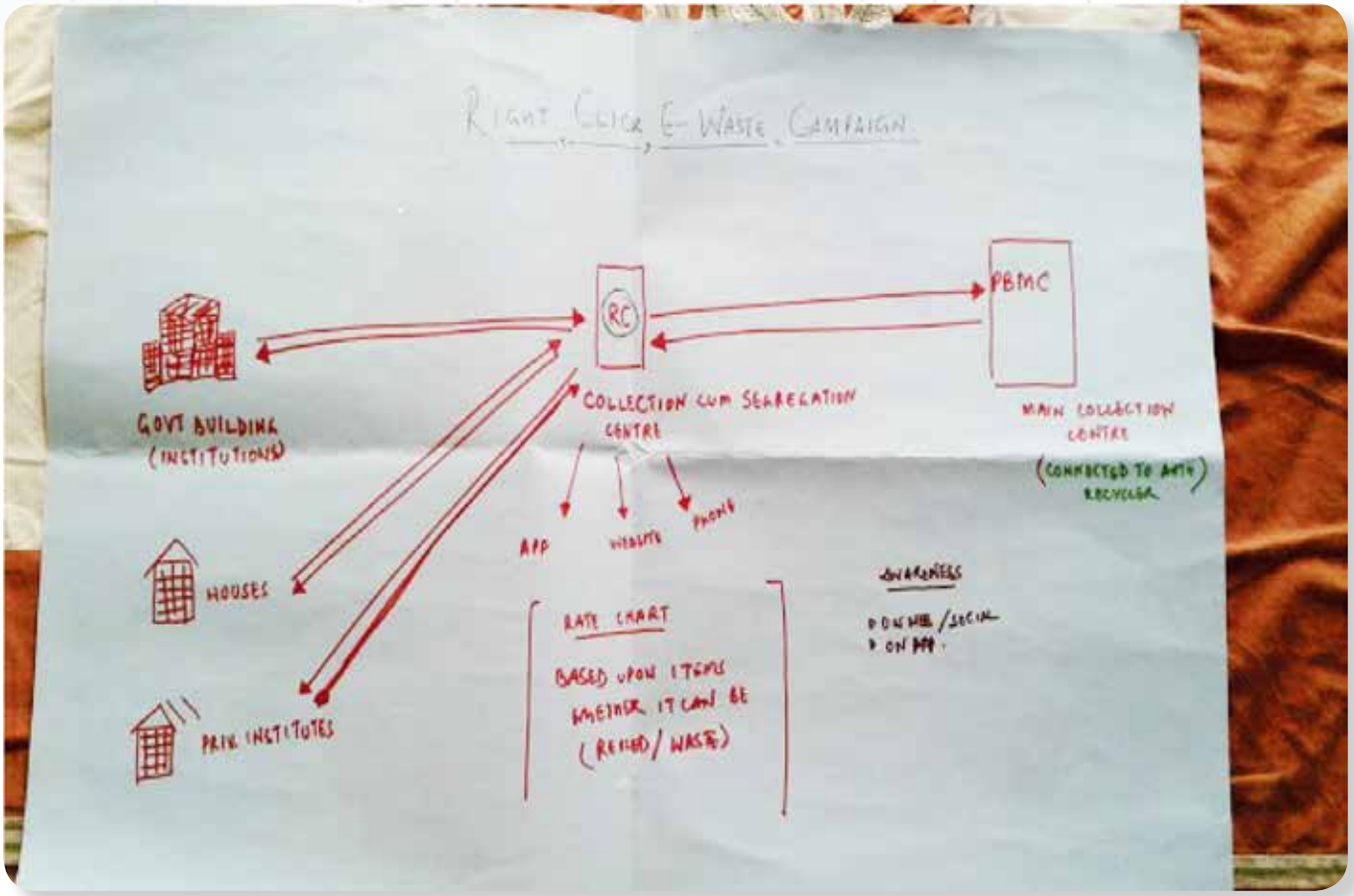
1. **Admin :**
   a. Can Register Zonal/City heads (Volunteers)
   b. View inflow and outflow of e-waste items – country wise and city wise.

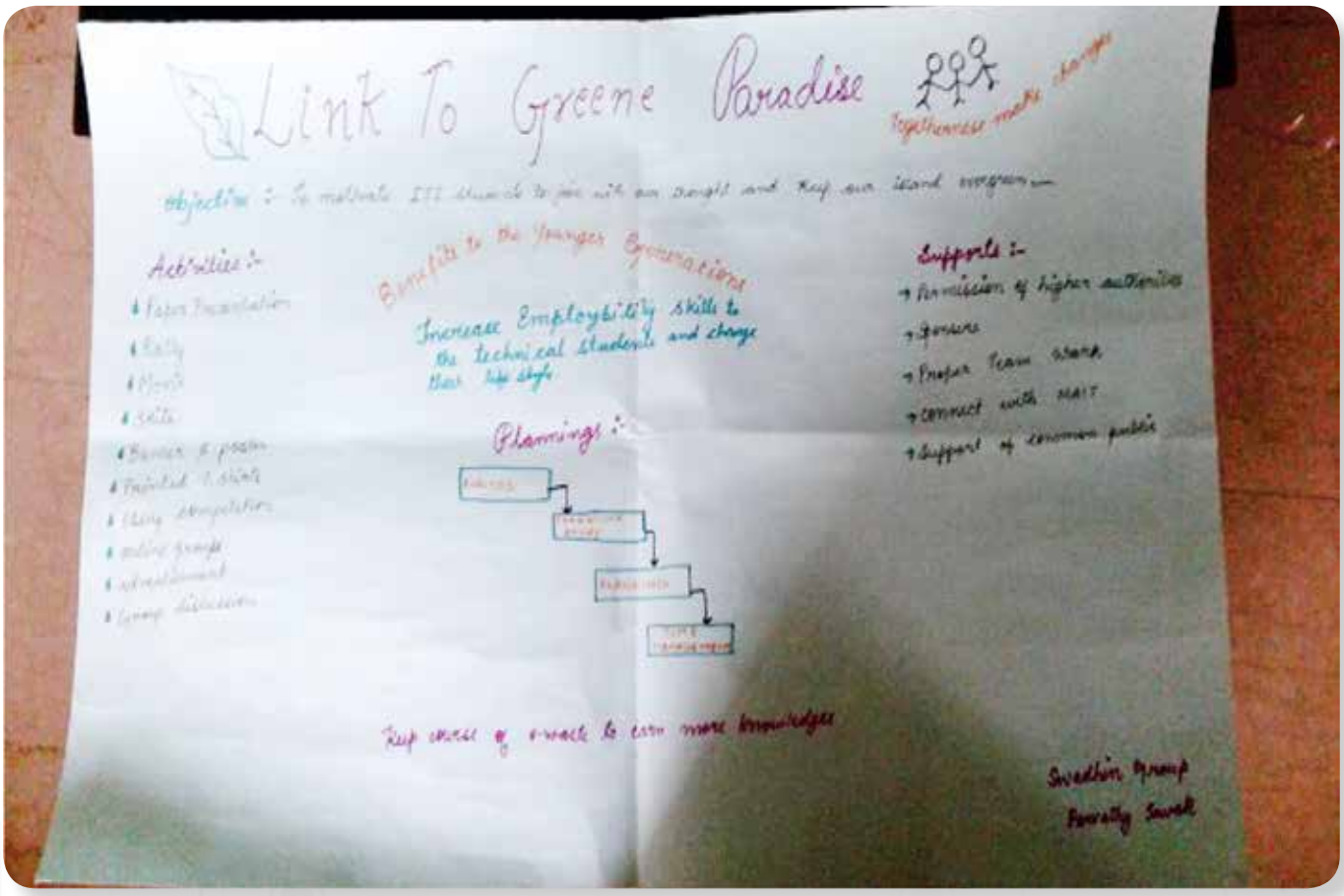
2. **Zonal/City heads (Volunteers) :**
   a. Can register the "Formal Scrap Dealers" on the application.
   b. View list of inflow and outflow of items in the city.
   c. Setup "Collection Points" so that common people can directly drop the e-waste at their convenience. E-waste collection points would show up with geo location on the common people's app option.
   d. List of best and worst performing registered scrap dealers based on the ratings given by common people.

3. **Formal Scrap Dealers :**
   a. Display their "Pollution Control Board Certificate" on their profile.
   b. View list of available items for pickup in the nearby location (5 Km Radius).
   c. Participate in the bidding process.
   d. Pick up the item from the client and send it to the registered recycling centres.
   e. Provision for e-payment to the common people who have given the scrap items.

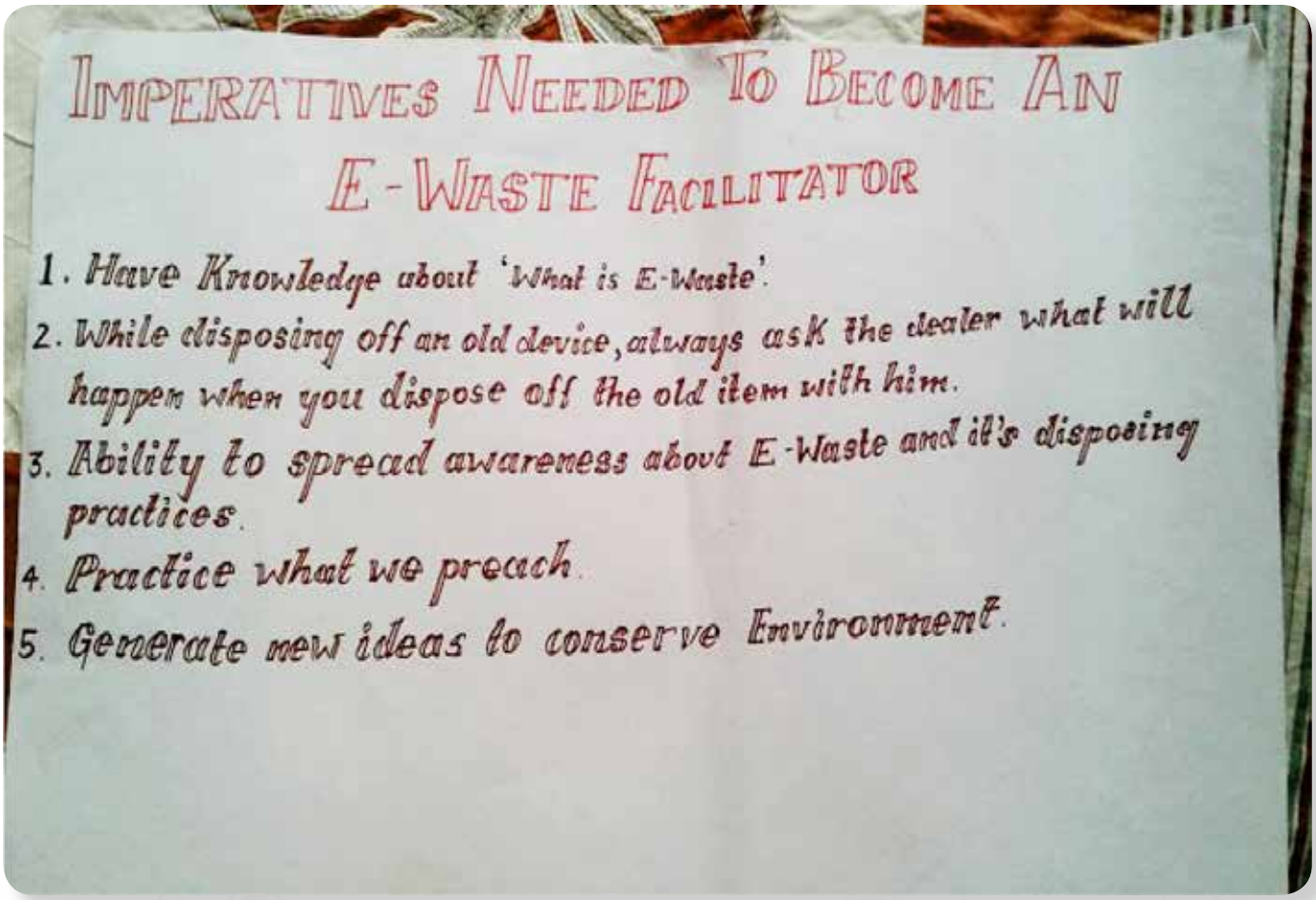
4. **Common People :**
   a. They can install the app and signup directly.
   b. Make a listing of the product supposed to be picked up.
      i. Upload photographs of the item.
      ii. Write a description about the product.
      iii. Specify estimated weight of the item, so that the Scrap dealer would arrange pickup vehicle and manpower accordingly.
      iv. Quote a price.
      v. Select GPS location of the product to be picked up.
   c. Select the best/preferable bid out of all the bids placed by the Formal Scrap dealers for the item.
   d. Confirm pickup (Date and Time)
   e. They get a certificate automatically generated online after the e-waste has been picked up by the formal scrap dealer.
   f. They would also have the option to share the certificate on social networking websites so that their friends, family and colleagues would also get motivated for the cause and dispose off the e-waste in a proper manner.
   g. They can rate the scrap dealers as per their behaviour and performance.
   h. They can view the list of nearby e-waste collection points on the map with respect to their GPS location.

Project done by :
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RIGHT CLICK E-WASTE CAMPAIGN
RC
PBMC
GOVT BUILDING
(INSTITUTIONS)
COLLECTION CUM SEGREGATION CENTRE
MAIN COLLECTION CENTRE
(CONNECTED TO AUTH RECYCLER)
APP
WEBSITE
PHONE
HOUSES
PRIV. INSTITUTES
RATE CHART
BASED UPON ITEMS WHETHER IT CAN BE (REFILED) / WASTE
AWARENESS


Link To Greene Paradise
Togetherness make change
Benefits to the Younger Generations
Increase Employability skills to the technical students and change their life style
Supports :-
Activities :-
Plannings :-
Swathin Prem
Pavithy Sunil


MOTIVATE AND ENCOURAGE OTHERS.
SPREAD AWARENESS TO OTHER PEOPLE
WHAT WE LEARN HERE, WE WILL BRING IT INTO OUR LIVES.
E-WASTE
Aspirations
DISPOSE THE DAMAGED PART AND REUSE THE WORKING PART OF THE ELECTRONIC DEVICE
AASHIKA
TRISHA


IMPERATIVES NEEDED TO BECOME AN E-WASTE FACILITATOR
1. Have Knowledge about 'What is E-Waste'.
2. While disposing off an old device, always ask the dealer what will happen when you dispose off the old item with him.
3. Ability to spread awareness about E-Waste and it's disposing practices.
4. Practice what we preach.
5. Generate new ideas to conserve Environment.

RAIPUR

Master Trainer: Shefali Baksh

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

Number of trainers who attended the training

- Schools & Colleges: 16
- RWAs & Bulk Consumers: 28
- Informal Sector & Refurbishers: 47





Images 1 and 2: Participants from Colleges and NGOs

Profile details of the trainers

- **Schools & Colleges:**

  All the participants were from the Department of Environmental Science at Pt. Ravishankar Shukla University and no formal training experience. Only one of them was teaching as Assistant Professor part-time and had some exposure of the kind.

  Refer Annexure 1: Participants from schools and colleges

- **RWAs & Bulk Consumers:**

  Many participants were working professionals and were part of different NGOs as well. They were working in Bhillai and other areas neighbouring Raipur. Government officials from CECB also attended the training, but had minimal experience in training.

  Refer Annexure 2: Participants from RWAs and Bulk Consumers

- **Informal Sector & Refurbishers:**

  There were two informal recyclers who had participated in the training. They did not have any formal training experience. Rest of all the participants were representing various NGOs and social organizations around Chennai. One of them was an infertility doctor who had worked in rural areas. She shared that effects of changing environment were clearly visible with the increase in infertility cases.

  Refer Annexure 3: Participants from Informal Sector and Refurbishers

Gap in the trainer profiles

- **Schools & Colleges:**

  All participating students were present for the training from the same college. The positive point was that students were from environmental studies and could understand the issue. However, limited participations lowered the scope and reach of the training. Also, no participation from schools was seen due to examinations.

- **RWAs & Bulk Consumers:**

  All participants were from social work background and were working in different sectors like education, women empowerment, health, etc. They were working with rural and urban people and were suited for the training. There was no representation of RWAs officially.

- **Informal Sector & Refurbishers:**

  Most participants were from the social work background and were suited for the training. Only two participants were informal refurbishers. More participation from the informal sector would have made higher impact.

Recommendations on how the profiles of trainers can be enhanced

- **Schools & Colleges:**

  - No school children/teacher could attend the programme due to examinations at school. Therefore, better planning is needed at ground.
  - Schools can be encouraged to participate and appreciation certificates can be given by SPCB.
  - Handholding can be done for activities post training to get the desired result from the project.

- **RWAs & Bulk Consumers:**

  More representation from housing communities/RWAs could have made more relevance.

- **Informal Sector & Refurbishers:**

  The profile was suitable for training. The participants were enthusiastic and willing to learn. They, however, were apprehensive about their role and how they can take it forward in a recognized manner.

Section II - Effectiveness of the Training

Activity response from the trainers

- **Schools & Colleges:**

  The video “Citizens at risk” (Link:) had a huge impact on the college students and with the tabulation of effects done thereafter created a very clear image of the impending disaster. They referred to the contents of the video several times during the course of the training.

- **RWAs & Bulk Consumers:**

  Activity 1: Participants were divided into groups and were given one electronic device to study. They were then asked to identify the hazardous and recyclables in those devices.

Activity 2: The participants were divided into groups and were asked to prepare an action plan according to the roles they were assigned. Role playing activity was particularly impactful as it gave the participants a chance to view the problem from someone else's point of view.

a. Informal Sector & Refurbishers:

Activity 1: The video "Citizens at risk" and tabulation of the impacts was effective in garnering attention from the participants.

Activity 2: The participants were divided into groups and were asked to prepare an action plan according to the roles they were assigned. Role playing activity was particularly impactful as it gave the participants a chance to view the problem from someone else's point of view.



Correlation of the effectiveness of the training with the trainers

- **Schools & Colleges:**

  The training was very effective. The participants belonged to environmental science background and could relate to the issue very well.

- **RWAs & Bulk Consumers:**

  The training was very effective. The participants from NGOs were enthusiastic and those in the Pollution Control Board were willing to take up the cause further.

- **Informal Sector & Refurbishers:**

  The NGO workers had experience of work at ground and were aware about training techniques for rural people.

Comments on effectiveness of the Master Training Programmme

- **a. Schools & Colleges:**

  The module design was hugely appreciated as students could understand the complete cycle of E-waste management. Limited participation (all students from the same college) limited the impact of the training.

- **b. RWAs & Bulk Consumers:**

  The module design was appreciated. However, some participants wanted data in the Hindi language for better understanding.

- **c. Informal Sector & Refurbishers:**

  The programme was appreciated, but the Informal Sector preferred having IEC in their local language.

Section III - Impact of the Training of Trainers

Assessment of training's impact

- **Schools & Colleges:**

  The training was very impactful. The students took a keen interest in the whole programme.

- **RWAs & Bulk Consumers:**

  The training was very impactful. The training went well, and I can surely assess that everything discussed with the group was very well taken and understood.

- **Informal Sector & Refurbishers:**

  The training was impactful for this group. I can surely assess that everything discussed with the group was very well taken and understood.



Images 3 and 4: Participants engage in activities during training

Correlation of training's impact with quality of participants

- **Schools & Colleges:**

  The participants were enthusiastic and willing to learn. They engaged in discussions and can take trainings in different sectors.

- **RWAs & Bulk Consumers:**

  In my point of view, the participants from this session will need more handholding to conduct further trainings. They are, however, already working on ground with rural areas, so making an impact will be easier, if guided properly.

- **Informal Sector & Refurbishers:**

The participants belonged to different reputed NGOs in the city and have the capability to take the project further. If given sufficient support and encouragement from government,this group surely can be very effective in spreading the knowledge.

Modifications done at my end for delivering a better training

- **Schools & Colleges:**

  Since the students were of environmental background, added information about 3Rs –Reduce Reuse Recycle and how they can apply this for E-waste management.

- **RWAs & Bulk Consumers:**

  The groups for making action plan were given roles that would make them analyze the problem from a different point of view.

- **Informal Sector & Refurbishers:**

  Taking help from participants to translate content into local language for better understanding, the groups for making action plan were given roles that would make them analyze the problem from a different point of view.



Images 5 ad 6: Participants engage in group discussions

Trainer's ability to take the project forward

- **Schools & Colleges:**

  The participants will be very likely able to conduct workshops amongst other students and in their respective colleges/schools. However, basic handholding and guidance will be required from government for long-term sustainability of the project and to keep the students motivated.

- **RWAs & Bulk Consumers:**

  This batch will strongly be able to carry forward the project and conduct and engage a wider audience in the project. Assistance in terms of training venues, suitable audience and more will be required for effective continuation of the project.

- **Informal Sector & Refurbishers:**

  The participants, with the help of some handholding and overviewing, will be able to spread the information amongst their office colleagues and neighbours.

Section IV - Sustainability of the Training Programme

Interest of the Participants in the Programme

- **Schools & Colleges:**

  Participants showed great interest in the entire programme and seemed to have gained better insight on waste management, the current situation in Raipur and their role in the entire project.

- **RWAs & Bulk Consumers:**

  Participants showed great interest in the entire programme and seemed to have gained better insight on waste management, the current situation in Raipur and their role in the entire project.

- **Informal Sector & Refurbishers:**

  The participants were interested and indulged in discussions throughout the session.

Ability of trainers to take this forward

- **Schools & Colleges:**

  These participants grasped the depth of the issue at hand and will be able to generate awareness among like-minded people very effectively.

- **RWAs & Bulk Consumers:**

  These participants grasped the depth of the issue at hand and will be able to generate awareness among like-minded people very effectively. They will need handholding and assistance though.

c. **Informal Sector & Refurbishers:**

  These participants will be able to take the message further with handholding and guidance.

Recommendations for the Training Design

- **Schools & Colleges:**

  - To make the programme more effective, the participation in awareness activities should be made mandatory post training.
  - Schools and colleges should be engaged in E-waste collection competitions. This will help them stay motivated and also will help in the collection of E-waste.

- **RWAs & Bulk Consumers:**

  The training needs to show steps encouraging less consumerism and the participation in awareness activities should be made mandatory post training.

- **Informal Sector & Refurbishers:**

  This batch of participants requires additional help to encourage informal recyclers to get formalized and carry out their tasks responsibly. The informal recyclers need more assistance to convert to formal sectors besides the awareness.

SHILLONG

Master Trainer: Sonal Chaturvedi and Indu Verma

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

How many trainers attended the training programme across all 2 ToTs which were covered in the city?

- **Schools & Colleges:**

  A total of 17 participants attended the ToT workshop from different colleges and universities of Shillong. The group included students, teachers and also young people exploring job opportunities from the city. There were also young people who had initiated their citizenship action projects in the city and were keen to learn and get ideas from the workshop. The students were represented from the NSS Department of North Eastern Hill University and the Martin Luther Christian University.

- **Informal Sector & NGOs:**

  A total of 23 participants attended the ToT from diverse NGOs across the city. These included NGOs such as Aid Action, Impulse NGO Network, Meghalaya State Network of Positive People and Jingkynmaw Memorial Creative Arts & Vocational Trainig Centre. The group was well represented by male and female participants and also had a right balance of experience and youth. There were a group of committed young people from social work background who were volunteering their time with Impulse NGO and were excited to spread awareness in their NGO networks and also in their colleges.

  Give a brief account of the experience of each of these group members in terms of their profile and the number of trainings that they would have conducted in the past.

- **Schools & Colleges:**

  This group included teachers from engineering and computer sciences background and were eager to learn about the issue of E-waste. The students were mostly from social sciences background and were members of the NSS Departments in their colleges and had experience of community mobilization activities. However, both the groups had limited exposure in conducting trainings.

- **Informal Sector & NGOs:**

  The group was a mix of NGO representatives working on diverse issues including education and livelihoods and were interested to explore E-waste recycling and management as an income-generation activity for their youth networks. Few senior NGO representatives had more than five years of exposure in conducting training activities in their networks. However, the younger members had just got initiated into the training with some as less as one year of experience in training. .

  What, in your assessment, was lacking in the different groups as far as their profile is concerned?

- **Schools & Colleges:**

  The college students were trying to align their E-waste awareness activities with their college NSS Departments. However, since NSS is a well-structured programme and has its own vision and objectives to be achieved in a year, it could be a challenge to create a space for E-waste awareness generation activities with already-existing NSS programme commitments. Secondly, the absence of a teacher from the NSS Department who can support in the realignment of the NSS activities to include

E-waste awareness generation could be a challenge. Many of the participants had passed out from college so sustainability of their project could be a challenge.

- **Informal Sector & NGOs:**

  The NGOs are more interested in expanding their portfolio of programmes by including E-waste as an income generation programme for their community networks. This would require them to realign their existing organizational commitments to prioritize E-waste as an issue in their activities.

  How could the relevance of those attending the training could have been improved to ensure that the quality of trainers could be enhanced?

- **Schools & Colleges:**

  The quality of the training for the students group could have improved if teachers from their respective colleges motivate the students and support them in the creation of sustainable project ideas in their academic institutions.

- **Informal Sector & NGOs:**

  Many of the NGO representatives were volunteers and junior members of the NGO teams and one major challenge for them would be to inspire their senior team members to run awareness generation programmes as part of their NGOs. For example, the volunteers representing the Impulse NGO network were students from Guwahati University and the scope of their action plans was their university and not the impulse NGO network communities.

Section II - Effectiveness of the Training

What kind of activities which were conducted with specific sets of stakeholders which, according to you, was the most effective in ensuring participation from the wider group?

- **Schools & Colleges:**

  The activities that were most effective with student groups included film screenings, games and group work, individual and group presentations. Reflective journal in the form of participant workbook was also a very effective tool for learning and reflection by the students. The students have shared their positive experience of using the journal which have immensely added to their learning.

- **Informal Sector & NGOs:**

  Presentations and Action project planning were most effective for the group. In addition, reflective journal was also very effective with this group.

  Please correlate the effectiveness of your training with the quality of trainers in the group.

- **Schools & Colleges:**

  The training was effective as it provided not only knowledge to the students but also an opportunity to develop their application projects on E-waste with support from the facilitators. The training was able to upgrade the skills of the trainers in designing and facilitating effective training sessions with their target groups. They were given also given inputs on the experiential learning cycle techniques which will support them in developing their training sessions for quality engagement of the participants.

- **Informal Sector & NGOs:**

  The training used the methodology of case studies and videos to share inspirational stories of real people who have upgraded themselves professionally as well as professionally after formalizing their E-waste businesses. This inspired many participants to design income generating projects on E-waste for themselves and their community networks.

  How would you rate the master training programme in leading to enhanced effectiveness of the training that you provided at the city level?

- **Schools & Colleges:**

  The master training programme was very well-designed and helped the master trainers learn the skills of design and facilitation to improve the quality of their engagement with the school and college trainers in Shillong. The master training programme also helped the Master trainers learn to use diverse methodologies such as case study, games, quiz, group work, presentations to engage the college students and sustain their interest on the issue of E-waste and also apply the learnings from the workshop in their settings.

- **Informal Sector & NGOs:**

  The master training programme helped the master trainers adopt and use the adult learning principles to design their ToT workshops. The master trainers were equipped with knowledge, skills and the engagement techniques to enhance the learning of their trainers. To this end, participants were also provided with the model sessions developed in the manual.

Section III - Impact of the Training of Trainers

How do you assess the impact of your training?

- Schools & Colleges reported 86-percent learning effectiveness, indicating that the students were able to upgrade their learning on the issue of E-waste and its hazards and also able to meaningfully apply their learnings to create their own application projects.
- Informal Sector & NGOs reported 88-percent learning effectiveness, indicating that the training was very effective and was able to enhance the learning of the informal sector and the NGO group on the issue of E-waste,its hazards on health and environment including underrating about the legal compliances vis a vis E-waste.The facilitators were also rated highly by the participants for creating an impactful design and facilitating a highly effective workshop that was engaging and participative.

  Do you think the impact was limited due to the quality of participants?

- Schools & Colleges: No
- Informal Sector & NGOs: No

  What kind of changes did you make during the training to create a deeper impact on the participants?

- **Schools & Colleges:**

  The activities were redesigned based on the audience analysis. As the group consisted of college students, recently passed out students and young entrepreneurs the facilitators tried to design the action project session to address the needs and aspirations of all participants. The facilitators introduced group work as a technique that enhanced the engagement of the participants.

- **Informal Sector & NGOs:**

  Since many participants were interested in pursuing their own entrepreneurial initiatives, the facilitators created space for them to design their own income-generating activities based on their interest and passion.

  How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?

- **Schools & Colleges:**

  The college students were committed and passionate to work on the issue and were able to apply the learning from the workshop well via creation of strong application projects. They were also able to motivate and create enthusiasm in the participants during the practice presentations conducted as part of the workshop, indicating that they will be able to engage their communities well on the issue of E-waste post the workshop as well.

- **Informal Sector & NGOs:**

  The informal sector demonstrated upgradation in their facilitation skills after participating in the ToT workshop. They were able to engage the participants well during the practice presentations and also created positive learning atmosphere indicating that they will be able to create impactful trainings in their community networks.

Section IV - Sustainability of the Training Programme

How would you rate the participants in terms of their interest in the training programme?

- **Schools & Colleges:**

  The college students were very excited to be part of the programme. They had bright and fresh ideas which need to be supported to come into action. They would require regular mentoring and guidance to pursue their projects for enhanced impact. To create sustainability, our recommendation is to institutionalize E-waste courses at the college and the university level which can give credits to the students.

- **Informal Sector & NGOs:**

  The NGOs were very hopeful that E-waste can become a wealth creator for persons in their networks. They have plans to make their communities aware and support them in adopting E-waste as an income-generation activity. For enhanced sustainability, selected committed and competent NGOs can be provided with resources to undertake research and implementation activities to create sustainable E-waste interventions on the ground.

  Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?

- Schools & Colleges: Yes
- Informal Sector & NGOs: Yes

  What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?

- **Schools & Colleges:**

  The design for the student group can have one day for learning and the second day for action. The change in the design will give them an opportunity to practise what they have learnt and will help them to pursue it further in their networks.

- **Informal Sector & NGOs:**

  The training design should be contextualized to the local needs of the city with local level data. For example, the amount of E-waste generated at the city level. A state government representative from the municipal corporation or any other authorized department managing E-waste should be present on the second day of the training to evaluate the feasibility of the action plans and support the implementation of selected action projects developed by the participants.

SHIMLA

Master Trainer: Sonal Chaturvedi and Indu Verma

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

How many trainers attended the training programme across all ToTs which were covered in the city?

- Schools & Colleges: 32
- RWAs & Bulk Consumers: 10

Give a brief account of the experience of each of these group members in terms of their profile and the number of trainings that they would have conducted in the past.

- **Schools & Colleges:**

  The students attending the workshop were from Swaran Public School.The group comprised of students from classes 8th and 9th. There were two teachers present and they were from information technology and science backgrounds. The students were energetic and full of enthusiasm to learn about the issue of E-waste and apply the learnings in their schools. Since the students were from junior classes, they did not have prior experience in conducting trainings. However, they did have lots of self-confidence and commitment to take the E-waste awareness programme forward in their school. The teachers had experience in teaching and limited experience in conducting trainings.

- **NGOs & Bulk Consumers:**

  The group had a diverse mix of committed active citizens from Shimla. The participants represented stakeholders from NGOs, government departments and shopkeepers from Shimla, who were keen to contribute their bit to safeguard the environment and health interests of their fellow citizens by becoming E-waste trainers to address the issue of E-waste in their city. While the NGO participants had vast experience in conducting trainings and awareness activities, the shopkeepers' and bulk consumers' exposure was limited in delivering training sessions.

  What, in your assessment, was lacking in the different groups as far as their profile is concerned?

- **Schools & Colleges:**

  The student were from junior classes and were exposed to the training experience for the first time. Some of them had limited attention span and were finding it difficult to concentrate and focus on input sessions.

- **NGOs & Bulk Consumers:**

  Few members from the group had other commitments and therefore were not able to sit through the entire two training workshops.

  How could the relevance of those attending the training could have been improved to ensure that the quality of trainers could be enhanced?

  A detailed audience analysis completed and shared with the trainers prior to the workshop can support the trainers in understanding the profile of the participants better,including their learning needs, their training experience and their expectations from the workshop. In order to improve the relevance of the workshop, a pre-training activity can be introduced prior to the workshop to learn about the commitment of the participants towards the issue of E-waste and also share their action plans to utilize their learnings from the workshop. This will help ensure quality, relevance and effectiveness of the workshop.

- Schools & Colleges: NA
- RWAs & Bulk Consumers: NA

Section II - Effectiveness of the Training

What kind of activities which were conducted with specific sets of stakeholders which, according to you, was the most effective in ensuring participation from the wider group?

- **Schools & Colleges:**

  Group activities, games, presentations and quizzes were conducted to engage the students throughout the workshop. The trainers supported the participants in maximizing learnings and reflections from the input sessions on E-waste and, harmful substances, its hazards on health and environment, carbon footprints via the use of participant workbook. During the feedback process, most participants have expressed that the participant workbook added to their learning process.

- **NGOs & Bulk Consumers:**

  Brainstorming sessions, and experience sharing were few techniques that were most effective with this group. Since there was lot of experience in the group, the discussions were vibrant and meaningful and added to the participation of all group members and added to the learnings of the participants. The discussions ranged from the current situation of waste management in the city of Shimla, problems in the existing system of waste collection in the city, possible solutions to address the gaps and their role. The participants also discussed the preventive strategies to combat the problem of E-waste at their own level and also at the city level.

  Please correlate the effectiveness of your training with the quality of trainers in the group.

- **Schools & Colleges:**

  The training was effective as it provided an opportunity to the young students not only to learn about the issue of E-waste, its hazards, ill-effects on health and environment but also to take responsibility for their own actions in reducing and managing E-waste in their families and schools. The training was able to trigger a sensitivity and sensibility in the young minds that our actions have consequences and therefore we need to behave responsibly towards our environment. In this way, the workshop helped participants see a connect between the issue of E-waste and themselves that improved the relevance and quality of the trainers.

- **NGOs & Bulk Consumers:**

  The training was effective as it was able to shift the perspective of the participants from blaming to claiming. It helped the participants not only gain knowledge about the issue of E-waste, learn the skills of facilitation, design effective action projects to address the issue of E-waste but also learn to take responsibility for combating E-waste via making changes in their own behaviours, lifestyle choices and everyday decisions.

  How would you rate the master training programme in leading to enhanced effectiveness of the training that you provided at the city level?

  The master training programme was perfectly curated as it helped build the skills of the master trainers to design and deliver effective training workshops for diverse stakeholders based on their specific needs and expectations. It helped in learning techniques to engage diverse stakeholders via adoption of different training methodologies. The training organized at the city level was based on the learnings from the Master Training Workshop and used the learning principles, design concepts and models that upgraded the relevance and quality of the city-level programme and ensured maximum learning effectiveness for the participants.

- **Schools & Colleges:**

  Based on the learnings from the master training programme, the city-level training organized for the students group made the training experience full of learning and fun for the participants via adoption of methodologies such as group work, presentations, quiz and games to elicit maximum engagement of the students on the issue of E-waste, its hazards, impacts on health and environment and action project planning. .

- **NGOS & Bulk Consumers:**

  Based on the learning from the master training progrmme, the city-level workshop adopted a more participatory approach and adopted training methodologies such as brainstorming sessions, experience sharing to elicit participation and learning of the group members to discuss curative and preventive strategies vis a vis the issue of E-waste in the city of Shimla.

Section III - Impact of the Training of Trainers

How do you assess the impact of your training?

- Schools & Colleges reported 95-percent learning effectiveness, indicating that the overall content and methods used in the workshop were excellent that added to the training effectiveness, including the flow of the workshop was well structured and met the learning outcomes and the trainers were able to elicit meaningful discussion on the topic of E-waste.

- NGOs & Bulk Consumers reported 93.6-percent learning effectiveness, indicating that the training was of high quality and enhanced the knowledge base of the participants on the issue of E-waste, upgraded the skills of the participants in facilitation and that the participants will be able to apply the learnings from the training in other spaces. The rating also indicates that the trainers were able to deliver the content well.

  Do you think the impact was limited due to the quality of participants?

- **Schools & Colleges:**

  The participants were from junior classes and this could limit their circle of influence. Unless and until supported by adults such as teachers or parents, they may find it challenging to apply the learnings in their personal and social spaces.

- **NGOs & Bulk Consumers:**

  Few participants had dwindling commitment and therefore were not present for the entire duration of the workshop. This has led to their not being fully aware of the content, information and concepts on the issue of E-waste. Going forward, this would impact the quality of the trainings they would be conducting henceforth in their own networks.

  What kind of changes did you make during the training to create a deeper impact on the participants?

- **Schools & Colleges:**

  Constant improvization and upgradation in the training has been the hallmark of the training process. For example, the participant's handbook has been introduced focussing on the student group to elicit maximum participation and learning of the students.

- **NGOS & Bulk Consumers:**

  In order to make the training effective for this group, open brainstorming sessions and deeper experience sharing were added in the design for the participants to contribute on the issue of E-waste and learn from each other.

  How do you rate the participants in being able to create a similar impact when they conduct trainings with their respective stakeholder groups?

- **Schools & Colleges:**

  Apart from knowledge base enhancement on the issue of E-waste and upgrading the skills of facilitation and action project planning, most importantly the training process has beenable to trigger the process of mindset change in the young minds. This has made students see the connection of the issue of E-waste with themselves and this has planted seeds that will help them create impactful interventions in their families and schools.

- **NGOs & Bulk Consumers:**

  Since the training was able to hold a mirror and show the participants their positives and negatives vis a vis their knowledge, skills and attitudes on the issue of E-waste, participants demonstrated enhanced knowledge and skill sets to facilitate and inspire change in their networks.

Section IV - Sustainability of the Training Programme

How would you rate the participants in terms of their interest in the training programme?

- **Schools & Colleges:**

  The students were keen learners and excited to be part of the learning process. They were actively participating in all the activities such as group work, presentations, games and quizzes to upgrade their knowledge on the issue of E-waste.

- **NGOs & Bulk Consumers:**

  The group was very participative to share their experiences that added to the group learning on the issue of E-waste.

  Do you think the trainers would be able to train stakeholders at similar level of ability as yourself at the city level?

- **Schools & Colleges:**

  The student group would require mentoring and support from their teachers and other adults to take the learnings from the workshop forward. While they may not be able to hold trainings independently, they can create eco-clubs in their school that can undertake activities such as awareness sessions and also initiate a process of setting up of a collection point for E-waste in their schools with support from their teachers and principal.

- **NGOs Bulk Consumers:**

  Few members demonstrated enhanced commitment and competence post the workshop and would be able to deliver quality training in their networks. Others would require mentoring and guidance to take the training forward in their own networks

  What, according to you, should be changed in the training design in order to ensure a higher engagement with trainers?

- **Schools & Colleges:**

  The students are interested in action on the issue of E-waste and therefore the design for the student group could possibly have one day of classroom training and one day planned exclusively for community action and that could be conducted in their school premises that will help to engage deeply with the issue. In addition, the mentoring of the interested students via a helpline or group mentoring processes can enhance their engagement.

- **NGOs & Bulk Consumers:**

  The group is interested in aligning their E-waste project action plans with the government bodies and therefore presence of a government representative will help them align their project ideas with existing government initiatives about E-waste in the city.

Participants Speak

❝ I will give the highest rating to the workshop because learning about E-waste was amazing and the training of the facilitators was very good. I understood all the things about E-waste that we can share with my friends, teachers and schoolmates. I liked the real-life stories. I liked the games – chain game and treasure hunt the most. ❞

❝ I want to give highest rating to the workshop. It was a very interesting way to study. As you were organizing several activities – for example games, presentation making, project making, you were listening to everyone and I think it is a precious knowledge. Your content and data level is perfect. We played the quiz and it was a source of great fact and information. I love your teaching method, and at last I want to say congratulations to you that you and your mission succeeded to make us aware about the effects and harms of E-waste. Thank you so much for giving precious knowledge. ❞

❝ The training is very educative. New things are learnt to keep our environment clean. ❞

❝ Topics covered are the need of the hour. They are well-designed. We had a very open session during the training and understood the subject deep. Material supplied was very informative and concise. Overall, it was an fantastic experience. ❞

❝ It has fully empowered me in my work and the role for future work and ambitions. ❞

❝ The trainers had in-depth knowledge of the topic and were able to answer all the queries. It involved all participants and made sure that all members participated and felt comfortable. The worksbook is well structured and designed. Graphics made the workbook and topics interesting. ❞

❝ I liked the workshop. This workshop was very interesting and educative. We got to know new things and got a lot of information about E-waste that we can share with friends and family. ❞

❝ The facilitators were able to elicit meaningful discussion on the E-waste topic because they told us about the issue via games and showing videos.The sessions added to my knowledge base and we enjoyed it. ❞

❝ The notebook helped me so much. It was a source of doing revision whatever we studied, played, felt, etc. It was so beneficial and played an important role. Whatever we studied, we revised by writing it. ❞

SNAPSHOTS OF THE ToT PROGRAMME



E-Waste Quiz in progress



Trainer imparting Knowledge on E-waste Hazards



Participants from Swaran Public School, Shimla



Action Plan presentation by the Bulk Consumer group



A brainstorming session on current system of E-waste Management in Shimla

THIRUVANANTHAPURAM

Master Trainer: Manju Minhas

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

Number of trainers who attended the training

- NGOs and Informal Scrap Dealers: 47
- Schools & Colleges: 50 (from 25 colleges)
- RWAs & Bulk Consumers: 37

Profile details of the trainers and number of trainings they have conducted in the past

- NGOs and Informal Scrap Dealers:

  Males – 81% Females – 19%

  Age group:

  20–30 years – 19%

  31–40 years – 44%

  41 years+ – 37%

The session was attended by different stakeholders like persons from the Department of Industry, Department of Labour, President of scrap dealers' association for Kerala state, SPCB officials, including NGOs. They were all related to the subject of E-waste management in one way or the other. Some participants have also organized a few numbers of trainings and awareness campaigns in the past on waste-related issues (not specifically E-waste).

- **Schools & Colleges :**

  Most of the participants in this group were college students from 25 different colleges. Almost equal participation was noticed from both females and males. As expected, the students didn't have any training experience, but all of them had NSS background and thus they were used to organizing activities and events. They had the capability to become good trainers.

- **RWAs & Bulk Consumers:**

  Most of the participants were graduates and some of them were pursuing postgraduation in Environmental Engineering. About 70% of the participants were females and around 25% had 5–10 years of training experience. The participants were primarily from local NGOs and were related to Harith Kerala Mission (involved in waste management activities in the state). Railway representatives were also present, reflecting positively on the training, as Indian Railways is a bulk consumer and having a proper E-waste management system in place will help. Going forward, their experiences can be leveraged as the local organizers could not arrange many bulk consumers with significant electronic purchases and there are no RWAs representatives in the city. Representatives from organizations who

were providing waste management services for RWAs were also present. 10 participants from the State Pollution Control Board were also present who had considerable experience and knowledge in the local E-waste situation.



Gap in the trainer profiles

- **NGOs and Informal Scrap Dealers:**

  The President of the State scrap dealers and other NGOs were all very keen to start an authorized channel for proper management of E-waste and set up a dismantling and recycling facility with the help of SPCB Kerala. Currently, all the collected E-waste is sent outside the state, in the absence of any such facility. They were happy to learn more about the processes and rules. English language was a barrier for 1–2 participants.

- **Schools & Colleges:**

  The aptitude of the participants from colleges was adequate to carry out the mission of spreading awareness as well as training them. They are likely to be effective at training schools/colleges and grassroot community level, including RWAs. They were able to grasp the learnings quickly as they were comfortable with the language and seemed motivated to contribute to the cause for better E-waste management.

- **RWAs & Bulk Consumers:**

  None of the participants were RWAs. The candidates belonging to Harith Kerala Mission will be very effective, going forward, as they are already involved with activities and campaigns related to plastic and waste management. The participants were motivated to propose a state-level training programme regarding E-waste management and set up a chain for better collection and disposal.

Recommendations on how the profiles of trainers can be enhanced

- **NGOs and Informal Scrap Dealers:**

  For this group of participants, it is recommended that volunteers have a basic understanding of the English language to grasp the content and participate in the training.

b. Schools & Colleges:

Some higher management representatives like directors and teachers should also attend the trainings to make it easier for students to take campaign forward in their own schools/colleges. Follow-up guide should be incorporated for campaigning in schools and colleges. They were also inquisitive about where they should share the details of their post-training activities.

c. RWAs & Bulk Consumers:

Efforts need to be made reach to some prominent RWAs in the city. More bulk consumers like government departments, banks, hospitals, etc should be approached and their representatives should be included in the training.



Section II - Effectiveness of the Training

Activity response from the trainers

o NGOs and Informal Scrap Dealers:

- Introduction was taken along with one wish from each participant to connect them to sustainable living discussion.
- An activity was conducted regarding identifying recyclable and hazardous parts in any electronic item. This was done in groups.

- Participants designed action plans for an organization regarding proper E-waste management in groups and presented them. They also applied the knowledge gained during the training.

o Schools & Colleges:

For the most part, the training was participatory, especially more around the technical content, for example:

- The participants selected an electronic item and identified the different hazardous substances present in the items. They participated in this activity in groups of 05, and were allowed to search online and prepare a presentation on the drawing charts. The idea was to engage them with the content in their own way and keep them interested. They came up with new information and were creative in their presentation.
- In order for them to conceptualize the idea of reduction and sustainable living, they were asked to choose one item, which they will give up or practise green living with less carbon footprint.
- At the end of the training, they prepared an action plan for their schools and colleges.
- They also took a pledge to contribute to better environment living towards the closing.

o RWAs & Bulk Consumers:

Apart from the standard presentations, there were some activities to facilitate understanding of the more technical part of the content.

- Group activity 1 – Identifying the hazardous substances in electronic items: The objective of this activity was to mind jog around the composition of hazardous substances present in different electronic items.
- Group Activity 2 – Developing an action plan: The purpose of the group activity was to think about designing a community-based action plan.

Correlation of the effectiveness of the training with the trainers

a. Schools & Colleges:

There was considerable curiosity and enthusiasm from the students. That was a significant contributing factor in the delivery of training and learning environment.

b. RWAs & Bulk Consumers:

Since they were no bulk consumers and RWAs, it was very difficult, initially to relate to the functioning of the intended stakeholders. Enacting the roles of Bulk Consumers and RWAs with fictitious screenplays enhanced the participant's understanding of the roles.

It was a tad difficult to keep the participants engaged during the more technical parts of the training relating to details of the chemical toxic compounds. So I engaged them through mind jogs and group activities to make the technical content more accessible.

Comments on effectiveness of the master training program

The master training programmer was helpful to have a structured approach to the training as well as to make it interactive. Also, the content material like power point presentations provided during the master training were helpful in creating presentations for trainings.

However, some movies showing the authorized dismantling facility and recycling facility working were very good, but an example of such facility in India would have been more useful.

Section III - Impact of the Training of Trainers

Assessment of training's impact

Almost 90% of the participants had never known or gone through the E-waste management rules before this training and were happy to know about it.

a. NGOs and Informal Scrap Dealers:

The participants gained from the training, got to know how to document and set up authorized dismantling facilities. They were very keen to set it up as soon as possible realizing the gravity of the situation.

b. Schools & Colleges:

In the participatory exercises, the participants were able to clearly articulate the concepts about E-waste.

It is likely that the impact will manifest through campaigns in the schools, hopefully with some support from the teachers and administration.

c. RWAs and Bulk Consumers:

The participants from HARITH KERLA MISSION were keen to start a state- level project post training to spread awareness and kickstart collection of E-waste at the grassroots level in the right way.

The report regarding E-waste management and worry at the state level (including a mention of this training session) was published in the newspapers like The Hindu.



e-Waste management, Kerala's worry

Lack of dismantling and recycling mechanism has led to crisis in State



e-waste management a worry

Lack of dismantling and recycling mechanism in State

SARATH BABU GEORGE
THIRUVANANTHAPURAM

Kerala is faced with the possibility of a crisis posed by accumulation of e-wastes. Lack of authorised dismantling and recycling units adds to the problem. As the State government is yet to initiate steps in this regard, scrap dealers are constrained to transport large quantities of electronic wastes to other States.

The glaring inadequacy in e-waste management came to the fore during a sensitisation and training programme organised by the Ministry of Electronics and Information Technology during the last few days here. Implemented by the Manufacturers Association of Information and Technology (MAIT), the training was conducted by the NGO, Chintan environmental research and action group.

Manju Minhas, senior project manager, Chintan, said there were no recycling, dismantling or refurbishment units for e-wastes in Kerala, though many other States had such facilities. "Despite doing quite well in solid waste management, the State lagged behind others as far as e-waste management is concerned. There also was a lack of awareness regarding E-Waste Management Rules, 2016, among many stakeholders," she said.

There are 17 authorised e-waste dismantling units and five recyclers in Tamil Nadu and 84 licensed dismantlers and recycling units in Karnataka.

Lack of guidelines

Kerala Scrap Merchants' Association State president K.S. Mohammed Faisal Labba pointed out that while the organisation had expressed willingness to establish dismantling units in each districts, the failure of the agencies concerned to provide guidelines had hindered such efforts. "As a result, around 95% of the e-wastes generated were either abandoned carelessly or handed over to agents from other States. Only a very few dispose of the wastes at the 10 authorised collection centres that have been established in Kerala," he said.

Kerala State Pollution Control Board senior environmental engineer A.M. Sheela, who coordinated the programme, said dismantling and recycling units must be established in industrial parks as per norms. Concerted and joint efforts were required by Industries and Labour department and various agencies for the endeavour.

Urgent attention

- No e-waste recycling, refurbishment and dismantling unit in Kerala
- 10 centres function with approval from the Kerala Pollution Control Board for e-waste collection
- Most scrap dealers rely on north Indian lobbies for waste disposal
- Dealers express willingness to set up dismantling units
- Paucity of safety guidelines while handling hazardous wastes poses health risks

Section IV - Sustainability of the Training Programme

Interest of the participants in the programme

All the participants were highly motivated to spread the awareness further and be the torch-bearers in this field in the state.

Ability of trainers to take this forward

o **NGOs and Informal Scrap Dealers:**

The participants were highly interested to take the training forward and contribute for the cause. However, the scrap dealers' interest was focussed on to become authorized and to set up a dismantling unit in the state.

o **Schools and Colleges:**

The school and college students will be able to transfer knowledge and spread awareness among their peers. The training format has to be adapted according to the context of colleges and the understanding expected at that level.

c. **RWAs & Bulk Consumers:**

These competency and aptitude is varied amongst the participants. Their effectiveness will depend on how much they follow up and remain motivated in future. It is likely that some participants will be more proactive than the others.

Recommendations for the training design

NGOs and Informal Scrap Dealers:

Movies should be screened, showing authorized dismantling and recycling units. It may help to see the best practices adopted and what changes they can make. A visit to such facility (if present in the state) can add more value to the training.

Schools and Colleges:

I used participatory techniques to engage the students for the technical content. In my view, the content should be limited and the training should be more demonstrative. It should also have a follow-up reporting system.

RWAs & Bulk Consumers:

It will be important to develop content and design the training in the context of the local situation. For example, there are no RWAs as indicated by the participants. The functioning of the local communities is most likely to have different dynamics than the rest of the country that need to be researched to decide whom to invite for the trainings.

Some participants, especially in the RWA & Bulk Consumer group, were more comfortable in their local language. Local translation of the content will be useful. The local trainers should be able to meet the present local language gap.





VIJAYAWADA

Trainer: Gautam Mehra

- **Section I – Relevance of the prospective trainers who were identified and attended the 2-day Training of Trainers**

2. Number of trainers attended:

- Schools & Colleges: 34
- RWAs & Bulk Consumers: 7
- Informal Sector and Refurbishers: 8

3. Brief account of the experience of each of the group members in terms of their profile and the number of trainings that they would have conducted in the past:

o Schools & Colleges

There were 34 participants in the group, of which 30 were students, and the rest were teachers. There was almost equal participation of female and male attendees. They were from three schools and colleges. Work experience of teachers ranged from 2 to 18 years, but the training experience was not specified. The students expectedly didn't have any training experience.

o RWAs & Bulk Consumers

Most participants have at least a graduate degree; about 50% of the participants have 10 and more years of experience; and about 25% have 5–10 years of training experience. About 80% participants were male with an average age of 32.

o Informal Sector and Refurbishers

Most participants were from the informal sector and some were from NGOs. The informal actors had experience of working in the E-waste sector, having traded goods and materials with recyclers and PROs. Some of the informal actors were also involved in dismantling activities.

4. Gap in the profile of the groups:

o Schools & Colleges

The aptitude of the participants from schools and colleges was adequate to carry the mission forward of spreading awareness as well as train others. They are likely to be more effective at influencing schools/colleges and at the grassroots community level.

o RWAs & Bulk Consumers

Most of the participants were bulk consumers who had come to understand the implication for them in the E-waste (Management) Rules, 2016.

o Informal Sector & Refurbishers

Two refurbishers participated and the rest of the participants were NGOs, who have a large base working with the informal sector in the city of Vijayawada and Guntur.

5. Recommendations of how the quality of trainers could be enhanced:

- **Schools & Colleges**
  - Incorporate follow-up guidance for campaign in schools and colleges
  - Some assistance like funds for setting up collection bins, posters and banners will go a long way to motivate the students to take action.
- **RWAs & Bulk Consumers**
  - Setting up of bins for E-waste collection in RWAs and offices of bulk consumers
  - Large-scale awareness on a toll-free number which could be called up for collection of E-waste from offices and households.
- **Informal Sector & Refurbishers:**
  - Collection mechanisms through contract sign up with NGOs and training on how to maintain collection centres
  - Setting up of bins in market places where refurbishers could dispose of materials which is E-waste and cannot be used by them

Section II - Effectiveness of the Training

1. Activities conducted during the training that were effective in ensuring participation from the wider group:

a. Schools & Colleges:

For the most part, the training was participatory, especially around the more technical content, for example:

- Students were able to design the circularity principle and how the E-waste management rules were important to ensure that resource efficiency could be achieved.
- Students were able to draw up a plan for a collection centre in their respective schools and colleges.
- Students were able to understand and correlate the hazards of unsafe disposal of E-waste and pledged that they would follow the rules and engage their parents and peers at school about the same.

b. RWAs & Bulk Consumers

Apart from the standard presentations, there were some activities to facilitate understanding of the more technical part of the content.

- Posters and banners around the office area asking fellow employees to dispose of E-waste in collection bins and in an environmentally sound manner
- Activities in RWAs that would help to sensitize fellow residents of the hazards of E-waste and how it should be disposed of.

c. Informal Sector & Refurbishers

Apart from the standard presentations, there were some activities to facilitate understanding of the more technical part of the content.

- Setting up collection centres in markets that would help to ensure that there is infrastructure for disposing of E-waste properly
- Drawing up of business plans for NGOs and informal collectives on how cooperatives can be formed which can then do E-waste collection as prescribed in the rules.

2. Effectiveness of your training with the quality of trainers in the group

a. Schools & Colleges

There was considerable curiosity and enthusiasm from the students. That was a significant contributing factor in the delivery of the training and learning environment.

b. RWAs & Bulk Consumers

RWAs and bulk consumers were interested to understand how they could spread outreach on the subject and how they could plan to setup the requisite infrastructure which could help in managing E-waste through proper collection systems and tie-ups.

c. Informal Sector & Refurbishers

Informal sector and refurbishers showed a lot of interest on how they could formalize so that they would come under the ambit of the E-waste (Management) Rules, 2018 and would be able to meet compliances, as per the rules. The key reason for interest in the informal sector was from the hazards of E-waste and how they could save their families and kids from getting affected, if they formalized.

3. Effectiveness of the master training programme:

a. Schools & Colleges

The master training programme was helpful to have a structured approach to the training.

b. RWAs & Bulk Consumers:

The master training programme was helpful to have a structured approach to the training.

c. Informal Sector &Refurbishers:

The master training programme was helpful to have a structured approach to the issues which were important for these stakeholders so that they could comply with the rules going ahead and also advocate for their peers to follow the rules and comply as well.

Section III - Impact of the Training of Trainers

1. Assessment of the impact of training:

a. Schools & Colleges

In the participatory exercises, the participants were able to clearly articulate the concepts about E-waste.

It is likely that the impact will manifest through campaigns in the schools, with some support from the teachers and administration.

b. RWAs & Bulk Consumers

The participants have base level understanding of the concepts of E-waste and management processes. That should be adequate for them to train others, provided they are proactive in further learning from the resources provided.

c. Informal Sector & Refurbishers

The participants developed an understanding of the compliance and regulatory requirements under the E-waste rules and how they would be able to follow them and be formalized. The NGO representatives understood how trainings and workshops could be conducted on the subject which would help to bring more actors under the ambit of the rules.

Section IV - Sustainability of the training programme

1. Participant's interest in the training programme:

a. Schools & Colleges

The interest was high, that reflected in their engagement during the training. The students and the teachers seemed to be motivated to take actions in their schools.

b. RWAs & Bulk Consumers

There was varied levels of interest and motivation of the participants. Mostly, the interest was in the recognition and certification as E-waste management expert. They were apprehensive, though, about future application of the training they have received.

c. Informal Sector & Refurbishers

There were high interest levels in the group because it was closely linked to their livelihood. The understanding on the hazards was particularly important for them as they understood the issues that they were facing on the health front and how they could resolve the same through formalization.

2. Ability of the trainers to train stakeholders at similar level of ability:

a. Schools & Colleges

The school and college students will be able to transfer knowledge and spread awareness among their peers. The training format has to be adapted according to the context of schools and the understanding expected at that level.

b. RWAs & Bulk Consumers

The competency and aptitude is varied amongst the participants. Effectiveness as trainers will depend on how much they followup with the content. It is likely that some participants will be more proactive than the others. One participant from the Andhra Pradesh Pollution Control Board has competency as a trainer and knowledge about E-waste.

c. Informal Sector &Refurbishers

The NGOs which participated stated that they would like to be involved by PROs and producers who would like to conduct awareness programmes in the city. Further, the refurbishers stated that they would like to conduct programmes with the help of their association so that their peers and colleagues would get education on the subject as well.

3. **Recommendations of changes in the training design in order to ensure a higher engagement with trainers:**

a. **Schools & Colleges**

I used participatory techniques to engage the students to the more technical content. In my view, the content should be limited and the training should be more demonstrative. It should also have more guidance on how they can design an E-waste-related initiative in their schools and colleges.

b. **RWAs & Bulk Consumers**

It will be important to develop content and design the training in the context of the local situation. For example, there are no RWAs as indicated by the participants. The functioning of the local communities most likely have a different dynamics than the rest of the country that need to be researched to decide whom to invite for the trainings.

The size of E-waste generated in Mizoram is negligible compared to many cities in the country. However, the training is oriented towards cities that have high volumes and many informal recyclers.

Some participants, especially in the RWA and Bulk consumer group, were more comfortable in their local language. Local translation of the content will be useful. The local trainers should be able to meet the present local language gap.

c. **Informal Sector & Refurbishers**

Since the informal actors were more conversant with Telegu, it would have been good to have a translator to be able to explain the details to them. Furthermore, provisions where PROs could be tied up with these informal actors so that material collected could help them on the path to formalization without a break in livelihoods.

DETAILS OF WEBINAR SESSIONS

COURSE CONTENT FOR DEALERS





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What You will take Away from this 2 hour Session

1. You will understand what is e-Waste
2. You will get to know the Hazards of e-Waste & how it effects our environment
3. You will get a snap shot of the Law of the land related to e-Waste
4. You will get a over view of the electronic product life cycle.
5. You will know the different stake holders in the e-Waste handling ecosystem & their Role.
6. You will get to know your responsibility as a channel partner.
7. You will get to know how to set up a collection center, if you wish to set up one.

TIME WELL SPENT – LEAVE A CLEANER & SAFER TOMORROW FOR YOUR CHILDREN

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Let us Understand e-Waste

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What is End of Life of a Product?

- End of life product is the time when the product can no longer be used and has to be disposed in an environmentally sound manner
- At this stage consumers generally store the product in their houses and replace the same
- Throw it in the dust bin with household waste
- Sell it to Kabadi Wala
- At this stage product is called **e-waste**

Definition of e-waste

'e-waste' means electrical and electronic equipment, whole or in part discarded as waste by the consumer or bulk consumer as well as rejects from manufacturing, refurbishment and repair processes

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The Hazards of e-Waste & How it effects the environment?

- E-waste has hazardous elements like Lead, Chromium, Mercury and Cadmium which are harmful for human health
- These elements are likely to affect environment when they find their way into water, soil and air
- Plastics from e-waste when burnt to recover metals leads to air pollution through release of dioxins and furans
- Acids when released without treatment will lead to polluted rivers leading to loss of aquatic life
- Kids and women are the most affected of humans because of their vulnerabilities to such chemicals leading to stunted growth, issues in child bearing and lifelong health problems

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Risks to people handling the waste

Handling e-waste is prone to health risks for people like

- Illness from toxic metal dusts
- Injuries from lifting and moving heavy objects
- Cuts or eye injuries from sharp objects
- Hearing loss from noise exposure

Personal Protective Equipment to be used while handling e-waste

Type of PPE
Filtering facepiece*
Half- or full face elastomeric*
Gloves
Eye protection
Hearing protection
Steel-toed boots

*NIOSH-approved respirato

The Law of Our Land

- Managing harmful effects of e-waste lead to development of guidelines to e-waste management in 2008
- E-waste management and handling rules propounded in 2011
- Rules revised in 2016 with Extended Producers Responsibility (EPR) becoming cornerstone of the rules
- Guidelines to the rules make producers responsible for implementation of EPR leading to higher collection in the formal domain
- Amendments to e-waste management rules in 2018
- Collection targets for producers to increase over a period of time to ensure environmentally safe disposal of e-waste

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How the e-waste rules changed the Land scape

- Informal actors have formed cooperatives and are trying to formalize by setting up dismantling units which are authorized by the pollution control boards
- Informal actors have also set-up collection centers so that collected e-waste can be channelized to the formal actors
- India has more than doubled the number of dismantling and recycling units within the last 3 years

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How can you Contribute towards safe e-waste disposal

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How you can contribute to a safer tomorrow as a citizen

- Citizens are the disposers of e-waste
- Important for them to understand the harmful impacts of e-waste disposal to them, their children and the environment as a whole
- E-waste disposal is improper because of poor collection infrastructure
- Habits of waste disposal in the country harming the overall treatment of different kinds of waste
- Development of collection centers can lead to provision of disposal infrastructure for citizens
- Awareness creation and spreading outreach on safe disposal, harmful impacts of e-waste across different channels can lead to a safer tomorrow

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Information sharing

Posters



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Information sharing – How you can enhance awareness on e-waste

- Films : You may run an e-waste film in your outlet to help enhance awareness of consumers
- Posters: You may place posters in your outlet to enhance awareness on environmental hazards of e-waste with consumers
- Website : You may put up information on safe methods of e-waste disposal on your website
- Social Media- Twitter, You tube, Facebook; use these channels to spread awareness on safe disposal of e-waste

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Procedure for handling E-waste

Only authorised recyclers can handle Electronic e-wastes generated after end of life. Consumer must follow Do's and Don'ts as mentioned below:

- **Do's & Don'ts**

  Do's:
  - Always look for information on the website of authorised recyclers with your product for end-of-life equipment handling.
  - Ensure that only Authorized Recyclers/Dismantler handle your electronic products
  - Always call at our toll-free numbers to Dispose products that have reached end-of life
  - Always dispose your used electronic products, batteries or any accessories when they reach the end of their life at your Authorized E-Waste Collection Points.

- **Don'ts:**
  - Do not dismantle your electronic Products on your own
  - Do not throw electronics in bins having "Do not Dispose" sign.
  - Do not give e-waste to informal and unorganized sectors like Local Scrap Dealer/Rag Pickers.
  - Do not dispose your product in garbage bins along with municipal waste that ultimately reaches landfills.

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Would you like to play a larger role

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- You may choose to become a Collection Center and assist consumers in disposing e-waste in an environmentally sound manner
- You may choose to form a market association to aggregate the e-waste collected in your local market
- You may choose to conduct e-Waste awareness programs in your community on behalf of the producer

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Would you like to become a Collection Centre?

Things to know before you set-up a collection center

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How you can contribute to a safer tomorrow as a Responsible Dealer

- Dealers may voluntarily choose to set-up collection centers allowing safe disposal of e-waste
- The e-waste collected may be channelized through a producer to an authorized dismantler/recycler for an agreed fee to be paid by the producer
- E-waste collection center set-up needs to follow guidelines so that the e-waste collected is stored in a proper manner
- Dealers can run movies and place posters in their outlets which makes consumers aware about the environmental and health hazards of e-waste
- Dealers can also put up messages for safe disposal of e-waste in their website, facebook page, twitter handles and other social media platforms

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Dealer Responsibility As per e-Waste Laws

- In case a dealer chooses to manage e-waste on behalf of a producer, then the following responsibilities need to be kept in mind:
  - The area for the collection centre has to be clearly earmarked for storing of e-waste disposed by consumers
  - The collection centre needs to carry a board stating the producers for whom e-waste is being collected
  - The collection centre needs to have form 2 and form 6 books, spiral bound which will have entries of e-waste collected and passed on the respective stakeholders
  - The collection centre needs to have designated spaces for storing different kinds of e-waste
  - The dealer needs to have contractual agreements with producers which clearly earmark the kind of e-waste to the collected and the names of the dismantlers/recyclers where the same will be shipped
  - Dealers need to carry out awareness drives in the outlet and nearby areas which will be financed by the producers

Guidelines for Collection Centre

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- Collection centre or collection points are part of E-waste channelisation, and can be established by producers, refurbishers, dismantlers and recyclers.
- Collection Centre may collect and store e-waste, on behalf of producer / dismantler / recycler /refurbisher and transfer the same to authorised dismantlers / recyclers.
- Only those collection centres may operate which are specified in EPR-Authorisation of the producers including the collection centres established by dismantlers / recyclers /refurbishers and having agreement with Producers.
- If the collection centres are operating on behalf of many producers, then all such producers should provide this information in their EPR application.
- Collection centres have to collect e-waste on behalf of producers including those arising from orphaned products.

Guidelines for Collection Centre...contd

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- Collection centres established by producers can be managed by their PRO or dismantler and recycler having agreement with producers.
- The collection points/bins can be at designated places where e-waste can be collected from residential areas, office complexes, commercial complexes, retail outlets, customer care, stores, educational and research institutions, resident welfare associations (RWAs).
- These collection points have to be part of producer's collection and channelisation plan.
- Mobile collection vans can be used for door to door collection of e-waste from institutions/ individuals/small enterprises and such vans shall be linked to collection centres, and if provided by producers, shall be part of their EPR Plan.
- Material from collection centres should be send only to the authorised dismantlers and Recyclers except in case of used Fluorescent and other mercury containing lamps, which can be sent to TSDF in case recyclers are not available.

Facilities at Collection Centres

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- Collection Centre should have weighing equipment for weighing each delivery received by it and maintain a record in this regard.
- Loading, transportation and unloading, storage of end of life product should be carried out in such a way that there should not be any damage to health, environment and to the product itself particularly care should be taken for Cathode Ray Tubes (CRT), LCD/LED/Plasma TV, Refrigerator, Air Conditioners and fluorescent and other mercury containing lamps so as to avoid breakage.
- Cathode Ray Tubes (CRT), LCD / LED / Plasma TV and fluorescent and other mercury containing lamps should be stored either in containers or stored in stable manner to avoid damage or breakage.

Facilities at Collection Centres Cont....

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- The storage capacity of any collection centre should commensurate with volume of operations (weight and numbers) and category of E-waste. Space needed for storage of different category of e-waste is given below:

- ITEW1 to ITEW6 - 4.0 m3/tonne
- Monitors (CRT) - 5.0 m3/tonne
- ITEW7 to ITEW10 - 5.0 m3/tonne
- ITEW11 to ITEW14 - 3.0 m3/tonne
- ITEW15 - 1.0 m3/tonne
- ITEW16 - 3.0 m3/tonne

- CEEW1 - 6.5 m3/tonne
- CEEW2 - 10.0 m3/tonne
- CEEW3 - 7.5 m3/tonne
- CEEW4 - 6.0 m3/tonne
- CEEW5 - 1.0 m3/tonne

Facilities at Collection Centres Cont...

- Collection Centre should store e-waste product category wise.
- Collection Centre should maintain the records of E-Waste collected and account the same to respective producers.
- The collection centre where refrigerator and air conditioners are also stored should have adequate facilities for managing leakage of compressor oils, coolant/refrigerant gases such as CFCs/HCFCs and mercury from end of life fluorescent and other mercury containing lamp etc.
- Spills involving broken Fluorescent lamps, Oils spills should first be contained to prevent spread of the material to other areas. This may involve the use of dry sand, proprietary booms / absorbent pads, stabilizing chemicals etc. for subsequent transfer of hazardous waste to TSDFs.
- Covered shed/spaces have to be used for storage of E-Waste.
- Collection Centre should necessarily have adequate fire-fighting arrangement, escape route for emergency exit.

Precautions need to be taken in setting up a collection center by a dealer

- As precaution for setting up and managing collection points it is crucial to have Personal Protective Equipment (PPE) and Standard Operating Procedures (SOPs) for people handling e-waste.
- Record of the type of waste collected and time of collection should be maintained as per the E-waste management rules.
- Contract with recyclers and manufacturers should be in place to ensure that e-waste is managed safely after reaching the collection point.
- Use of standard personal protection equipment (PPE) items when handling e-waste is necessary, the PPE include the following: closed shoes, overalls, gloves, security glasses and masks.

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Roles & Responsibilities

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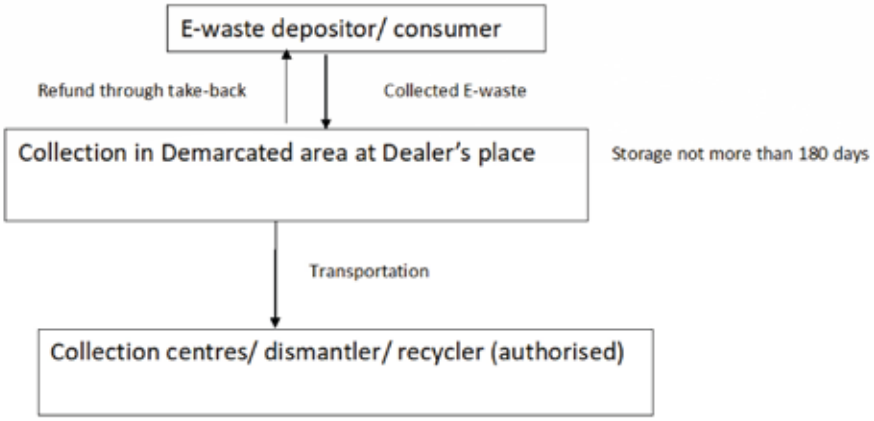
Responsibilities of Dealers – In case you choose to become a collection center

- On behalf of producer, dealers can collect e-waste in a box or a bin or else they can demarcate a deposit area or through take back system and send the collected e-waste to collection centre or dismantler or recycler as designated by producer
- Dealer may store the e-waste for a period not exceeding one hundred and eighty (180) days and shall maintain a record of collection, sale, transfer and storage of wastes and make these records available for inspection.
- The dealer or retailer or e-retailer shall refund the amount as per take back system or Deposit Refund Scheme of the producer to the depositor of e-waste
- Every dealer shall ensure that the e-waste thus generated is safely transported to authorised dismantlers or recyclers;
- Ensure that no damage is caused to the environment during storage and transportation of e-waste.

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Dealer's Role – In case you choose to set-up a collection center



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Some Initiatives by Channel Partners/Dealers/VARs

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Some Initiatives

- CMDA (Computer and Media Dealers Association) collect e-waste and also have collection center in their respective shops and offices across Pune region.
- RP Tech India is a distributor of IT and Mobility solutions have toll free no 1800-212-1520 for collection of E-Waste.
- Croma plant a tree in the consumers' name who deposit e-waste . An e-certificate with a unique number is sent to the consumer's registered e-mail ID which you can use to track the tree on www.grow-trees.com
- Modi Peripherals Pvt. Ltd. have collection points in the country. The collection schemes are Buy Back Schemes, Cash Back Schemes, Collection Centers/Points
- Reliance Retail has toll free no. 18002006177 for collection of E-Waste. Also consumer can deposit E-Waste directly at the collection centers (http://reteck.co/collection.html).

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Some Initiatives



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Awareness Activities conducted in some cities

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THANK YOU FOR YOUR PARTICIPATION

- Send your feedback to project@mait.com

Useful online resources

- www.greene.gov.in
- www.cpcb.nic.in

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Course Content for Producers

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"Awareness Programme on environmental Hazards of e-Waste"
For Producer Community
– Compliance / Product Managers / Marketing Communication & Govt. Affairs Teams

Understanding Your Role & Responsibility

Date:25th July, 2019

A Program conducted by MAIT The Industry Body for Electronic Manufacturing In India as part of The Digital India Initiative - MEITY & MOEFCC

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Structure of the presentation

This presentation addresses key issues related to the responsibility of Producers/Manufacturers within the ambit of the e-waste Management Rules, 2016. The key topics being covered include:

- Developing an understanding of e-waste
- Understanding the rules
- Responsibility within the rules
- Implementation of the rules and the concept of Extended Producers Responsibility
- Compliance instruments and the role of the Regulator
- Some initiatives by Producers/Manufacturers

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Understanding E-Waste

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What is End of life of a product ?

- End of life product or e-waste products cannot be used in any manner
- E-waste should be managed, recycled and disposed in environmentally sound manner
- Each producer is responsible for recycling of such equipments
- As per e-waste management rules 2016, 'Extended Producer Responsibility' needs to be implemented
- No restriction of brand- The e-waste provided by consumer so dealers need not worry about brands while submitting e-waste for recycling.
- Extended Producer Responsibility will lead to implementation of take back system or setting up of collection centres or both

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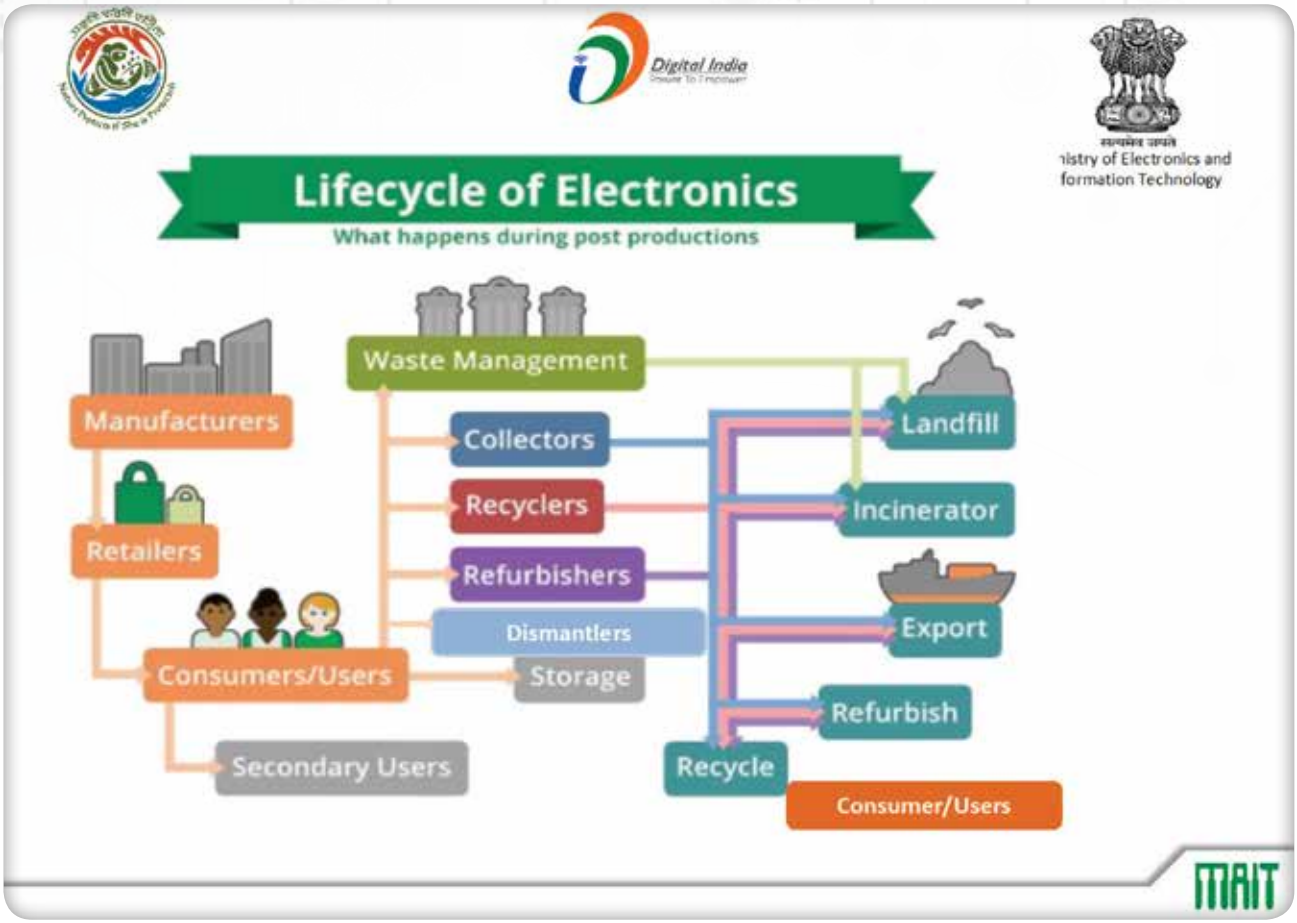
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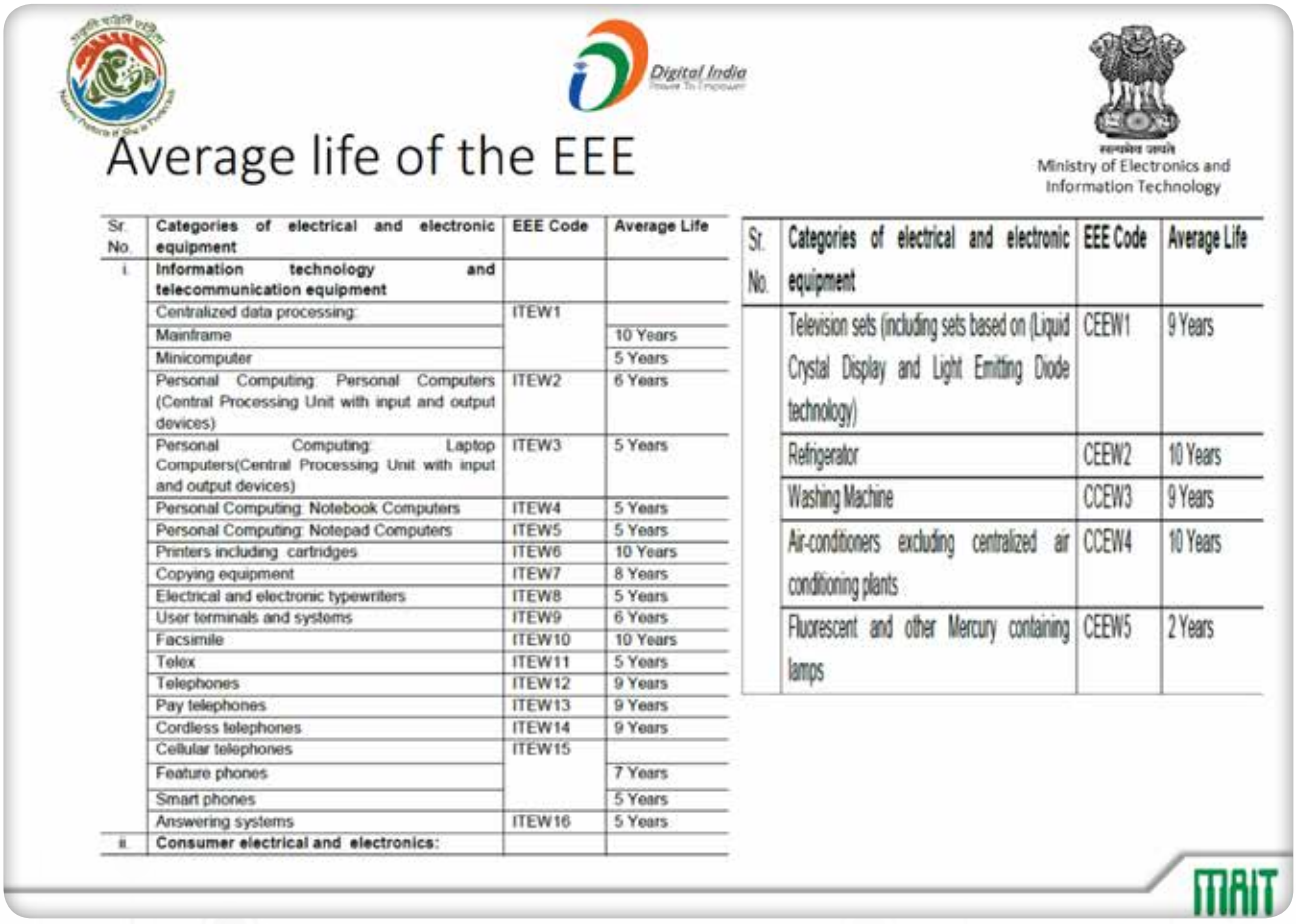
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E-waste Value Chain



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Sr. No.	Categories of electrical and electronic equipment	EEE Code	Average Life
i.	**Information technology and telecommunication equipment**		
	Centralized data processing:	ITEW1	
	Mainframe		10 Years
	Minicomputer		5 Years
	Personal Computing: Personal Computers (Central Processing Unit with input and output devices)	ITEW2	6 Years
	Personal Computing: Laptop Computers(Central Processing Unit with input and output devices)	ITEW3	5 Years
	Personal Computing: Notebook Computers	ITEW4	5 Years
	Personal Computing: Notepad Computers	ITEW5	5 Years
	Printers including cartridges	ITEW6	10 Years
	Copying equipment	ITEW7	8 Years
	Electrical and electronic typewriters	ITEW8	5 Years
	User terminals and systems	ITEW9	6 Years
	Facsimile	ITEW10	10 Years
	Telex	ITEW11	5 Years
	Telephones	ITEW12	9 Years
	Pay telephones	ITEW13	9 Years
	Cordless telephones	ITEW14	9 Years
	Cellular telephones	ITEW15	
	Feature phones		7 Years
	Smart phones		5 Years
	Answering systems	ITEW16	5 Years
ii.	**Consumer electrical and electronics:**		

Sr. No.	Categories of electrical and electronic equipment	EEE Code	Average Life
	Television sets (including sets based on (Liquid Crystal Display and Light Emitting Diode technology)	CEEW1	9 Years
	Refrigerator	CEEW2	10 Years
	Washing Machine	CCEW3	9 Years
	Air-conditioners excluding centralized air conditioning plants	CCEW4	10 Years
	Fluorescent and other Mercury containing lamps	CEEW5	2 Years

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Defining the Stakeholder

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Definition

'manufacturer' means a person or an entity or a company as defined in the Companies Act, 2013 (18 of 2013) or a factory as defined in the Factories Act, 1948 (63 of 1948) or Small and Medium Enterprises as defined in Micro, Small and Medium Enterprises Development Act, 2006 (27 of 2006), which has facilities for manufacture of electrical and electronic equipment

Definition

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'producer' means any person who, irrespective of the selling technique used such as dealer, retailer, e-retailer, etc.;

(i) manufactures and offers to sell electrical and electronic equipment and their components or consumables or parts or spares under its own brand; or

(ii) offers to sell under its own brand, assembled electrical and electronic equipment and their components or consumables or parts or spares produced by other manufacturers or suppliers; or

(iii) offers to sell imported electrical and electronic equipment and their components or consumables or parts or spares;

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Responsibilities Within the Rules

Challenges of implementing the new Rules

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- Large part of our current e-waste management lies in the informal sector.
- Both CPCB and SPCBs are understaffed, underfinanced and lack technical capability.
- Failing of implementation more consumer-focused.
- Tools like PRO and DRS can work only when consumers are aware of the hazards of e-waste and are adequately motivated to recycle it through the formal sector.

Responsibility of Manufacturers

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1. Collect e-waste generated during the manufacture of any electrical and electronic equipment and channelise it for recycling or disposal;
2. Apply for an authorisation in Form 1 (a) in accordance with the procedure prescribed under sub-rule (2) of rule 13 from the concerned State Pollution Control Board, which shall give the authorisation in accordance with Form 1 (bb);
3. ensure that no damage is caused to the environment during storage and transportation of e-waste;
4. Maintain records of the e-waste generated, handled and disposed in Form-2 and make such records available for scrutiny by the concerned State Pollution Control Board;
5. File annual returns in Form-3, to the concerned State Pollution Control Board on or before the 30th day of June following the financial year to which that return relates.

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Key points for Manufacturers

- Carry out safe operations in the authorized place only.
- Make records available for scrutiny by the concerned SPCB.
- Take all steps to comply with the conditions specified in the authorization.

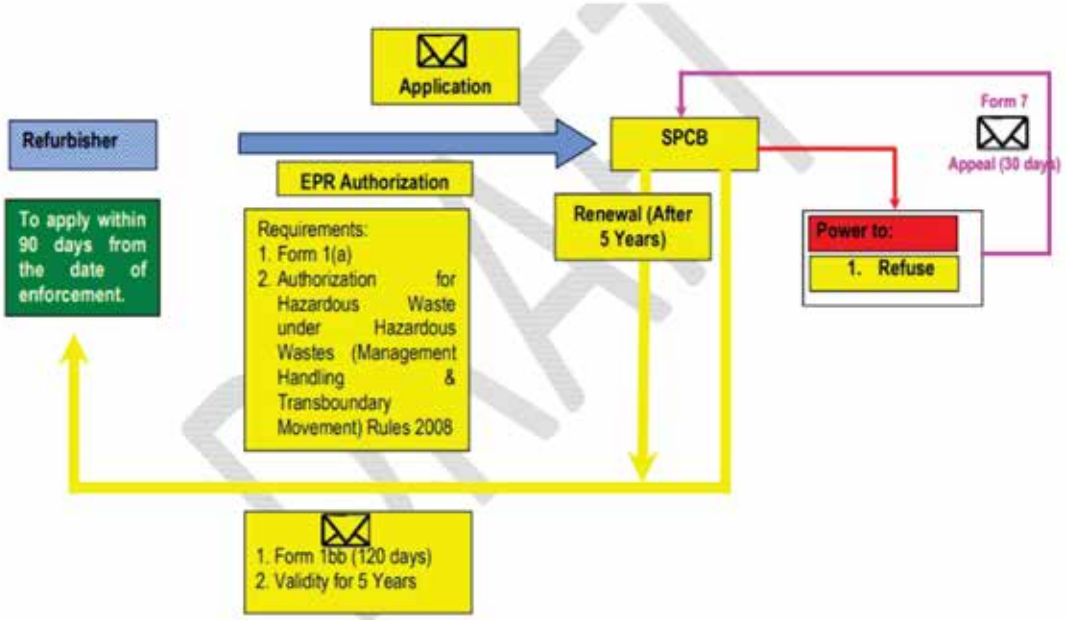
Regulatory Checklist

1	Form 1 a	E-waste Rules
2	Form 1 bb	E-waste Rules
3	Form 2	E-waste Rules
4	Form 3	E-waste Rules
5	Authorization (if applicable)	Hazardous Waste Rules

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Procedure for Authorization (Manufacturer)



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Responsibility of Producer

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The producer of electrical and electronic equipment listed in Schedule I shall be responsible for -

(1) Implementing the Extended Producers Responsibility with the following frameworks, namely:-

(a) collection and channelisation of e-waste generated from the 'end-of-life' of their products or 'end-of-life' products with same electrical and electronic equipment code and historical waste available on the date from which these rules come into force as per Schedule I in line with the targets prescribed in Schedule III in Extended Producer Responsibility - Authorisation;

(b) the mechanism used for channelisation of e-waste from 'end-of-life' products including those from their service centres to authorised dismantler or recycler shall be in accordance with the Extended Producer Responsibility - Authorisation. In cases of fluorescent and other mercury containing lamps, where recyclers are not available, channelisation may be from collection centre to Treatment, Storage and Disposal Facility;

Responsibility of Producer

Ministry of Electronics and Information Technology

- (c) for disposal in Treatment, Storage and Disposal Facility, a pre-treatment is necessary to immobilise the mercury and reduce the volume of waste to be disposed off;
- **Extended Producer Responsibility** - Authorisation should comprise of general scheme for collection of waste Electrical and Electronic Equipment from the Electrical and Electronic Equipment placed on the market earlier, such as through dealer, collection centres, Producer Responsibility Organisation, through buy-back arrangement, exchange scheme, Deposit Refund System, etc. whether directly or through any authorised agency and channelising the items so collected to authorised recyclers;

Responsibility of Producer

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Contd.....

- to facilitate return of used electrical and electronic equipment by providing contact details such as address, telephone numbers/helpline number of authorized collection centers to consumer(s) or bulk consumer(s)

- creating awareness through publications, advertisements, posters, or by any other means of communication and information booklets accompanying the equipment, with regard to:

- information on hazardous constituents as detailed in sub-rule 1 of rule 13 in EEE
- information on hazards of improper handling, accidental breakage, damage and/or improper recycling of e-waste
- instructions for handling the equipment after its use, along with the Do's and Don'ts
- affixing a visible, legible and indelible symbol on the products or information booklets to prevent e-waste from being dropped in garbage bins

Responsibility of Producer

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Contd.....

- **Extended Producer Responsibility** - Authorisation from Central Pollution Control Board in accordance with the Form-1 and the procedure laid down in sub-rule (1) of rule 13;
- Maintaining records in Form 2 of the e-waste handled and make such records available for scrutiny by the State Pollution Control Board or the Committee concerned

- Filing annual returns in Form 3, to the Central Pollution Control Board on or before the 30th day of June following the financial year to which that return relates

Responsibility of Producer

Contd.....

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Scope of EPR

- The producer may opt to implement EPR on his own individually or collectively:
  - individual producer responsibility where producer implements EPR on his own by setting up his own authorized collection centres or
  - collective producers responsibility, where producers may authorize common collection centres (CCC) independently or by joining a consortium as a member.
  - may expand collection reach by working between consumer – retailer – collection center - recycler

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Responsibility of Producer

Contd...

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REDUCTION IN THE USE OF HAZARDOUS SUBSTANCES (RoHS)

- Every producer of EEE shall achieve the thresh hold limits as prescribed in rule 13 (1) within a period of three years from the published notification.

- Imports of EEE shall be permitted only for those equipments, which are RoHS compliant.

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Responsibility of Producer

Contd...

REDUCTION IN THE USE OF HAZARDOUS SUBSTANCES (RoHS)

- Maximum permissible concentration of lead, mercury, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers is 0.1% and in respect of cadmium the maximum concentration value is 0.01% in homogenous materials of electrical and electronic equipment as listed in Schedule I (by weight)
- 39 categories of equipments as listed in schedule II and equipment used for defence and strategic applications have been exempted from this provisions
- The above limits will not apply to components of electrical and electronic equipment manufactured or placed in the market six years before the date of commencement of these rules

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Implementation of the Rules

EPR – Planning and Implementation

E-Waste Collection Target

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E-waste collection targets are mentioned in schedule III of the rules

Sl. No	Year	E - Waste Collection Target (Weight)
(i)	2017-2018	10% of the quantity of waste generation as indicated in EPR Plan.
(ii)	2018-2019	20% of the quantity of waste generation as indicated in EPR Plan.
(iii)	2019-2020	30% of the quantity of waste generation as indicated in EPR Plan.
(iv)	2020-2021	40% of the quantity of waste generation as indicated in EPR Plan
(v)	2021-2022	50% of the quantity of waste generation as indicated in EPR Plan.
(vi)	2022-2023	60% of the quantity of waste generation as indicated in EPR Plan.
(vii)	2023 onwards	70% of the quantity of waste generation as indicated in EPR Plan.

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Producers/importers, who have recently started their operations— whose number of years of operations is lesser than the average life of the product they are selling

Sl. No	Year	E Waste Collection Target (Weight)
(i)	2018-2019	5% of the sales figure of financial year 2016-17
(ii)	2019-2020	5% of the sales figure of financial year 2017-18
(iii)	2020-2021	10% of the sales figure of financial year 2018-19
(iv)	2021-2022	10% of the sales figure of financial year 2019-20
(v)	2022-2023	15% of the sales figure of financial year 2020-21
(vi)	2023-2024	15% of the sales figure of financial year 2021-22
(vii)	2024-2025	20% of the sales figure of financial year 2022-23
(vii)	2025 onwards	20% of the sales figure of the year preceding the previous year

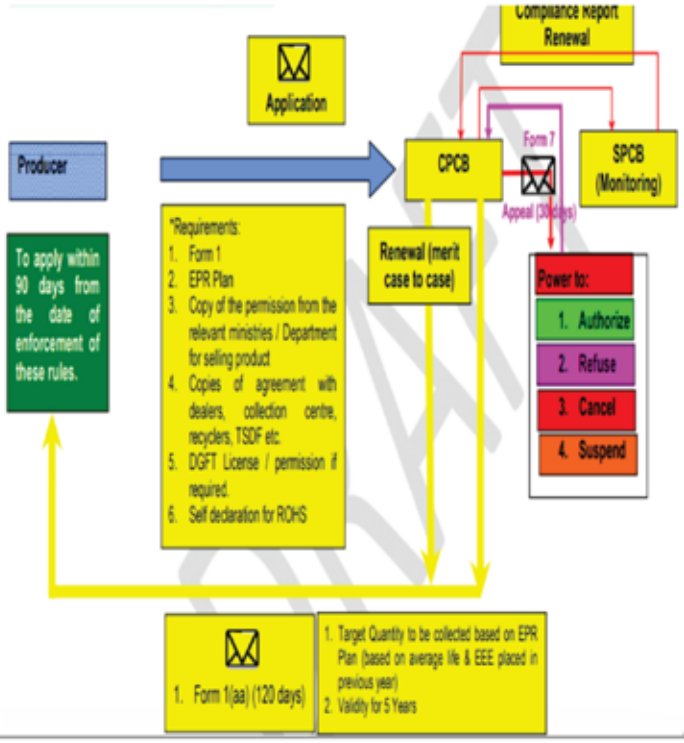
Regulatory Checklist

Ministry of Electronics and Information Technology

S.No.		
1	Form 1	E-waste Rules
2	Form 1 (aa)	E-waste Rules
3	Form 2	E-waste Rules
4	Form 3	E-waste Rules

Procedure for EPR Authorization

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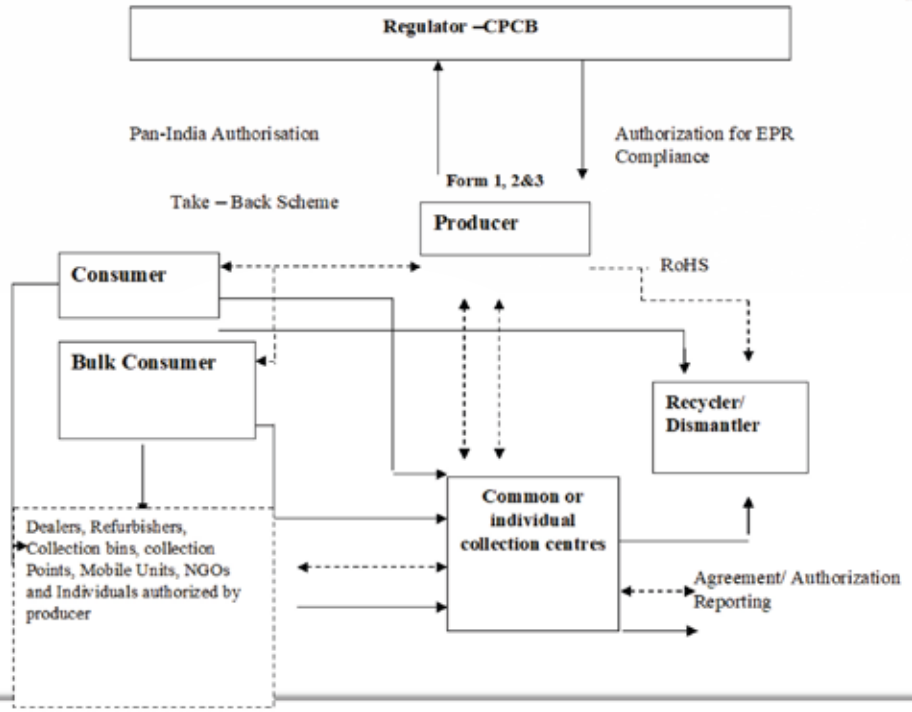


Documents related to EPR plan as envisaged:

1. Details of proposed awareness programmes and allied initiatives.
2. Copies of agreement document with dealers, collection centres, dismantlers, recyclers, treatment, storage and disposal facilities (TSDFs) etc.
3. Self-declaration for compliance of RoHS as per the format.
4. The technical documents (supplier declaration description of product, document for materials, parts, and / or sub-assemblies and analytical test result) as an evidence that the reduction of hazardous substance (RoHS) provisions are complied by the product based on standard EN 501581 of EU.
5. Copy of the permissions / licences from the relevant ministry / department for marketing various products or for doing the business are: (i) Tin details (ii) Pan details (iii) Incorporation certificate (iv) Copy IEC in case of importers
6. Copy of authorization issued by the SPCBs / PCCs earlier under E-waste (Management & Handling) Rules, 2011 in case of those producers who are operating in the country prior to 01-10-2016.

Effective implementation of EPR

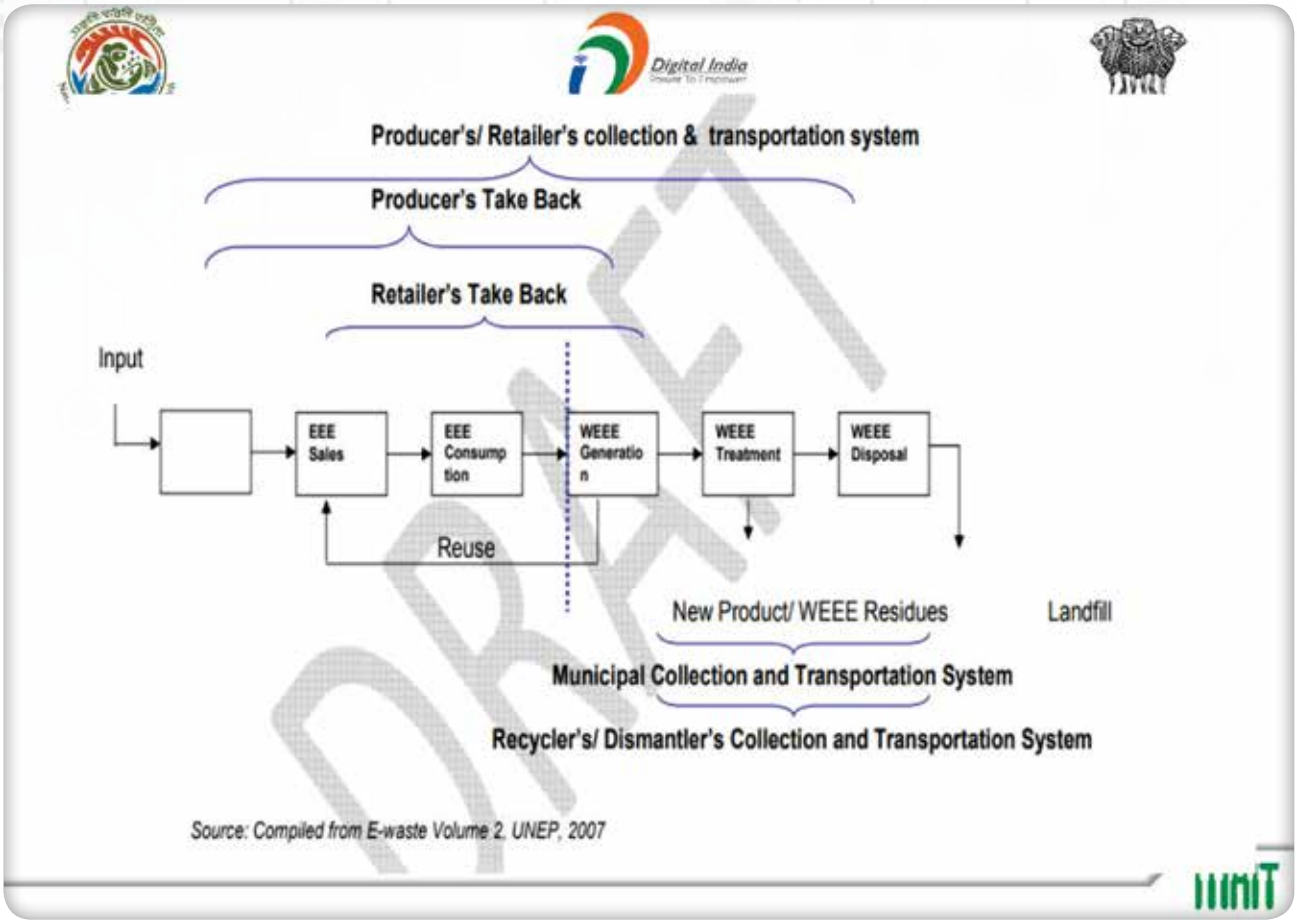
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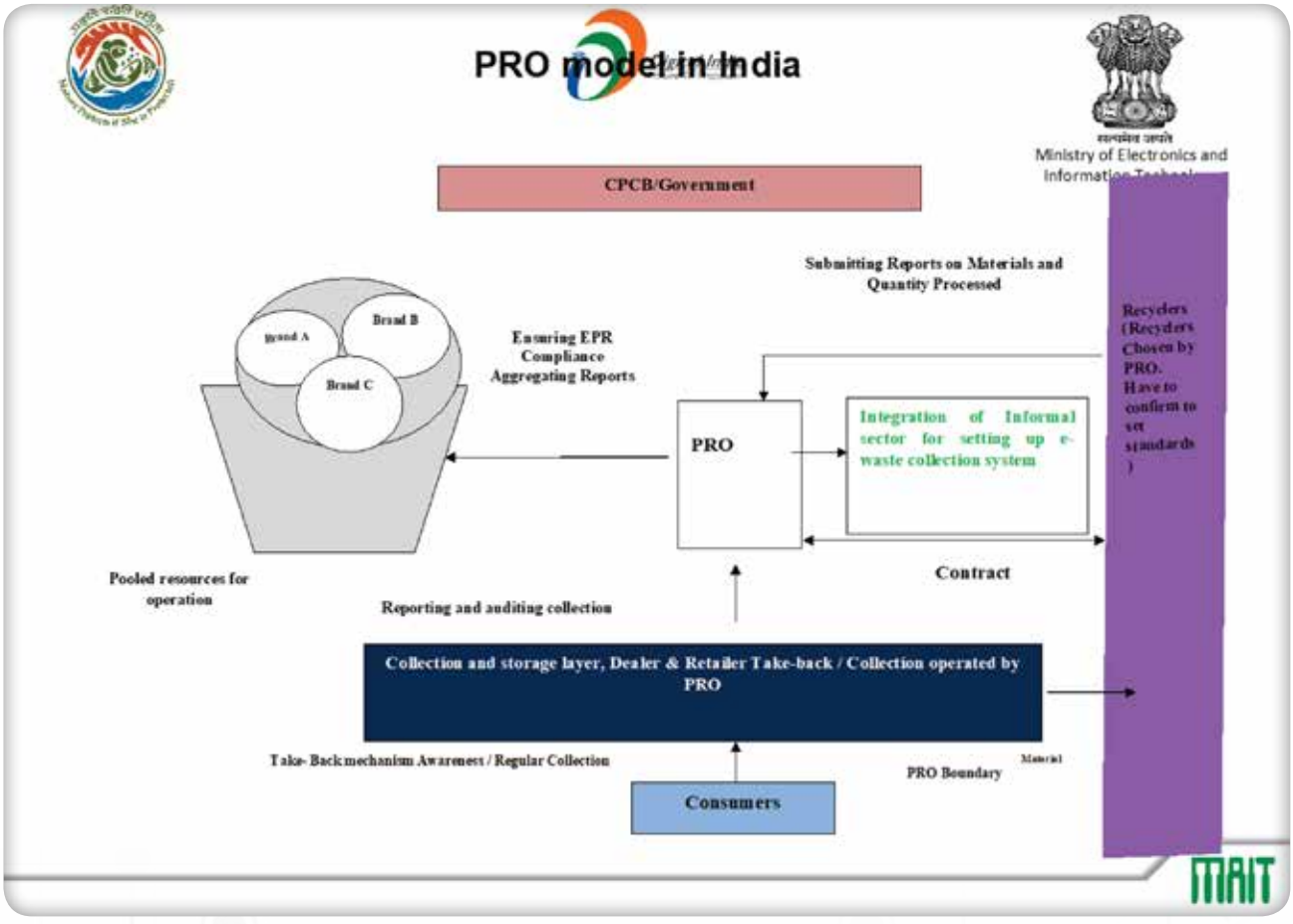


EPR implementation instrument

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Producer's/ Retailer's collection & transportation system
Producer's Take Back
Retailer's Take Back
Input
EEE Sales
EEE Consumption
WEEE Generation
WEEE Treatment
WEEE Disposal
Reuse
New Product/ WEEE Residues
Landfill
Municipal Collection and Transportation System
Recycler's/ Dismantler's Collection and Transportation System
Source: Compiled from E-waste Volume 2. UNEP, 2007


PRO model in India
Ministry of Electronics and Information
CPCB/Government
Submitting Reports on Materials and Quantity Processed
Brand A
Brand B
Brand C
Ensuring EPR Compliance Aggregating Reports
PRO
Integration of Informal sector for setting up e-waste collection system
Recyclers (Recyclers Chosen by PRO. Have to confirm to set standards)
Pooled resources for operation
Contract
Reporting and auditing collection
Collection and storage layer, Dealer & Retailer Take-back / Collection operated by PRO
Take- Back mechanism Awareness / Regular Collection
PRO Boundary
Consumers

Details of EPR Plan

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- Producers may submit multiple options and schemes for channelization of E-Waste and such scheme should be described with a brief write-up along with a schematic flow chart/diagram of E-waste movement. The options and schemes for E-Waste channelization may comprise the following;
- Details of scheme/incentive for returning of e-waste by consumers /bulk consumers whether through dealers or buy-back arrangements or take-back systems or exchange scheme for channelization of e-waste.
- If producer is opting to manage its EPR responsibility through PRO, then details of PRO's organisational structure and system of collection and channelization to the authorised dismantlers/recyclers of e-waste.
- If e-waste exchange is part of channelization then the details thereof.
- If producer is opting for 'deposit refund scheme' (DRS) or exchange scheme for collection and channelization of e- waste, then the details of mode of refund of the deposited amount taken from the consumer or bulk consumer at the time of sale has to be specified along with interest that becomes due at the prevalent rate for the period of the deposit at the time of take-back of the end-of life products.
- Producers of item code: CEEW5 (fluorescent and other mercury containing lamp) may provide list of waste deposition centre or collection points financed by them as per their obligation under rule 17 (1) of the Solid Waste Management Rules 2016 for channelizing such wastes to recyclers or TSDFs.

Collection and Storage Plan

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Information pertaining to collection and storage should be appended to Form-1.

Channelization Plan - Form-1 should provide information pertaining to channelization. The following points should be considered in planning a system for E-Waste channelization;

- make assessment of potential collection of e-waste, area or region wise.
- take help of any professional agency like Producer Responsibility Organisation (PRO) and e-waste exchange.
- identify authorised dismantlers/recyclers for channelization of quantum of e-waste assessed above. Assess the capacity and capability of each identified authorised dismantlers/recyclers to ensure environmentally sound management of e-waste channelized to them.

Collection Centres – Producers shall specify details of their own collections centres or the collection centres with which they have agreement. Following details on collection centres should be provided in Form-1 if the collection centres are part of their channelisation;

- Details of collection centres such as address and name(s) of the entity (producer, group of producers, refurbisher, recyclers or dismantlers) who are operating the collection centres in tabular form.
- The number of collection centres should be proportionate and justifiable with the estimated generation for channelization of e-waste. These collections centres or collection points should have facilities as specified in the guidelines

Collection and Storage Plan Cont..

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Dismantlers & Recyclers – Details such as name, location, processing capacity and contact details of the authorised dismantling /recycling facilities, which are part of channelization of E-waste of the producer should be provided in a separate table to Form-1. The details provided above should be commensurate and justifiable with the quantum of e-waste estimated as per the guidelines.

Treatment, Storage, Disposal Facilities (TSDFs) – In case there are no recyclers available for recycling of end-of-life EEE item code: CEEW5 (fluorescent and other mercury containing lamps), then the producers should provide list of Treatment Storage and Disposal Facilities with whom they have agreement.

Guidelines for Collection Centre

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- Collection centre or collection points are part of E-waste channelisation, and can be established by producers, refurbishers, dismantlers and recyclers.
- Collection Centre may collect and store e-waste, on behalf of producer / dismantler / recycler /refurbisher and transfer the same to authorised dismantlers / recyclers.
- Only those collection centres may operate which are specified in EPR-Authorisation of the producers including the collection centres established by dismantlers / recyclers /refurbishers and having agreement with Producers.
- If the collection centres are operating on behalf of many producers, then all such producers should provide this information in their EPR application.
- Collection centres have to collect e-waste on behalf of producers including those arising from orphaned products.
- Collection centres established by producers can be managed by their PRO or dismantler and recycler having agreement with producers.
- The collection points/bins can be at designated places where e-waste can be collected from residential areas, office complexes, commercial complexes, retail outlets, customer care, stores, educational and research institutions, resident welfare associations (RWAs).
- These collection points have to be part of producer's collection and channelisation plan.
- Mobile collection vans can be used for door to door collection of e-waste from institutions/ individuals/small enterprises and such vans shall be linked to collection centres, and if provided by producers, shall be part of their EPR Plan.
- Material from collection centres should be send only to the authorised dismantlers and Recyclers except in case of used Fluorescent and other mercury containing lamps, which can be sent to TSDF in case recyclers are not available.

Facilities at Collection Centres

- Collection Centre should have weighing equipment for weighing each delivery received by it and maintain a record in this regard.
- Loading, transportation and unloading, storage of end of life product should be carried out in such a way that there should not be any damage to health, environment and to the product itself particularly care should be taken for Cathode Ray Tubes (CRT), LCD/LED/Plasma TV, Refrigerator, Air Conditioners and fluorescent and other mercury containing lamps so as to avoid breakage.
- Cathode Ray Tubes (CRT), LCD / LED / Plasma TV and fluorescent and other mercury containing lamps should be stored either in containers or stored in stable manner to avoid damage or breakage.
- The storage capacity of any collection centre should commensurate with volume of operations (weight and numbers) and category of E-waste. Space needed for storage of different category of e-waste is given below:

- ITEW1 to ITEW6 - 4.0 m3/tonne
- Monitors (CRT) - 5.0 m3/tonne
- ITEW7 to ITEW10 - 5.0 m3/tonne
- ITEW11 to ITEW14 - 3.0 m3/tonne
- ITEW15 - 1.0 m3/tonne
- ITEW16 - 3.0 m3/tonne
- CEEW1 - 6.5 m3/tonne
- CEEW2 - 10.0 m3/tonne
- CEEW3 - 7.5 m3/tonne
- CEEW4 - 6.0 m3/tonne
- CEEW5 - 1.0 m3/tonne

Facilities at Collection Centres Cont....

- Collection Centre should store e-waste product category wise.
- Collection Centre should maintain the records of E-Waste collected and account the same to respective producers.
- The collection centre where refrigerator and air conditioners are also stored should have adequate facilities for managing leakage of compressor oils, coolant/refrigerant gases such as CFCs/HCFCs and mercury from end of life fluorescent and other mercury containing lamp etc.
- Spills involving broken Fluorescent lamps, Oils spills should first be contained to prevent spread of the material to other areas. This may involve the use of dry sand, proprietary booms / absorbent pads, stabilizing chemicals etc. for subsequent transfer of hazardous waste to TSDFs.
- Covered shed/spaces have to be used for storage of E-Waste.
- Collection Centre should necessarily have adequate fire-fighting arrangement, escape route for emergency exit.

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Precautions needs to be taken in setting up an in-house collection center

- As precaution for setting up and managing collection points it is crucial to have Personal Protective Equipment (PPE) and Standard Operating Procedures (SOPs) for people handling e-waste.
- Record of the type of waste collected and time of collection should be maintained as per the E-waste management rules.
- Contract with recyclers and manufacturers should be in place to ensure that e-waste is managed safely after reaching the collection point.
- Use of standard personal protection equipment (PPE) items when handling e-waste is necessary, the PPE include the following: closed shoes, overalls, gloves, security glasses and masks.

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Risks to people handling the waste

following risks to people handling the e- waste:

- Illness from toxic metal dusts
- Injuries from lifting and moving heav objects
- Cuts or eye injuries from sharp objec
- Hearing loss from noise exposure

Type of PPE
Filtering facepiece*
Half- or full face elastomeric*
Gloves
Eye protection
Hearing protection
Steel-toed boots
*NIOSH-approved respirato

Handling E-Waste

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Procedure for handling E-wastes:
Only authorised recyclers can handle Electronic e-wastes generated after end of life. Consumer must follow Do's and Don'ts as mentioned below:

Do's & Don'ts
Do's:

- Always look for information on the website of authorised recyclers with your product for end-of-life equipment handling.
- Ensure that only Authorized Recyclers/Dismantler handle your electronic products
- Always call at our toll-free numbers to Dispose products that have reached end-of life
- Always dispose your used electronic products, batteries or any accessories when they reach the end of their life at your Authorized E-Waste Collection Points.

Don'ts:

- Do not dismantle your electronic Products on your own
- Do not throw electronics in bins having "Do not Dispose" sign.
- Do not give e-waste to informal and unorganized sectors like Local Scrap Dealer/Rag Pickers.
- Do not dispose your product in garbage bins along with municipal waste that ultimately reaches landfills.

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Compliance Instruments

Documents required with Form-1

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- Documents related to EPR plan as envisaged in the guidelines
- Details of proposed awareness programmes and allied initiatives.
- Estimated budget earmarked for Extended Producer Responsibility (EPR)
- Copies of agreement document with dealers, collection centres, dismantlers, recyclers, treatment, storage and disposal facilities (TSDFs) etc.
- Self-declaration for compliance of RoHS as per the format given at Annexure – II of guidelines.
- The technical documents (supplier declaration- description of product, document for materials, parts, and/or sub-assemblies and analytical test result) as an evidence that the reduction of hazardous substance (RoHS) provisions are complied by the product based on standard EN 50581 of EU as at Annexure – III of the guidelines
- Copy of the permissions/licences from the relevant ministry/department for marketing
- various products or for doing the business as given below:
- i. TIN details
- ii. PAN details
- iii. Incorporation certificate
- iv. Copy IEC in case of importers
- Copy of authorisation issued by the SPCBs/PCCs earlier under E-Waste (Management & Handling) Rules, 2011 in case of those producers who are operating in the country prior to 01-10-2016.

Dissemination of information about e-waste to consumers for take back

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- Creating awareness through media, publications, advertisements, posters
- Communicate about the informal recycling and its impact
- Producers should provide e-waste related information in the product
  - ➢ Information regarding deposit refund scheme or EPR mechanism in place.
  - ➢ Information on hazardous constituents as specified in E-waste (Management) Rules, 2016

Labeling Mechanisms in Electronics

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Bar Coding for Electronic Manufacturing

Bar coding provides accurate and productive ways to:

- Track inventory, production, work -in-process and customer orders in real-time.
- Track warehouse and stock-room operations and cut the time needed for cycle counting and inventory validation.
- Prevent employee mistakes such as picking the wrong materials.
- Automate data capture in shipping and receiving.
- Collect tracking and traceability records to meet customer, industry standard and US Government mandates.
- Increase responsiveness, improve customer service, and enhance productivity.

Consumers need to be aware of take back and collection of e-waste?

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Deposit refund scheme-

Producer charges an additional amount as a deposit at the time of sale of the electrical and electronic equipment and returns it to the consumer along with interest when the end-of life electrical and electronic equipment is returned.

Buy Back or Exchange Scheme- offering services for sale and purchase of e-waste generated from end-of-life electrical and electronic equipment between agencies or organisations authorised under these rules

Extended Producer Responsibility (EPR) –

- Setting up collection centres and take back e-waste for recycling through authorized recyclers.
- Consumers should be made aware through different campaigns using print and electronic media.
- Dealer must inform the consumer regarding the harmful impacts of e-waste and need for safe recycling.
- Details of the deposit refund scheme, buyback or exchange scheme should be provided to consumer at the time of sale.


Digital India
Information sharing
Ministry of Electronics and Information Technology
Posters
THE PRODUCER'S RESPONSIBILITIES
THE MANUFACTURER'S RESPONSIBILITIES
PLAY
CLAMP THE LAMP
TRASH
MAIT


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Information sharing – How you can enhance awareness on e-waste
• Films : You may run an e-waste film in your outlet to help enhance awareness of consumers
• Posters: You may place posters in your outlet to enhance awareness on environmental hazards of e-waste with consumers
• Website : You may put up information on safe methods of e-waste disposal on your website
• Social Media- Twitter, You tube, Facebook; use these channels to spread awareness on safe disposal of e-waste
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Some Initiatives by Producers

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Initiatives by Producers

- Xiaomi has its exclusive Service Centres spread across the country, where customers can drop off their e-waste. The toll-free number- 1800 103 6286 is dedicated to e-waste to get information on these centres.
- SAMSUNG pick-up services for television, refrigerators, washing machines etc. by calling Samsung contact center 1800 40 SAMSUNG (1800 40 7267864) or write to us at ewasterecycling@samsung.com.
- Microsoft Create to Inspire Programme- Waste collectors are formalised, young people have been trained, many other stakeholders, including municipalities, environmental associations and universities, are learning more and becoming involved.

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Supported By the Electronics Manufacturing Industry

CISCO

D-Link
Building Networks for People

EXIGO
ETHICAL | TRANSPARENT | RECYCLING

hp

Microsoft

SHARP
Be Original.

Resource & Waste Solutions Pvt. Ltd.

THANK YOU

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THANK YOU FOR YOUR PARTICIPATION

- Send your feedback to project@mait.com

Useful online resources

- www.greene.gov.in
- www.cpcb.nic.in

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SOME Q&A, CHATS AND COMMENTS WITH THE PRESENTER DURING THE WEBINAR SESSIONS

Q&A Session for Awareness Programme on Environmental Hazards of E-waste for Channel Partners/Dealers/VARs

Session Number: 571189390

Date: Tuesday, July 23, 2019

Starting Time: 4:20 p.m.

Debadideb Chatterjee (debadideb@systematixmedia.com) – 4:25 p.m.

Q: The posters seemed very helpful to promote the idea and spread the awareness. Please help us as to how to get them.

Priority: N/A

– Gautam Mehra – 4:37 p.m.

A: You can download them and use it as you wish. All this is created under creative commons. There are no copyright issues.

–Debadideb Chatterjee (debadideb@systematixmedia.com) – 4:17 p.m.

Q: Could you guide me to the posters at the website link please?

Priority: N/A

– Gautam Mehra – 4:36 p.m.

A: It is right at the bottom on the home page.

Q&A Session for Awareness Programme on Environmental Hazards of E-waste for Channel Partners/Dealers/VARs

Session Number: 570611341

Date: Wednesday, July 24, 2019

Starting Time: 2:48 p.m.

–Mayank Sangoi (mayank.s@mapletechnologies.org) – 3:30 p.m.

Q: Greetings Gautam,

Can you help us in letting us know who would be the best whom we can get in touch with for E-waste and those who can give us an acknowledgement on the same?

Priority: N/A

– Gautam Mehra – 4:32 p.m.

A: You should get in touch with Producers for whom you sell to be able to understand how you can dispose of any E-watse that you may have collected.

– Netaji Salunke (netaji.s@servify.in) – 4:26 p.m.

Q: The website for setting up of a Collection Centre

Priority: N/A

– Gautam Mehra – 4:33 p.m.

A: www.greene.gov.in

– Netaji Salunke (netaji.s@servify.in) – 4:28 p.m.

Q: I think you can mute all.

Priority: N/A

– Netaji Salunke (netaji.s@servify.in) – 4:28 p.m.

Q: And everyone can ask question Chat Box.

Priority: N/A

– Alok Azad (alok.azad@knstechnologies.com) – 4:37 p.m.

Q: Need to know more about the process of setting up a colleciton centre

Priority: N/A

– Gautam Mehra – 4:38 p.m.

A: For the setting up of a collection centre, you need to tie up with a producer who will have a contract with you and give you permission to set up on their behalf. Furthermore, you need to allocate a space and have the requisite infrastructure so that you are able to store.

– Gautam Mehra – 4:39 p.m.

A: You also need to ensure that you have the paper work for each item that you collect in the form 2.

– Gautam Mehra – 4:39 p.m.

A: Please let me know in case you would like further details.

Q&A Session for Awareness Programme on Environmental Hazards of E-waste

Session Number: 575391293

Date: Monday, July 29, 2019

Starting time: 2:48 p.m.

–Lovely Kuruvilla (lkuruvilla.cw@mmm.com) – 4:02 p.m.

Q: Thank you very much for the session!

Priority: N/A

LIST OF ATTENDEES OF WEBINAR ON 23RD JULY, 2019

Attendance Count	First Name	Last Name	Email	Company	Phone	City	State/Province
1	Resource	E Waste Solutions Pvt. Ltd.	coordinator@resourceewaste.com	Resource E Waste Solutions Pvt. Ltd.	1-8744053331	Delhi	Delhi
2	Sudhanshu	Ojha	sudhanshu.ojha@in.dlink.com	D-Link (India) Ltd.	1-1	Mumbai	Maharashtra
3	Anila	A K	anila.anil@ample.co.in	Ample Technologies	1-9632163300	Bangalore	Karnataka
4	Smita	Lohumi	smitak.lohumi@sitconnect.com	Strategic Marketing	91-9873121545	Dehradun	Uttarakhand
5	rishabh	chopra	rishabh@uipl.co.in	Unicorn Infosolution Pvt ltd	91-9953031531	new delhi	Delhi
6	Nirmal	Tiwari	nirmaltiwari@sharp-oa.com	Sharp Business Systems	91-9958792244	Noida	Uttar Pradesh
7	ANUJ	BHASIN	anuj.bhasin@unicornstore.in	UNICORN INFOSOLUTION PVT LTD	91-9811734128	NeW DELHI	NEW DELHI
8	PEYUSH	AGARWAL	plservice11@gmail.com	P & L services	1-9899198375	delhi	delhi
9	APSAR	k m	apsarkm@seccom.org	sec communications	91-7618771007	bangalore	karnataka
10	Jamshed	Alam	jamshed@zacocomputer.com	Zaco Computers Pvt.Ltd.	91-9871215005	Delhi	New Delhi
11	jigneshkumar	lathiya	lathiya.jignesh@venusin.com	Venus Data Products	91-9712000727	surat	Gujarat
12	vineet	dixit	vineet.dixit@unicornstore.in	unicorn infosolutions Pvt. Ltd.	91-7042834024	New Delhi	Delhi
13	arun	goyal	arun.k@myimaginestore.com	tresor systems pvt ltd	1-9910583235	Delhi	club road punjabi bagh
14	Abhirup	Ghosh	abhirup.ghosh@myimaginestore.com	Tresor	91-9804217022	Kolkata	West Bengal
15	ashok	koti	ashok.b@f1infoservices.com	F1 INFO SOLUTIONS & SERVICES P LTD	1-8792453323	Banglore	Karnataka
16	JAMEELA	KATHEER	jameela.katheer@f1infoservices.com	F1 info solutions & Services P. Ltd.,	1-9962035577	Chennai	TamilNadu
17	Debadideb	Chatterjee	debadideb@systematixmedia.com	Systematix Media	1-03340626034	Kolkata	West Bengal
18	sunil	prasad	sunil.prasad@unicornstore.in	unicorn	1-08010903897	new delhi	Delhi
19	Loganathan	M	loganathan@consolidatedretail.com	consolidatedretail	1-7397754055	Coimbatiore	Tamilnadu
20	MOHIT	SHARMA	mohit.s@myimaginestore.com	Tresor Systems	91-9509424348	Jodhpur	Rajasthan
21	Vedangi	Lala	vlala@cisco.com	Cisco	1-611036600	Bangalore	Karnataka
22	BRIJENDRA	YADAV	brijendra.k@myimaginestore.com	Tresor Systems Pvt Ltd	1-8802836280	Allahabad	Uttar Pradesh
23	rajesh	sharma	rajesh@bhardwajcomputers.in	bhardwaj computers	91-9466380408	jind	HARYANA
24	dipika	negi	dipika.negi@unicornstore.in	Unicorn	1-8700022719	New Delhi	Delhi
25	Saravanan	M	saravanan@consolidatedretail.com	PlanetCare	91-9500999602	Coimbatore	Tamilnadu

LIST OF ATTENDEES OF WEBINAR ON 24TH JULY, 2019

Attendance Count	First Name	Last Name	Email	Company	Phone	City	State/Province
1	Ajinath	Sable	ajinath.sable@b2x.com	B2X Service Solutions India pvt ltd	1-9819794909	Mumbai	Maharashtra
2	Khushal	Jambhulkar	khushal@picatype.com	Picatype Systems Private Limited	91-7387912342	Pune	Mahrashtra
3	Milind	Bendre	milind.bendre@picatype.com	Picatype Systems Pvt Ltd	1-9921444477	Pune	Maharashtra
4	Manjri	Gopalan	g.manjri@gmail.com	Hpe	91-8860623318	Delhi	Delhi
5	Sunil	Singh	sunils@anymac.biz	Anything Mac Pvt td	1-9810310777	Delhi	Delhi
6	Lathish	kumar	lathish@mapletechnologies.org	Maple	1-8861986886	mangalore	karnataka
7	Diwakar	Venkat	diwakar@datalogicsindia.com	Datalogics India Pvt Ltd	91-9840253297	Chennai	Tamil Nadu
8	Vijayakumar	P	vijay.k@ample.co.in	Ample Technologies Pvt. Ltd.	91-9500061933	Chennai	Tamilnadu
9	Vineet	Dixit	vineet.dixit@unicornstore.in	unicorn infosolutions Pvt. ltd.	91-7042834024	New Delhi	Delhi
10	zaheer	khan	zaheer.k@mapletechnologies.org	Maple digital technologies PLT.LTD	91-9900469909	Bangalore	Karnataka
11	sachin	anjarlekar	sachin.anjarlekar@mapletechnologies.org	Maple	91-8291955094	Mumbai	Maharashtra
12	Kalpesh	Thakor	kalpesh.thakor@venusin.com	Venus Data Products	91-9726344275	Surat	Gujarat
13	Sunil	Dev	sunil.dev@ample.co.in	Ample Technologies Pvt Ltd	91-8056279628	Cochin	Kerala
14	apsar	km	apsarkm@seccom.org	sec communications	1-7618771007	bangalore	karnataka
15	Sunil	Dev	sunil.dev@ample.co.in	Ample Technologies Pvt Ltd	91-8056279628	Cochin	Kerala
16	Mohammad	Inzamamul Hoda	inzamam@shiftindia.com	Shift Infosystems	91-9304777753	Patna	Bihar
17	Lokesh	Kumar	lokesh@aptronixindia.com	Aptronix	91-9030043600	Hyderabad	Telangana
18	CHANDRASEKAR	M	addonsystemsgoa@dataone.in	ADD ON SYSTEMS INFORMATION TECHNOLOGY SERVICES PVT. LTD	1-08322516484	VASCO	GOA
19	Mayank	Sangoi	mayank.s@mapletechnologies.org	Maple DTI	91-9768675466	Mumbai	Maharashtra
20	Nazar	Hussain	nazar@ucinfosystems.com	UC Infosystems Pvt. Ltd.	1-09811723208	New Delhi	Delhi
21	Hitesh	Gaikwad	hitesh.g@servify.in	service lee technology	91-7875799850	mumbai	maharashtra
22	lovely	bajaj	lovely.bajaj@paramatrixinfo.com	Paramatrix info solution	1-97809978496	chandigarh	chandigarh
23	Saravanan	M	saravanan@consolidatedretail.com	PlanetCare	91-9500999602	Coimbatore	Tamilnadu
24	jignesh	lathiya	lathiya.jignesh@venusin.com	Venus Data Products	91-9712000727	Surat	Gujarat
25	Netaji	Salunke	netaji.s@servify.in	Service Lee Technologies Pvt LTD	91-9004903560	Mumbai	Maharashtra
26	Nirmal	Tiwari	nirmaltiwari@sharp-oa.com	Sharp Business Systems	1-9958792244	Noida	Uttar Pradesh
27	Anila	A K	anila.anil@ample.co.in	Ample Technologies	1-9945125584	Bangalore	Karnataka
28	Abhilasha	Pancholi	pancholi.abhilasha@venusin.com	Venus Data Products	91-8469809121	Surat	Gujarat
29	Shantanu	Gadre	shantanu@ngrt.in	NGRT	1-9822222856	Nagpur	Maharashtra
30	Bijas	MS	bijas.muraleedharan@ample.co.in	Ample Technologies Pvt Ltd	91-7259016013	Cochin	Karnataka
31	Pratheek	EV	pratheek@mapletechnologies.org	Maple Digital Technologies International Pvt LTD	91-9916687278	Bangalore	Karanataka
32	Sanchey	Sood	sanchey@myimaginestore.com	Tresor Systsems Pvt Ltd	91-9871944933	Gurgaon	122002
33	Pushpa	Sharma	pushpa.sharma@ngrt.in	NGRT Systems Pvt Ltd	1-8600588859	Nagpur	Maharashtra
34	Inas	dias	inas@pcss.co.in	PCSS solutions	1-9420596431	Mapusa	Goa
35	Chintan	Rawal	chintan.rawal@ngrt.in	NGRT Systems Pvt Ltd	1-8966008911	Indore	Madhya Pradesh
36	Nirmal	Pusti	nirmal.pusti@in.dlink.com	D-Link (India) Ltd	1-6742595783	Bhubaneswar	Odisha
37	sebastian	dmello	sebastian.dmello@ngrtsystems.com	NGRT Systems Pvt. Ltd.	1-7447444056	Nagpur	Maharashtra
38	pranoti	gadre	pranoti@ngrt.in	NGRT Systems Pvt Ltd	1-9860467840	Nagpur	Maharashtra
39	churchill	lewis	churchil@pcss.co.in	PCSS Solutions Pvt Ltd	1-9820292557	Mumbai	Maharashtra
40	sandeep	yadav	sandeep.y@myimaginestore.com	Tresor	1-8800293055	DLF South Court Saket	Delhi
41	Rajesh	Choudhari	rajesh@picatype.com	Picatype Syatems Pvt Ltd	1-8274934250	Pune	Maharashtra
42	Rajvardhansingh	kanawat	rajvardhan.k@myimaginestore.com	Tresor	1-8107195777	udaipur	rajasthan
43	YUVARAJAN	S	yuvaraj@datalogicsindia.com	Datalogics India Pvt Ltd	1-9952030249	Chennai	Tamilnadu
44	Ritesh	Arpra	ritesh@myimaginestore.com	Tresor Systems Pvt Ltd	91-9971008833	Delhi	Dehi
45	sarita	choudhary	sarita@myimaginestore.com	tresor system	1-8690554289	jaipur	rajasthan
46	gaurav	koli	gaurav.k@nyasa.info	Nyasa enterprise	1-9821555098	Mumbai	Maharashtra
47	Sudhanshu	Ojha	sudhanshu.ojha@in.dlink.com	D-Link (India) Ltd	1-9820006198	Mumbai	Maharashtra
48	Alok	Azad	alok.azad@knstechnologies.com	KNS Technologies	1-9811173937	Bhopal	Madhya Pradesh
49	Harsh	Jadhav	harsh.j@servify.tech	Servify	91-8291974281	Mumbai	Maharashtra
50	Ashish	Khanna	ashish.khanna@canon.co.in	Canon India Pvt. Ltd	1-91-9891251760	Gurgaon	Haryana
51	kulpreet	singh	kulpreet.singh@ril.com	Reliance Retail Limited	91-9779091143	LUDHIANA	Punjab
52	Uma	Swaminathan	umasnathan@gmail.com	SMILE Electronics Limited	1-080 9845845022	Bangalore	Bangalore,Karnataka
53	vipin	jangir	vipin.k@myimaginestore.com	tresor systems pvt ltd	91-9414449502	jaipur	rajasthan
54	MOHIT	KAUSHAL	mohit@spectracomputech.com	SPECTRA COMPUTECH PVT LTD	91-9876667724	Chandigarh	PUNJAB
55	Rohit	Bhola	rohit.bhola@b2x.com	B2X service solution India Pvt Ltd	91-8422031458	Mumbai	Maharashtra
56	Sashi	Shetty	shashidhar.shetty@apple.com	Apple	1-912267343303	Mumbai	Maharashtra
57	Pratik	Sannake	pratik.s@servify.in	Servify	91-9967236858	Mumbai	Maharashtra
58	sanjay	kalekar	sanjaykalekar@sharp-oa.com	SHARP BUSINESS SYSTEMS (I) PVT LTD	1-9004577700	Mumbai	MAHARASHTRA
59	anup	vartak	anup.v@servify.in	Service lee technologies	91-9923872774	Mumbai	maharashtra
60	Anil	Uttekar	anilu@picatype.com	Picatype Sysytems Pvt Ltd	1-919011555531	Pune	Maharashtra
61	santosh	nat	utkarsh.anagar@gmail.com	Utkarsh Enterprises	1-8380838069	Ahmednagar	Maharashtra

LIST OF ATTENDEES OF WEBINAR ON 29TH JULY, 2019

Attendance Count	First Name	Last Name	Email	Company	Phone	City	State/Province
1	Arjun	Sirohi	arjunsirohi@netwebindia.com	M/s Netweb Technologies India Pvt Ltd	91-1292310400	Faridabad	Haryana
2	Lovely	Kuruvilla	lkuruvilla.cw@mmm.com	3M India Limited	91-8105892557	Bengaluru	Karnataka
3	Shubham	Dwivedi	shubham@vincular.in	VINCULAR TESTING LABS INDIA PRIVATE LIMITED	91-9205591807	New Delhi	Delhi

Annexure-IV

WORK PACKAGE IV

This Work Package of the programme in Phase II is related to the awareness and outreach that was created in the cities selected in 21States across the country. According to the RFP that was published, the total targeted outreach that was to be created was 600,000 across 21 cities. These included different kinds of stakeholders who were to be reached out to during the course of implementation of the Work Package.

MAIT managed to bring PROs, industry associations and recyclers on board who helped the total outreach achieved rise to more than 1.3 million, more than double the target that was set.

The partners in the project were:

- RLG India
- Karo Sambhav
- CEAMA
- Sanshodhan
- Cerebra

The consolidated Dashboard is as follows:

Name of Partner	Number of Cities covered	Total Outreach created	Stakeholders	E-waste collected
RLG India	31	6,74,088	Schools, Colleges, RWAs, Informal Sector, Bulk Consumers, manufacturers, refurbishers, dealers	773 kgs
Karo Sambhav	20	23,836	Schools, Colleges, RWAs, Bulk Consumers, Informal Sector	NA
CEAMA	20	1,71,863	Schools, Colleges, RWAs, Dealers	NA
MAIT	21	3,28,984	Schools, Colleges, RWAs, Informal Sector, Bulk Consumers, manufacturers, refurbishers, dealers	NA

Sanshodhan	3	7,218	Schools, Colleges, RWAs, Bulk Consumers, Informal Sector, Dealers	NA
Cerebra	5	1,00,000	Schools, Colleges, Bulk Consumers, RWAs, Dealers	NA
Total	42	13,05,989	Schools, Colleges, RWAs, Bulk Consumers, Dealers, Refurbishers, Informal Sector, Manufacturers	773 kgs

Highlights of Work Done by Partners

RLG INDIA

Reverse Logistics Group (RLG) is an international provider of comprehensive reverse logistics solutions. The company's subsidiaries and equity holdings are leading operators of both individual and collective take-back-systems for products and reusable materials in Europe, the Americas and Asia. Closing the material loop, RLG enables its customers to be compliant with legislative and operational requirements related to sustainability and resource efficiency.

Dashboard

S.No.	City	School		College		RWA		Informal Sector		Office Cluster		Refurbisher		Dealer Meet		Total	
		Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach
1	Delhi	16	19,763	0	-	4	4,180	-	75	4	24,250	0		1	11	**25**	**48,279**
2	Gurgaon	14	10,760	0	-	4	3,832	2	40	5	2,36,625	0		1	10	**26**	**2,51,267**
3	Raipur	24	23,200	0	-	4	3,120	1	14	2	75	0	-	1	14	**32**	**26,423**
4	Mohali	20	13,393	0	-	4	3,440	1	10	3	49	0	-	1	16	**29**	**16,908**
5	Aizawl	1	465	0	-	-	-	-	-	0	-	0	-			**1**	**465**
6	Dehradun	16	8,888	0	-	4	5,680	1	16	9	3,958	0	-	1	19	**31**	**18,561**
7	Daman	4	1,030	0	-	4	4,770	2	23	0	-	0	-	1	11	**11**	**5,834**
8	Vijayawada	18	13,105	0	-	4	548	1	40	3	2,330	0	-	1	20	**27**	**16,043**
9	Shillong	8	2,700	0	-	4	4,020	1	12	6	2,165	0	-	1	18	**20**	**8,915**
10	Kavaratti	1	150	0	-	-	-	-	-	0	-	0	-	1	12	**2**	**162**
11	Port Blair	2	750	0	-	4	900	1	12	1	40	0	-	1	12	**9**	**1,714**
12	Chennai	15	11,188	0	-	4	3,200	1	13	0	-	0	-	1	19	**21**	**14,420**
13	Thiruvananthapuram	13	9,779	0	-	4	3,200	1	11	0	-	0	-	1	10	**19**	**13,000**
14	Shimla	15	4,733	0	-	4	5,880	1	10	2	400	0	-	1	17	**23**	**11,040**
15	Bangalore	29	21,154	0	-	4	2,360	1	12	3	500	0	-	1	10	**38**	**24,036**
16	Hyderabad	28	19,343	0	-	4	9,040	1	70	5	273	0	-	1	14	**39**	**28,740**
17	Mumbai	26	20,630	0	-	4	5,720	1	10	4	74	0	-	1	10	**36**	**26,444**
18	Ahmedabad	19	27,500	0	-	4	8,410	1	17	3	130	0	-	1	12	**28**	**36,069**
19	Gangtok	9	7,000	0	-	4	4,300	1	14	1	1,500	0	-	1	10	**16**	**12,824**
20	Jaipur	20	12,473	0	-	4	8,229	1	18	3	1,560	0	-	1	10	**29**	**22,290**
21	Agartala	5	1,776	0	-	7	2,050	1	15	6	319	0	-	1	16	**20**	**4,176**
22	Patna	3	3,400	1	2,000	3	1,300	2	100	2	2,040	1	60	0	-	**12**	**8,900**
23	Ranchi	3	3,500	1	1,300	3	700	2	95	2	1,200	1	54	0	-	**12**	**6,849**
24	Moradabad	3	2,600	1	1,100	3	1,720	2	100	2	315	1	55	0	-	**12**	**5,890**
25	Indore	3	3,800	1	4,000	3	3,400	2	70	2	5,000	1	25	0	-	**12**	**16,295**
26	Bhubaneswar	3	1,906	1	800	3	1,280	2	91	2	1,130	1	47	0	-	**12**	**5,254**
27	Goa	3	2,570	1	1,200	3	1,480	2	67	2	1,300	1	93	0	-	**12**	**6,710**
28	Pondicherry	3	3,547	1	3,500	3	1,400	2	55	2	99	1	25	0	-	**12**	**8,626**
29	Kolkata	3	4,604	1	10,000	3	840	2	61	2	2,450	1	54	0	-	**12**	**18,009**
30	Imphal	3	1,900	1	200	3	940	2	70	2	90	1	28	0	-	**12**	**3,228**
31	Guwahati	3	2,250	1	3,000	3	740	2	85	2	320	1	51	0	-	**12**	**6,446**
	Total	**333**	**2,59,857**	**10**	**27,100**	**109**	**96,679**	**40**	**1,226**	**80**	**2,88,192**	**10**	**492**	**20**	**271**	**602**	**6,74,088**

Return to Value

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"Clean to Green" FY 18-19 Coverage

- Delhi
- Haryana
- Bihar
- Madhya Pradesh
- West Bengal
- Odisha
- Goa
- Pondicherry
- Jharkhand
- Manipur
- Uttar Pradesh
- Lakshadweep
- Himachal Pradesh
- Karnataka
- Telangana
- Rajasthan
- Andaman
- Tripura
- Jammu
- Andaman
- Sikkim
- Kerala
- Chhattisgarh
- Mizoram
- Uttarakhand
- Daman & Diu
- Maharashtra
- Gujarat
- Meghalaya
- Andhra Pradesh
- Tamil Nadu

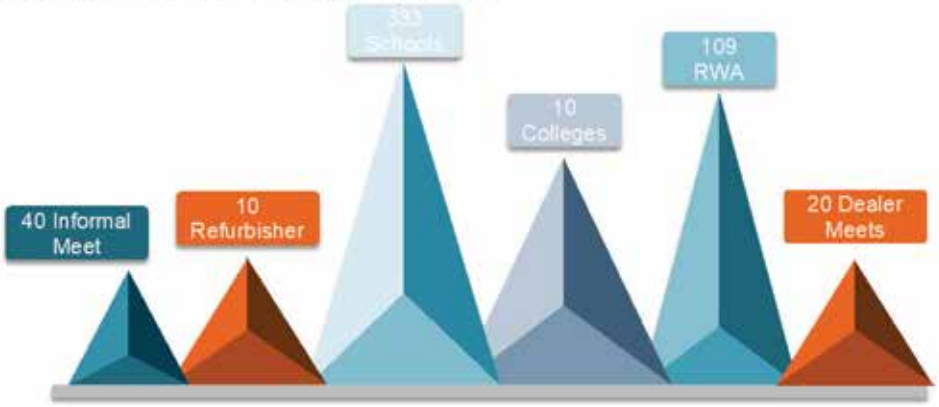


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Stakeholder & Reach Details



School		College		RWA		Informal Sector		Office Cluster		Refurbisher		Dealer Meet	
Nos.	Reach	Nos.	Reach	Nos.	Reach	Nos.	Reach	Nos.	Reach	Nos.	Reach	Nos.	Reach
333	2,59,857	10	27,100	109	96,679	40	1,226	80	2,88,192	10	492	20	271

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Return to Value

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E Waste Collected

S. No.	City	E Waste Collected(in Kgs)	S. No.	City	E Waste Collected(in Kgs)
1	Delhi	12	17	Mumbai	6
2	Gurgaon	8	18	Ahmedabad	24.5
3	Raipur	21	19	Gangtok	2
4	Mohali	59.5	20	Jaipur	7
5	Aizawl	1	21	Agartala	0
6	Dehradun	4.5	22	Patna	12
7	Daman	0	23	Ranchi	43.5
8	Vijayawada	57	24	Moradabad	15
9	Shillong	1	25	Indore	52
10	Kavaratti	0	26	Bhubaneswar	45.5
11	Port Blair	1	27	Goa	38
12	Chennai	6.5	28	Pondicherry	65.5
13	Thiruvananthapuram	5	29	Kolkata	100
14	Shimla	4	30	Imphal	77
15	Bangalore	7	31	Guwahati	88
16	Hyderabad	9.5		**Total**	**773**

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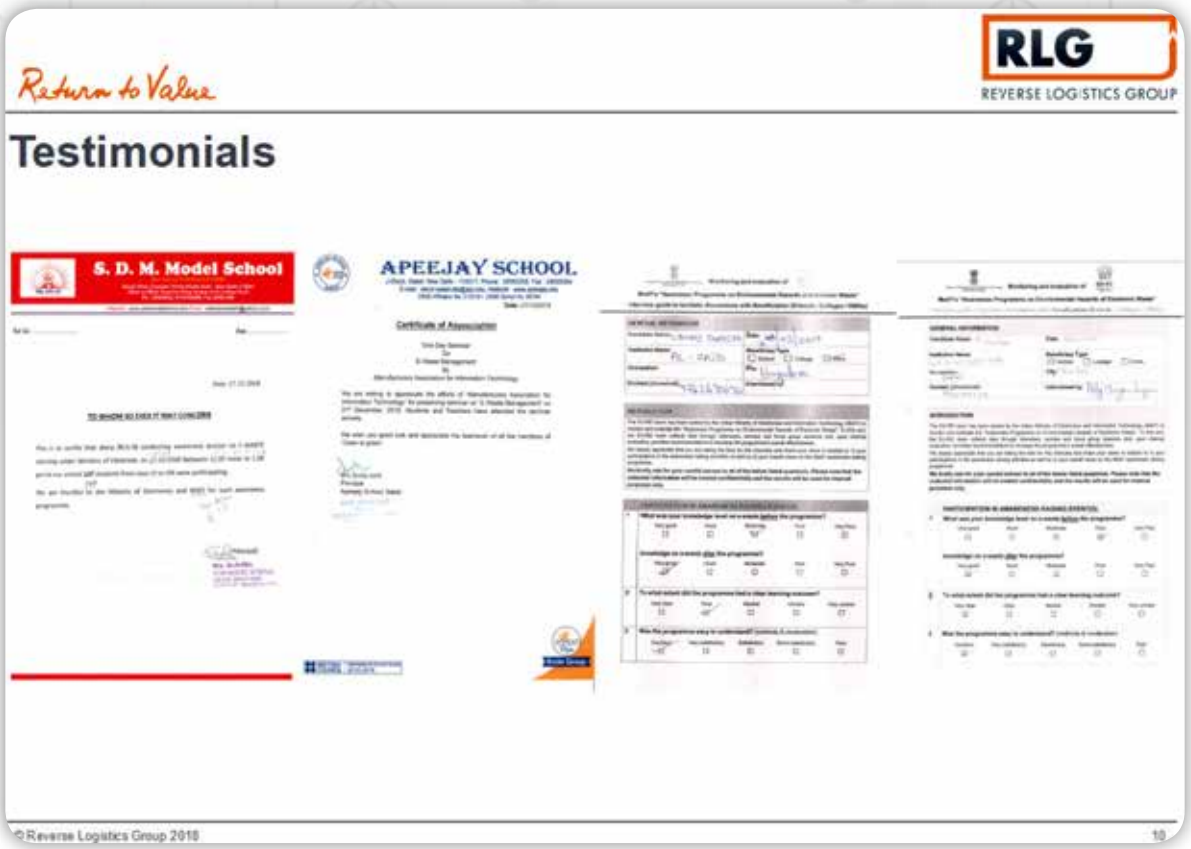
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E Waste Bins in 30 Cities

250+ Bins Placed across 30 cities



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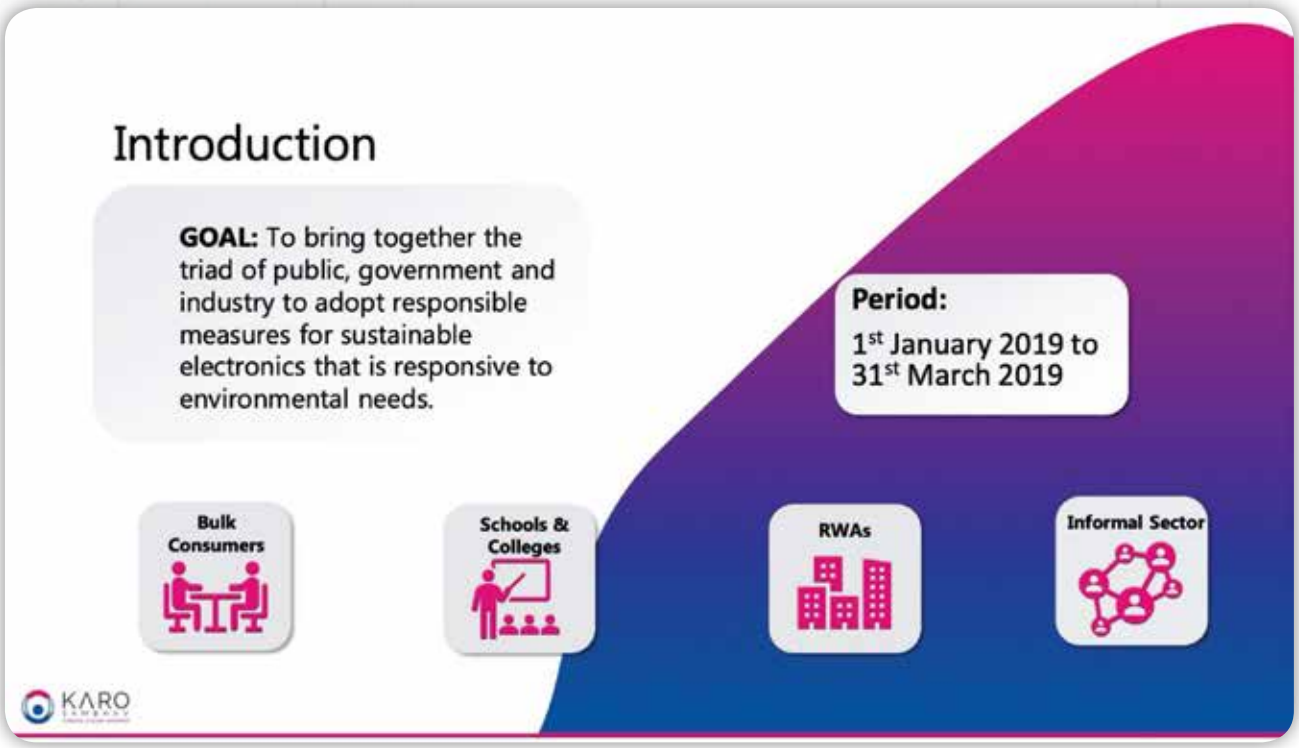
Karo Sambhav

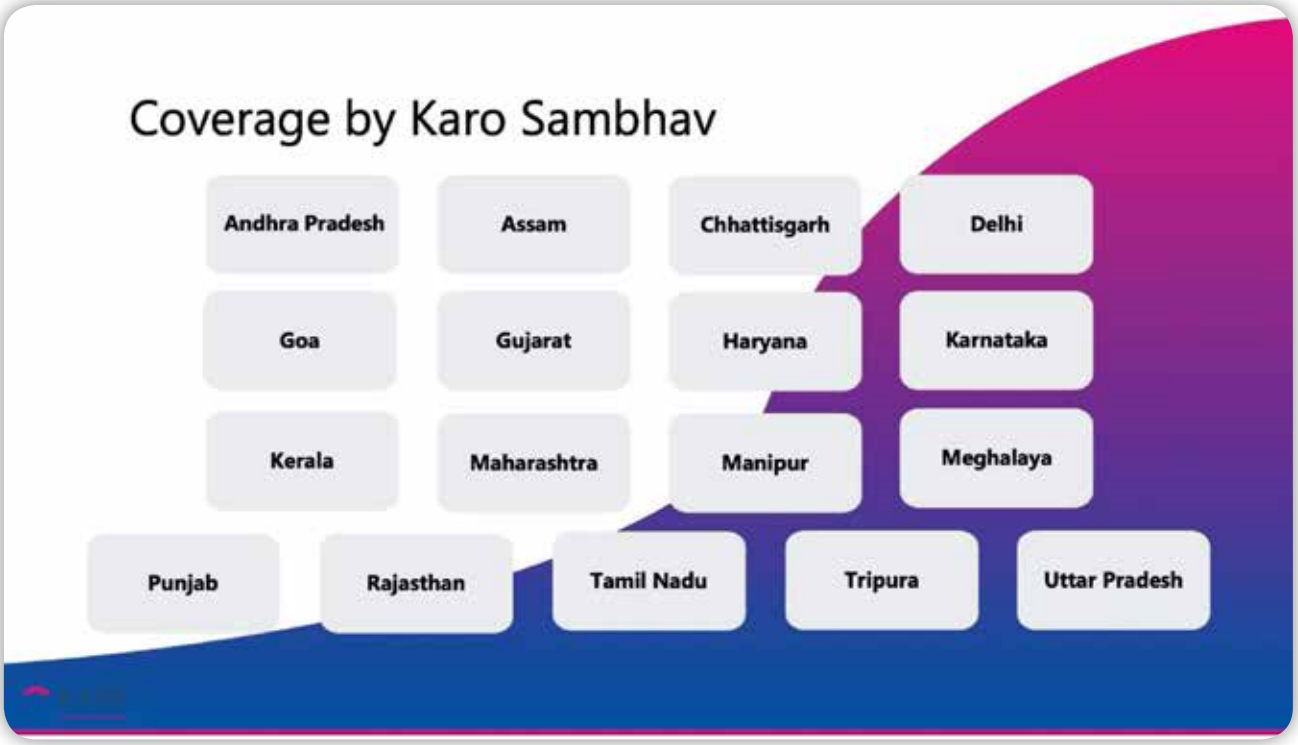
Karo Sambhav is committed with its relentless conviction to create inclusive, sustainable, scalable and transparent systems for e-waste handling in India, that creates equitable opportunity and fair value for every stakeholders in the value chain. Our innovative and data backed tech platform, along with our country wide grassroot driven ecosystem connects all the stakeholders into an integrated formalised e-waste management chain and is enabling waste management into an environmentally conscious and sustainable industry.We are present across 29 states and 3 union territories in India through various initiatives. In the first year of our operations, we have successfully collected and sent over 3000 MTs for responsible recycling. Through our programmes we have engaged over 500+ Bulk Consumers, 1500+ Schools, 5000+ Informal Sector Waste Pickers and Aggregators, 800+ Repair Shops across the country.

Dashboard

S.No.	City	School		College		RWA		Informal Sector		Bulk Consumers		Total	
		Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach
1	Delhi NCR	1	60	5	450	10	446	2	52	5	407	23	1,415
2	Haryana(Gurgaon, Rewari, Faridabad,Sonipat)	8	1,157	1	20	4	413	1	50	6	785	20	2,425
3	Jalandhar	32	3,916	5	620							37	4,536
4	Vishakapatnam	1	270							2	400	3	670
5	Shillong	8	963									8	963
6	Chennai	3	261							1	15	4	276
7	Thiruvananthauram	2	116									2	116
8	Raigarh			1	40					1	50	2	90
9	Bangalore			1	80					3	4,474	4	4,554
10	Mumbai					1	32			4	647	5	679
11	Pune									2	300	2	300
12	Vadodra	10	1,750									10	1,750
13	Jaipur	7	1,117									7	1,117
14	Agartala	13	629	2	80							15	709
15	Noida (U.P.)	5	450	1	40	1	20			4	413	11	923
16	Mathura (U.P)			4	404							4	404
17	Meerut (U.P)			2	300							2	300
18	Imphal	16	891									16	891
19	Guwahati	15	1,015	3	192					9	165	27	1,372
20	Goa	2	68	3	211	1	35			2	32	8	346
	Total	123	12,663	28	2,437	17	946	3	102	39	7,688	210	23,836




Introduction
GOAL: To bring together the triad of public, government and industry to adopt responsible measures for sustainable electronics that is responsive to environmental needs.
Period:
1st January 2019 to 31st March 2019
Bulk Consumers
Schools & Colleges
RWAs
Informal Sector
KARO


Coverage by Karo Sambhav
Andhra Pradesh
Assam
Chhattisgarh
Delhi
Goa
Gujarat
Haryana
Karnataka
Kerala
Maharashtra
Manipur
Meghalaya
Punjab
Rajasthan
Tamil Nadu
Tripura
Uttar Pradesh

Producer Participation

Xiaomi, savex, SUPERTRON, hmd., inflow, iTech, TOSHIBA, Schneider Electric, IFB, appario, CONCENTRIX, Computer Planet, zt Systems, Imagine, rgb, DDN, CASHIFY.in, BILLIONE

Movement Partner

digit

KARO

School Awareness Sessions

12,663 Participation* | **61,500 Direct Reach*** | **3,01,350 Total Outreach ***



*Participation: Number of people who attended the session
Direct Reach: No. of students (500/School) Number of Schools
*Direct Reach*Average Indian household size assumed to be 4.9 (https://www.arcgis.com/home/item.html?id=6cf22970ea8c4b338a196879397a76e4)

Bulk Consumers Awareness Sessions

7688 Participation | **15,600 Direct Reach** | **76,440 Total Outreach**



*Participation: Number of People who Attended the Session
Direct Reach: No. of Employees (400/Bulk Consumer) Number of Bulk Consumers
Direct Reach *Average Indian household size assumed to be 4.9 (https://www.arcgis.com/home/item.html?id=6cf22970ea8c4b338a196879397a76e4)

College Awareness Sessions

2,437 Participation | **14,000 Direct Reach** | **68,600 Total Outreach**



*Participation: Number of Students who Attended the Session
Direct Reach: No. of Students (500/College) Number of Colleges
Direct Reach *Average Indian household size assumed to be 4.9 (https://www.arcgis.com/home/item.html?id=6cf22970ea8c4b338a196879397a76e4)

RWA Awareness Sessions

946 Participation — **3,400 Direct Reach** — **16,660 Total Outreach ***



*Participation: Number of Residents who Attended the Session
Direct Reach: No. of Residents (200/RWA) Number of RWAs
Direct Reach *Average Indian household size assumed to be 4.9 (https://www.arcgis.com/home/item.html?id=6cf22970ea8c4b338a196879397a76e4)

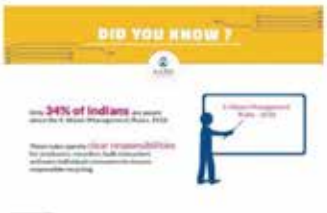
Informal Sector Awareness Sessions

102 Participation — **408 Total Outreach**



*Participation: Number of Individuals who Attended the Session
*Total Outreach: Participation *Average Indian household size assumed to be 4.9
(https://www.arcgis.com/home/item.html?id=6cf22970ea8c4b338a196879397a76e4)

Awareness Activity Materials



A series of 7 - 10 EDMs





Presentation on e-waste



Word Scramble





Games

QUIZZES





Merchandise

KARO

Collaterals



Brochures



Informative Leaflets



Standee



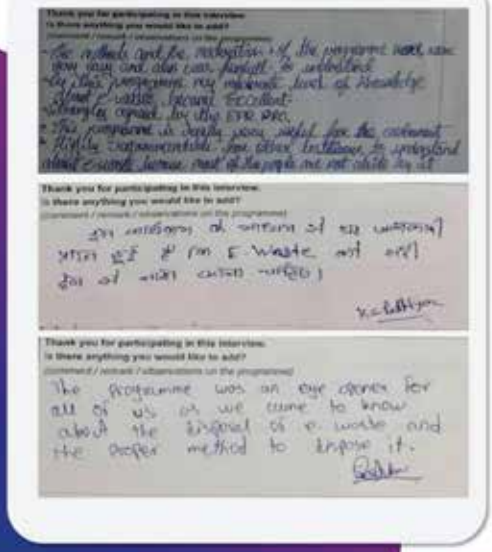
Banner



Certificate

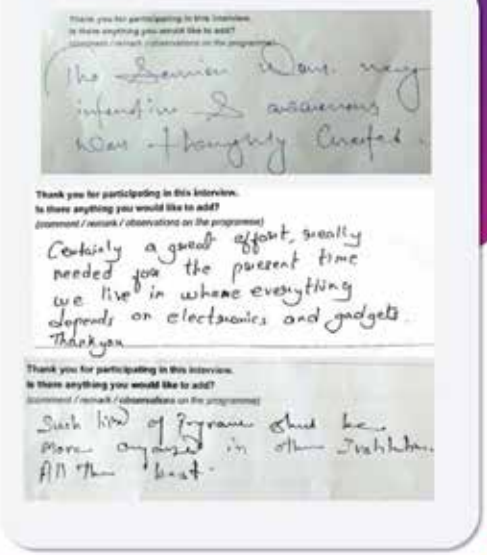
KARO

Feedback from Participants



Thank you for participating in this interview.
Is there anything you would like to add?
(comment / remark / observations on the programme)

The programme was an eye opener for all of us as we came to know about the disposal of e-waste and the proper method to dispose it.



Thank you for participating in this interview.
Is there anything you would like to add?
(comment / remark / observations on the programme)

Certainly a great effort, really needed for the present time we live in where everything depends on electronics and gadgets
Thank you

Thank you for participating in this interview.
Is there anything you would like to add?
(comment / remark / observations on the programme)

Such kind of programs should be more organized in other institutions.
All the best.

KARO

Video



Link to the video:
https://docs.zoho.com/file/0tq5ne5943b1bcefd4d3c96589376afe48a99

KARO

Video



Link to the video:
https://docs.zoho.com/file/0tq5nc5df9617049d4276b6fe0dd347e8cc2d

KARO

Digital Outreach

58 Posts
40,600 Impressions*

16 Posts
6258 Reach*
1031 Engagements*

11 Posts
3050 Reach
388 Engagements

*Impressions measures how many times a particular is displayed
*Reach is the number of unique people who saw the content
* Engagement rate is a metric that measures the level of engagement including users' comments, shares, likes etc.

KARO

Social Media Posts



Print Outreach



Khabhar Pe Khabar
Rajasthan, Jaipur Edition
Date 14/02/2019



Daily News
Rajasthan, Jaipur Edition
Date 14/02/2019



Time of India
Rajasthan, Jaipur Edition
Date 13/02/2019

Estimated reach of these reports cross over ~6-10 lakh readers

CEAMA

Consumer Electronics and Appliances Manufacturers Association (CEAMA), established in the year 1978 is an all India body representing Consumer Electronics, Home Appliances and Mobile Industry. This apex body aims to enhance the development of Consumer Electronics & Appliances Industry and its components to maintain fair competition and healthy practices among manufacturers, dealers and other stakeholders. With a strong foothold since past 40 years, this non-profit organization constantly strives to look after the common interests of its members, for sustainable growth in the sector.

Dashboard

City	School		College		RWA		Dealer		Total	
	Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach
Delhi	4	8000			2	6600	1	10	7	14610
Gurgaon	3	2857			2	2300	1	10	6	5167
Raipur	3	2195	2	1200	2	560	1	12	8	3967
Amritsar	3	3700	2	9000	2	12500	1	15	8	25215
Dehradun	4	4280	2	710	2	1120	1	16	9	6126
Daman	3	5800	2	1300	2	3400	1	18	8	10518
Vijayawada	3	3520	2	9300	2	640	1	20	8	13480
Shillong	3	1200	3	2900	2	2200	1	18	9	6318
Kavaratti	1	200	1	200	2	400	1	9	5	809
Port Blair	3	1250	2	800	2	280	1	15	8	2345
Chennai	3	2500	2	2500	2	2400	1	16	8	7416
Thiruvanant hapuram	3	3740	2	4100	2	2080	1	8	8	9928
Shimla	8	4240	2	5769	2	2260	1	25	13	12294
Bangalore	3	5041	2	820	2	1632	1	20	8	7513
Hyderabad	3	1950	2	2300	2	2000	1	12	8	6262
Mumbai	3	1870	2	650	2	2680	1	15	8	5215
Ahmedabad	3	2600	2	11000	2	4200	1	13	8	17813
Gangtok	3	1100	2	2700	2	320	1	30	8	4150
Jaipur	3	1950	2	400	2	1776	1	10	8	4136
Agartala	3	892	2	4070	2	3600	1	19	8	8581
Total	65	58885	36	59719	40	52948	20	311	161	171863

The awareness programme conducted by CEAMA in 20 cities and its achievements are stated in the table given above. A total of 65 events were conducted in schools, leading to an outreach of 58,885 students. 36 events were conducted in colleges, leading to an outreach with 59,719 youth.

40 activities and workshops were conducted in RWAs, leading to an outreach with 52,948 citizens.

20 dealer meets were organized which led to an outreach with 311 dealers. The total outreach created through 161 events and workshops organized was to the extent of 1,71,863.

Bulk Consumers programme organized by CEAMA







College programme organized by CEAMA





Dealer meets organized by CEAMA







RWA programme organized by CEAMA





School programme organized by CEAMA



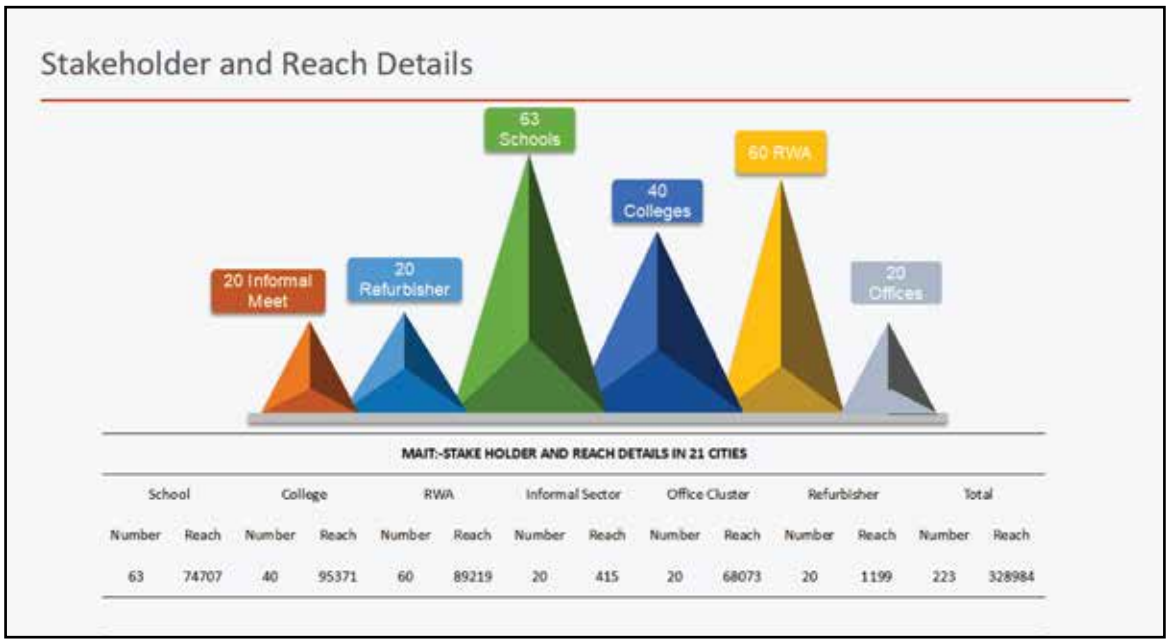


MAIT

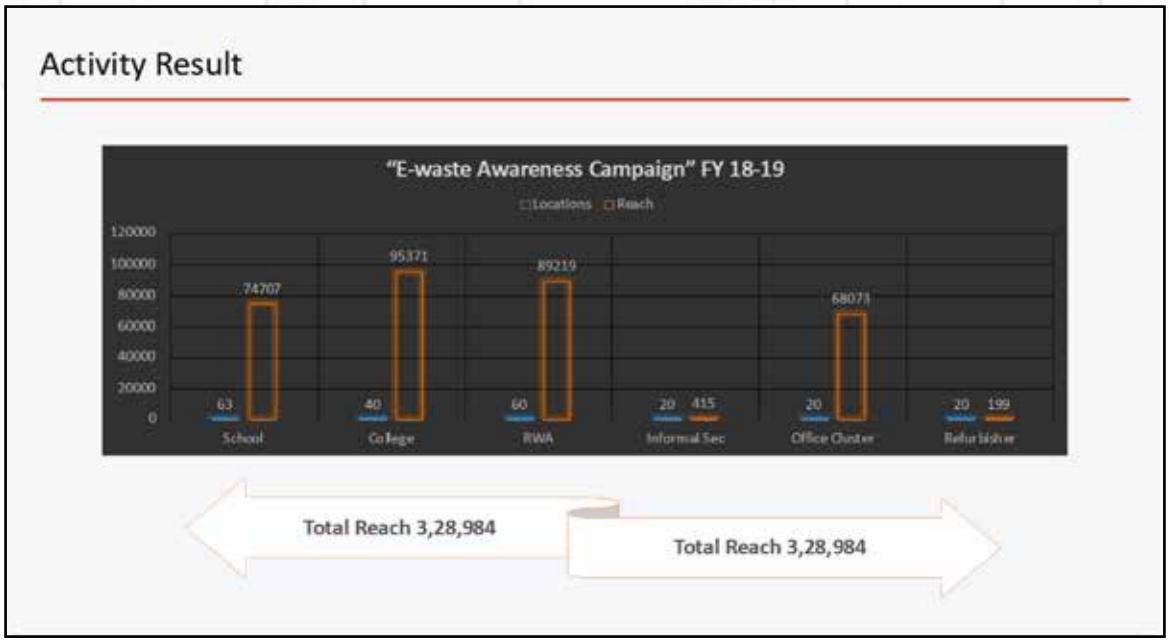
Dashboard

S.No.	City	School		College		RWA		Informal Sector		Office Cluster		Refurbisher		Total	
		Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach
1	Delhi	3	3,822	3	5,300	3	2,988	2	54	1	21,400	2	530	15	34,094
2	Gurgaon	4	4,759	2	3,450	3	380	1	41	2	18,000	1	53	12	27,183
3	Raipur	4	5,500	2	6,500	3	6,200	1	32	1	960	1	26	12	19,218
4	Mohali	4	6,600	2	18,500	3	9,900	1	10	1	17	1	30	12	35,057
5	Aizawl	3	2,000												2,000
6	Dehradun	3	3,576	3	4,600	3	4,469	1	19	1	1,250	1	29	12	13,943
7	Daman	2	1,780	1	150	3	5,780	1	32	1	250	1	40	9	8,032
8	Vijayawada	3	2,700	2	14,850	3	640	1	13	1	200	1	40	11	18,443
9	Shillong	4	2,000	2	6,500	3	3,000	1	11	1	82	1	43	12	11,636
10	Kavaratti					2	434							0	434
11	Port Blair	3	3,180	1	150	3	1,380	1	10	1	250	1	12	10	4,982
12	Chennai	3	6,242	2	8,600	3	2,240	1	14	1	500	1	57	11	17,653
13	Thiruvananthapuram	3	2,500	2	4,340	3	3,400	1	30	1	15,000	1	30	11	25,300
14	Shimla	3	1,300	2	2,260	3	5,670	1	12	1	350	1	22	11	9,614
15	Bangalore	3	4,550	3	7,200	3	3,464	1	16	1	500	1	50	12	15,580
16	Hyderabad	3	6,750	5	5,651	3	4,680	1	40	1	3,000	1	50	14	20,171
17	Mumbai	3	3,950	3	3,500	3	6,320	1	11	1	2,000	1	40	12	15,821
18	Ahmedabad	3	4,382	1	2,100	3	9,900	1	19	1	2,200	1	35	10	18,636
19	Gangtok	3	2,950	1	200	3	5,600	1	15	1	74	1	15	10	8,854
20	Jaipur	3	4,050	2	1,400	3	10,320	1	21	1	40	1	29	11	16,360
21	Agartala	3	2,316	1	120	4	1,464	1	15	1	2,000	1	68	11	5,983
	Total	63	74,707	40	95,371	60	89,219	20	415	20	68,073	20	1,199	223	3,28,984

MAIT achieved a total connect of 3,28,984 across different sets of stakeholders, including schools, colleges, RWAs, bulk consumers, informal actors, refurbishers, producers and dealers. While in most of the cases the access to cities and stakeholders was convenient, it was very difficult to reach far-flung areas like Kavaratti and Aizawl. The numbers in the table reflect the same as it was difficult to find local-level partners and cooperation to allow outreach with a higher number of stakeholders in these two cities.



The above diagram shows the total number of programmes that were conducted across different sets of stakeholders.



These were the results that were achieved for different sets of stakeholders for whom activities and workshops were conducted across 21 different cities in the country. The total outreach created was 3,28,984 stakeholders across schools, colleges, RWAs, bulk consumers, informal sector and refurbishers.

Events organized in Schools by the team from MAIT









Events organized in Colleges by MAIT





Events organized in RWAs by MAIT





Events organized at Bulk Consumers by MAIT





Events organized at Refurbishers by MAIT





Events organized with Informal actors by MAIT





Events organized with Dealers by MAIT





Sanshodhan - An E-Waste Exchange

Sanshodhan An E-Waste Exchange Pvt Ltd., an award-winning, globally recognized emerging company is established as per E-Waste Management Rules, 2016 ([GAZETTE OF INDIA, EXTRAORDINARY PART-II, SECTION-3, SUB-SECTION (i)], Ministry of Environment Forest & Climate Change, Government of India.

Sanshodhan is partner of State Government of Telangana, India. Sanshodhan has signed MoU with MAIT & Ministry of Electronics & IT (MEITY), GoI, for implementation of awareness project in 7States.

Dashboard

S.No.	City		School		College		RWA		Informal Sector		Bulk Consumers		Dealer		Total	
			Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach	Number	Reach
1	Hyderabad	Oct-Dec2018	1 School	620	1 College	60	1RWA	101flats*4ped	2 people	2people	1 meeting	facility manag	1 Apple	2 people	7 Meetings	6,318
2	Lucknow	13,14 Mar 2019	250	5[illegible]	100	8840	300	Rohini Apt	Yes	2						600
3	Mumbai	12 Apr 2019									300	Businesses				300
	Total															7,218









Cerebra

Cerebra has set up one of the largest e-Waste facilities in India, with the aim of becoming a leading player in this business. The vast potential of this industry extends well beyond its ability to generate huge revenues and profits for the company, and its shareholders, as it also provides a way to protect the environment and lessen our harmful impact on Mother Nature. By setting up a world class e-Waste facility, Cerebra understands the magnitude of the social responsibility that this project entails, and is driven to achieve it.

Cerebra has already received KSPCB (Karnataka State Pollution Control Board) licensing at its brand new facility for processing e-Waste, Recycling and management activities. The first phase of the same has been completed on a 12-acre property, acquired through KIADB at Narasapura, Kolar District.

On the occasion of World Environment Day on June 5th, Cerebra officially began its marketing initiatives, and the started collection of E-Waste through the launch of its Mobile Drive.

Dashboard

Name of the City	Outreach in Schools	Outreach in Colleges	Outreach in Bulk Consumers	Outreach in RWAs	Outreach in Dealers
New Delhi	4	2		6	2
Mumbai	6			3	
Pune	3	3	1	2	
Bengaluru	4	2	60	8	2
Chennai	1		45	3	
Total	18	7	106	24	4

Cerebra Recycling reached out to more than 1,00,000 people across five cities in a very intensive campaign across social media, mainstream media like radio and TV and also through events which were conducted in schools, colleges, and RWAs.
















Abbreviation	Explanation
Ag	Silver
ARF	Advance Recycling Fee
Au	Gold
BIS	Bureau of Indian Standards
C-MET	Centre for Materials for Electronics Technology
CAGR	Compound Annual Growth Rate
CE	Circular Economy
CEAMA	Consumer Electronics and Appliances Manufacturers' Association
CIPET	Central Institute of Plastics Engineering and Technology
COP	Conference of the Parties
CPCB	Central Pollution Control Board
CPU	Central Processing Unit
CuSO4	Copper Sulphate
DSC	Differential Scanning Calorimeter
DRS	Deposit Refund Scheme
EC	European Commission
EEE	Electrical and Electronic Equipment
ELCINA	Electronics Industries Association of India
EMCs	Electronics Manufacturing Clusters
EPR	Extended Producers Responsibility
EU	European Union
EU-REI	European Union Resource Efficiency Initiative
E-waste	Electronic Waste
FDI	Foreign Direct Investment
FICCI	Federation of Indian Chambers of Commerce and Industry
FTIR	Fourier-Transform Infrared Spectroscopy
FY	Fiscal Year
GDP	Gross Domestic Product
GHG	Green House Gas
GIZ	DeutscheGesellschaftfürInternationaleZusammenarbeit GmbH
GOI	Government of India
ICT	Information and Communications Technology
IGEP	Indo-German Environment Programme

IT	Information Technology
ITU	International Telecommunication Union
KG	Kilogramme
MAIT	Manufacturers' Association for Information Technology
MeitY	Ministry of Electronics and Information Technology
MFI	Melt Flow Index
MHRD	Ministry of Human Resource Development
MoEFCC	Ministry of Environment, Forests and Climate Change
MoHUA	Ministry of Housing and Urban Affairs
MPPI	Mobile Phone Partnership Initiative
MT	Metric Tonne
NASSCOM	National Association of Software and Services Companies
NITI Aayog	National Institution for Transforming India
OECD	Organization for Economic Cooperation and Development
Pb	Lead
PC	Personal Computer
PCBs	Printed Circuit Boards
PCC	Pollution Control Committee
Pd	Palladium
PHDCCI	PHD Chamber of Commerce and Industry
PP	Polypropylene
PROs	Producers Responsibility Organizations
R&D	Research and Development
RE	Resource Efficiency
RLG	Reverse Logistics Group
RoHS	Restriction of Hazardous Substances
RWAs	Residents' Welfare Associations
SDGs	Sustainable Development Goals
Sn	Tin
SPCBs	State Pollution Control Boards
SS	Stainless Steel
TGA	Thermogravimetric Analysis
TV	Television
UNEP	United Nations Environment Programme
WEEE	Waste Electrical and Electronic Equipment

Awareness on Environmental Hazards of E-Waste

A programme conceptualized by the Ministry of Electronics and Information Technology under the leadership of Shri Ajay Kumar Sawhney, Secretary, and executed by EMCD Department headed by Shri Arvind Kumar, Scientist 'G'& GC.

In partnership with:
The Ministry of Environment, Forests and Climate Change,
Government of India under the leadership of Shri C. K. Mishra, Secretary, and
The Central Pollution Control Board,
20 State Pollution Control Boards and Pollution Control Committees

Implemented by:
Manufacturers' Association for Information Technology

Implementation Partner Association:
Consumer Electronics Appliances Manufacturers' Association

Industry Partners from Industry:
Reverse Logistics Group India Private Limited
Karo Sambhav Private Limited
Sanshodhan E-waste Exchange
Cerebra Computers Limited

Under the guidance received from:
Dr Sandip Chatterjee, Scientist 'F' and Director
Ministry of Electronics and Information Technology
Ms Priyanka Porwal,
Project Management Unit, Ministry of Electronics and Information Technology

We would also like to thank
Mr. Gautam Mehra for his continued efforts and contribution in the project.

Ministry of Environment, Forest and Climate Change
Government of India

MAIT

cpcb

Ministry of Electronics and Information Technology
Government of India

Digital India
Power To Empower

CEREBRA
Total I.T. Solutions
An ISO 9001 : 2015 Company

CEAMA

SANSHODHAN
AN e-WASTE EXCHANGE
A Social Enterprise

NOTES



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