



INTERNATIONAL LAW
JOURNAL

**WHITE BLACK
LEGAL LAW
JOURNAL**
**ISSN: 2581-
8503**

Peer - Reviewed & Refereed Journal

The Law Journal strives to provide a platform for discussion of International as well as National Developments in the Field of Law.

WWW.WHITEBLACKLEGAL.CO.IN

DISCLAIMER

No part of this publication may be reproduced or copied in any form by any means without prior written permission of Editor-in-chief of White Black Legal

– The Law Journal. The Editorial Team of White Black Legal holds the copyright to all articles contributed to this publication. The views expressed in this publication are purely personal opinions of the authors and do not reflect the views of the Editorial Team of White Black Legal. Though all efforts are made to ensure the accuracy and correctness of the information published, White Black Legal shall not be responsible for any errors caused due to oversight or otherwise.

WHITE BLACK
LEGAL

EDITORIAL **TEAM**

Raju Narayana Swamy (IAS) Indian Administrative Service officer



a professional
Procurement from the World Bank.

Dr. Raju Narayana Swamy popularly known as Kerala's Anti Corruption Crusader is the All India Topper of the 1991 batch of the IAS and is currently posted as Principal Secretary to the Government of Kerala . He has earned many accolades as he hit against the political-bureaucrat corruption nexus in India. Dr Swamy holds a B.Tech in Computer Science and Engineering from the IIT Madras and a Ph. D. in Cyber Law from Gujarat National Law University . He also has an LLM (Pro) (with specialization in IPR) as well as three PG Diplomas from the National Law University, Delhi- one in Urban Environmental Management and Law, another in Environmental Law and Policy and a third one in Tourism and Environmental Law. He also holds a post-graduate diploma in IPR from the National Law School, Bengaluru and diploma in Public

Dr. R. K. Upadhyay

Dr. R. K. Upadhyay is Registrar, University of Kota (Raj.), Dr Upadhyay obtained LLB , LLM degrees from Banaras Hindu University & Phd from university of Kota.He has succesfully completed UGC sponsored M.R.P for the work in the ares of the various prisoners reforms in the state of the Rajasthan.



Senior Editor

Dr. Neha Mishra



Dr. Neha Mishra is Associate Professor & Associate Dean (Scholarships) in Jindal Global Law School, OP Jindal Global University. She was awarded both her PhD degree and Associate Professor & Associate Dean M.A.; LL.B. (University of Delhi); LL.M.; Ph.D. (NLSIU, Bangalore) LLM from National Law School of India University, Bengaluru; she did her LL.B. from Faculty of Law, Delhi University as well as M.A. and B.A. from Hindu College and DCAC from DU respectively. Neha has been a Visiting Fellow, School of Social Work, Michigan State University, 2016 and invited speaker Panelist at Global Conference, Whitney R. Harris World Law Institute, Washington University in St.Louis, 2015.

Ms. Sumiti Ahuja

Ms. Sumiti Ahuja, Assistant Professor, Faculty of Law, University of Delhi,

Ms. Sumiti Ahuja completed her LL.M. from the Indian Law Institute with specialization in Criminal Law and Corporate Law, and has over nine years of teaching experience. She has done her LL.B. from the Faculty of Law, University of Delhi. She is currently pursuing Ph.D. in the area of Forensics and Law. Prior to joining the teaching profession, she has worked as Research Assistant for projects funded by different agencies of Govt. of India. She has developed various audio-video teaching modules under UGC e-PG Pathshala programme in the area of Criminology, under the aegis of an MHRD Project. Her areas of interest are Criminal Law, Law of Evidence, Interpretation of Statutes, and Clinical Legal Education.



Dr. Navtika Singh Nautiyal



Dr. Navtika Singh Nautiyal presently working as an Assistant Professor in School of Law, Forensic Justice and Policy studies at National Forensic Sciences University, Gandhinagar, Gujarat. She has 9 years of Teaching and Research Experience. She has completed her Philosophy of Doctorate in 'Intercountry adoption laws from Uttranchal University, Dehradun' and LLM from Indian Law Institute, New Delhi.

Dr. Rinu Saraswat



Associate Professor at School of Law, Apex University, Jaipur,
M.A, LL.M, Ph.D,

Dr. Rinu have 5 yrs of teaching experience in renowned institutions like Jagannath University and Apex University. Participated in more than 20 national and international seminars and conferences and 5 workshops and training programmes.

Dr. Nitesh Saraswat

E.MBA, LL.M, Ph.D, PGDSAPM

Currently working as Assistant Professor at Law Centre II, Faculty of Law, University of Delhi. Dr. Nitesh have 14 years of Teaching, Administrative and research experience in Renowned Institutions like Amity University, Tata Institute of Social Sciences, Jai Narain Vyas University Jodhpur, Jagannath University and Nirma University.

More than 25 Publications in renowned National and International Journals and has authored a Text book on Cr.P.C and Juvenile Delinquency law.



Subhrajit Chanda

BBA. LL.B. (Hons.) (Amity University, Rajasthan); LL. M. (UPES, Dehradun) (Nottingham Trent University, UK); Ph.D. Candidate (G.D. Goenka University)

Subhrajit did his LL.M. in Sports Law, from Nottingham Trent University of United Kingdoms, with international scholarship provided by university; he has also completed another LL.M. in Energy Law from University of Petroleum and Energy Studies, India. He did his B.B.A.LL.B. (Hons.) focussing on International Trade Law.

ABOUT US

WHITE BLACK LEGAL is an open access, peer-reviewed and refereed journal provided dedicated to express views on topical legal issues, thereby generating a cross current of ideas on emerging matters. This platform shall also ignite the initiative and desire of young law students to contribute in the field of law. The erudite response of legal luminaries shall be solicited to enable readers to explore challenges that lie before law makers, lawyers and the society at large, in the event of the ever changing social, economic and technological scenario.

With this thought, we hereby present to you

ELECTRONIC WASTE IN INDIA-A **STUDY OF PENAL ISSUES**

Authored By - Garima Gupta

Course-L.L.M.

Enrollment-22GSOL2010030

ABSTRACT

India is one of the heftiest waste importing nations across the globe. All types of wastes are trade-in into the India, in the form of cheap raw resources together with perilous and noxious wastes. Data released by the Customs Department reveal imports of even prohibited wastes similar to clinical waste, incineration ash, municipal waste and e-waste, all of which exceed 5 million tonnes annually. In 2009, India generated 5.9 million tonnes of perilous waste domestically and trade-in 6.4 million tonnes. The issue of electrical and electronic tool clearance, trade-in and remanufacturing has become the subject of stern discussion and debate among the Government organizations, environmentalist groups and the private segment manufacturers of computers and end-user electronic equipments. The Department of Parliamentary Standing Committee on Science & Technology, environment & Forests in its 192nd Report on the Functioning of the Central Pollution Control Board (CPCB), has concluded that e-waste is going to be a big problem in the future due to modern life style and increase in the living standards of people and augmentation of financial expansion. This paper analyse the available laws relating to e waste management like the Municipal Solid Waste (Management and Handling) Rules, 2000, the Hazardous Waste (Management, Handling & Transboundary) Rules, 2003, the Environment (Protection) Act, 1986, The Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008, and The E-waste (Management and Handling) Rules, 2011. Keywords: E Waste, Import, Solid waste, Management, regulations etc.

INTRODUCTION

E-waste or electronic waste is a major waste stream these days resulting from the explosion of electronic products in the past decades due to speedy advancements in technology innovation, consumerism, economic growth, urbanization as well as obsolescence that leads to reduced product lifecycles. In 2017 it was reported by Global E-waste Monitor¹ report that e-waste has increased by 44.7 million metric tonnes (8 percent) from 2014 to 2016. The number is expected to rise to nearly 52.2 million metric tons by 2021 (17 percent) globally. Such projections underline the pressing need to address the problem of e-waste in developing countries like India where the assortment and supervision of e-waste and the salvaging procedure is yet to be appropriately structured. In 2016 it was reported by United Nations that 44.7 million tons of electronic waste was produced all over the world in which India's input was a significant million tons.² Therefore, management and proper regulation of electronic waste has become a point of concern today due to its harmful impact on environment as well as humans dealing with it. Because developing nations, like India, are confronting a dual problem because of huge domestic production of e-wastes as well as illegitimate importation dumping of the same from developed and industrialized countries. This importation from developed nations is seen as a measure of modernization by cheap means and small economic gain. The major purpose behind this kind of transboundary movement of e-wastes from developed to developing world is plenty of low-priced workforce and poor environmental policies in developing nations which permits for such disposal and dumping.

Meaning of E-Waste

Many researchers had given their insights and findings on e-waste and related topics since this problem under study start itching the society and intensity starts increasing exponentially. Electronic - waste is also known as E-waste, very trendy yet casual name given to electrical and electronic appliances & gazettes, either discarded or of further use. According to California Integrated Waste Management Board Mobile phones, Computers, televisions, VCRs, Music Systems, Photo copier, wax and other printers fall under this category. It is not very clear to add home appliances in this solid waste or not. But yet they are considered as either electronic or

¹The Global E-waste Monitor 2017: Quantities, Flows, and Resources by United Nations University (UNU), International Telecommunication Union (ITU), and the International Solid Waste Association (ISWA), available at: http://collections.unu.edu/eserv/UNU:6341/Global-Ewaste_Monitor_2017__electronic_single_pages_.pdf. (last visited on December 26, 2018).

²Jacob Koshy, "What is India doing with its 2 million tonnes of e-waste every year?", The Hindu (2018), available at <http://www.thehindu.com/sci-tech/energy-and-environment/indias-toxic-eiffel-towers-we-produce2-million-tonnes-of-e-waste-every-year-and-the-new-regulations-arent-helping-deal-with-it/article22429947.ece>

electrical products. Wang³ write in detailed that electronic & electrical waste is actually a family and it has many branches which includes all personal, commercial, educational, transportation, private or public products which mainly work on power and have some at least sort of automation to function to meet the requirement. Kohler⁴ explained that the home appliance like automatic ovens, fridge or chilling machines and many others which also work on programming and computer related activities are very difficult to differentiate from WEEE (Waste Electrical and Electronic Equipment) as they are also part of either electrical or electronic family. Electronic waste" or "E-Waste" may be defined as discarded computers, office electronic equipment, entertainment device electronics, Mobile Phones, Television Sets, and Refrigerators. This includes used electronics which are destined for reuse, resale, salvage, recycling, or disposal. Others are re-usable (working and repairable electronics) and secondary scrap (copper, steel, plastic, etc.) to be "commodities", and reserve the term "waste" for residue or material which is dumped by the buyer rather than recycled, including residue from reuse and recycling operations, because loads of surplus electronics are frequently coming led (good, recyclable, and non-recyclable), several public policy advocates apply the term "e-waste" broadly to all surplus electronics. Cathode Ray Tubes (CRTs) are considered one of the hardest types to recycle.

Legal Position in India

The issue of electrical and electronic tool clearance, trade-in and remanufacturing has become the subject of stern discussion and debate among the Government organizations, environmentalist groups and the private segment manufacturers of computers and end-user electronic equipment. The Department of Parliamentary Standing Committee on Science & Technology, environment & Forests in its 192nd Report on the Functioning of the Central Pollution Control Board (CPCB), has concluded that e-waste is going to be a big problem in the future due to modern life style and increase in the living standards of people and augmentation of financial expansion. The Committee has suggested a proactive role for the CPCB by stating that it "should conduct studies to make future projections and devise steps to check the menace". With the advancement stride that the India has made in the information technology segment and the electronic industry, the issue of trade-in of e-waste and its handling and clearance has assumed significance.

The issue was brought to the notice of Parliament and Government on 23 December 2005 when a

³ Wang, Y., Luo, C., Li, J., Yin, H., Li, X., Zhang, G., (2011). "Characterization of PBDEs in soils and vegetations near an e-waste recycling site in South China". *Environmental Pollution*, p1-6

⁴ Kohler, A., Erdmann, L., (2004). "Expected environmental impacts of pervasive computing". *Human and Ecological Risk Assessment*, 10(5), p 831- 852.

Private Members Bill on The Electronic Waste (Handling and Clearance) Bill, 2005 was introduced in Rajya Sabha by Shri Vijay J. Darda, Honble Member from Maharashtra. The Bill had recognized that while there was no appropriate law or guideline on the handling and clearance of electronic waste in the India, every home had a number of electronic goods. And once these goods became obsolete or redundant, they were either thrown in the garbage or found their way to scrap dealers in the course of the Kabari wala`s who then dismantled the gadgets, kept what was useful and threw the rest in landfills. Criticizing the improper way of clearance as the electronic goods contain various elements which are perilous to health and environment, the Bill called for a regulation of e-waste clearance before the situation reached alarming proportions. The Bill sought to facilitate for appropriate handling and clearance of millions of tonnes of e-waste being generated by redundant electronic devices by prescribing norms and fixing responsibilities and duties on manufacturers, remanufacturers and end-users with regard to the clearance of e-waste and for all matters connected to it. The Bill, even, lapsed in July 2010 with the expiry of the tenure of the hon`ble member in the Rajya Sabha, but initiated a public urge of effective e-waste law in India. In India, the Constitution assigns solid waste management as a primary liability to the Municipalities under the Twelfth Schedule⁵. Article 243W empowers the State Legislatures to frame legislations in respect of waste management. The Municipal Solid Wastes (Management & Handling) Rules, 2000 were enacted by the Central Government which came into force from 25 September 2000. 2010 with the expiry of the tenure of the hon`ble member in. Some of the guidelines for handling municipal solid wastes provided in the Schedules are relevant for the management of e-waste and can be used as a model in the e-waste remanufacturing and clearance scheme.

The guidelines include organizing house to house assortment of waste i.e., appropriate assortment of waste from slums and squatters, hotels, restaurants, office complexes and commercial areas, organizing awareness programmes for segregation of wastes, adopting suitable waste execution of the Rules. Furthermore, the Committee observed that with increasing urbanization finding landfill sites was going to get difficult for the ever increasing volumes of solid waste. The concerned Governments had to make sure that in the interest of public health, such landfill sites were located in „distant isolated places.

The Rules had to facilitate a safe buffer between landfill sites and human settlement. It may be mentioned that after the enactment of the Environment Protection Act, 1986, the Central Pollution

⁵ The Constitution of India, “XII Schedule”, Government of India, Ministry of law & Justice (2005) p.248

Control Board (CPCB) was delegated the functions to implement rules on perilous wastes, bio-medical wastes, municipal solid wastes and plastic wastes. Under the purview of the CPCB, the Division of Perilous Waste Management has been overseeing the management of e-waste. According to the CPCB, there are 36,165 industries in the India generating regarding 6.2 MT (Metric Tonnes) perilous waste every year, of which landfill able waste is 2.7 MT, incinerable waste 0.41 MT and recyclable perilous waste 3.08 MT. Besides, as per the Department of Commerce, Ministry of Commerce and Industry, Government of India, over 10,000 items, together with perilous items, are trade-in to India. These items are classified under various heads. The category others is given to those items that cannot be classified under any head. It is this category that traders often end up misusing to trade-in perilous waste.

Nature and Composition of Electronic Waste

E-waste normally comprises of diverse materials and some of them are valuable and some are potentially toxic materials. Consequently, E waste can be broadly divided into two categories of hazardous and non-hazardous depending on multiple factors such as the type of electronic device, the model, manufacturer, date of manufacture, and the age of the scrap.⁶ Largely, any electronic equipment consists of ferrous and non-ferrous metals, plastics, glass, wood and plywood, printed circuit boards, concrete, ceramics, rubber and other items. Non-ferrous metals consist of metals like copper, aluminum and precious metals like silver, gold, platinum, palladium and so on⁷ For instance, a mobile phone contains more than 40 elements, base metals such as copper (Cu) and tin (Sn); special metals such as lithium (Li) cobalt (Co), indium (In), and antimony (Sb); and precious metals such as silver (Ag), gold (Au), and palladium (Pd)⁸. Circuit boards found in most of the electronic devices may contain arsenic (As), cadmium (Cd), chromium (Cr), lead (Pb), mercury (Hg), and other toxic chemicals.

E-waste turns out to be hazardous in nature because of its certain composition and presence of elements like lead, mercury, arsenic, cadmium, selenium, hexavalent chromium, and flame retardants including polybrominated biphenyls, polyvinyl chloride, polychlorinated biphenyls,

⁶ Daniel Mmerekı and Liu Hong, "The Generation, Composition, Collection, Treatment and Disposal System, and Impact of E-Waste" in Florin-Constantin Mihai, E-Waste in Transition: From Pollution to Resource (In Tech Open, 2016), available at: <https://www.intechopen.com/books/e-waste-in-transition-from-pollution-toresource/the-generation-composition-collection-treatment-and-disposal-system-and-impact-of-e-waste> (last visited on January 4, 2019)

⁷ Amit Jain, "Global e-waste growth" in Rakesh Johri, E-waste: Implications, regulations and management in India and current global best practices 3 (TERI, New Delhi, 2008)

⁸ Liu Q, Li KQ, et.al., "The global challenge of electronic waste management" 16 ESPR 248-249 (2009).

and polybrominated diphenyl ethers beyond threshold quantities. These substances which are potentially toxic and hazardous in nature can create irremediable harm to the environment as well as human health upon improper disposal.⁹ For instance, the Cobalt-60 radiation incident in Mayapuri, Delhi which led to radiation poisoning and consequent death of an individual.

E-wastes are very precarious and hazardous in nature which is why they demand specialized waste disposal mechanisms and shouldn't be dealt with by conventional waste disposal. For instance, obsolete computers pose the most significant environmental and health hazard among the e-wastes.

Regulatory regime for e-waste

While the Municipal Solid Waste (Management and Handling) Rules, 2000 regulates the clearance of municipal solid wastes in an ecologically acceptable manner and the Hazardous Waste (Management, Handling & Trans boundary) Rules, 2003 define and regulate all aspects of the perilous waste, there are no precise ecological laws for the management and clearance of e-waste. None of the existing ecological laws has any direct reference to the electronic waste or its handling as perilous in nature. Even, there are several provisions in these laws which have been applied to various aspects of the electronic waste.

1. The Hazardous Waste (Management and Handling) Rules, 2003

In 1986, India enacted its first comprehensive ecological law, namely, the Environment (Protection) Act, 1986 (EPA) after the Bhopal Gas tragedy and as a commitment under the Stockholm Conference¹⁰ in 1972. Section 3 of the Environment (Protection) Act, 1986, gives all encompassing powers of setting standards, laying down procedures and supervision on the Central Government. The Rules under the EPA bestows upon the Union Government comprehensive powers to “take all such measures as is necessary or expedient for the purposes of protecting and improving the quality of environment and preventing, controlling and abating ecological pollution.” In furtherance to the execution of the objectives of the EPA, the Hazardous Waste (Management and Handling) Rules were enacted in 1989. It was felt that it was essential to have a dividing line between waste and by-artifact streams. These Rules were amended in the year 2000

⁹ The Basel Action Network (BAN) and Silicon Valley Toxics Coalition (SVTC), Exporting Harm: The HighTech Thrashing of Asia, February 25, 2002.

¹⁰ The United Nations Conference on the Human Environment, also known as the Stockholm Conference was the UN's first foremost conference on international ecological issues and marked a turning point in the development of international environment politics.

primarily to bring them in line with the Basel Convention. The amendment made in the Rules in the year 2000 classified the waste by method of waste generation (Schedule-I) and as per their characteristics (Schedule-II). Classification of waste by method of waste generation covers the perilous wastes generated in the diverse industrial methods used and method variants. Thus, 44 categories were identified comprising 148 waste streams in Schedule-I and 79 types of wastes in Schedule-II. The amendment made in the Rules in the year 2003 streamlined the list of methods/waste streams in Schedule-I. Thereby, the number of industrial methods generating perilous waste was reduced from 44 to 36 and the number of waste streams from 148 to 123.

The Schedule-II was essentially left unaltered.¹¹ Bringing further amendments to the Hazardous Wastes (Management and Handling) Rules, 1989, the draft amendment Rules, 2002 were notified as The Hazardous Wastes (Management and Handling) Rules, 2003 on 20 May 2003. Since e-waste or its constituents fall under the category of perilous and non-perilous waste, they have been covered under its purview. As per the Rules, perilous waste is defined as any waste which by reason of any of its physical, chemical, reactive, noxious, flammable, explosive or corrosive characteristics causes danger or is probable to cause danger to health or environment, whether alone or when in contact with other wastes or compounds.¹²

2. The Hazardous Wastes (Management, Handling and Trans-boundary Movement) Rules, 2008

In its Endeavour to frame appropriate law for e-waste, the Central Government drafted the Hazardous Material (Management, Handling and Trans-boundary Movement) Rules, 2007 to prohibit cross-border movement of perilous waste as envisioned by the Basel Convention, to which India is a signatory. On 24

September 2008, these Rules were notified as the Hazardous Wastes (Management, Handling and Trans-boundary Movement) Rules, 2008 by the Ministry of Environment and Forests in supersession of the Hazardous Wastes (Management and Handling) Rules, 1989 except in respect of things done or omitted to be done before such supersession.¹³ Supersession rules include directions for appropriate management and handling of perilous wastes together with electrical

¹¹Aditya Ecological Services Pvt. Ltd. (AESPL), Inventory of Perilous Wastes in Maharashtra, sponsored by Maharashtra Pollution Control Board (MPCB).

¹²“Hazardous Wastes (Management and Handling) Amendment Rules, 2003”, the Gazette of India Extraordinary, Part II, Section 3 Sub Section (ii), Published by Authority No. 471, New Delhi, Ministry of Environment and Forests Notification, New Delhi (May 20, 2003).

¹³ <http://www.indiaenvironmentportal.org.in> (Visited on Feb. 25, 2015) .

and electronic wastes. As per these Rules, every person desirous of remanufacturing or reprocessing perilous waste together with electronics and electrical waste is required to register with the Central Pollution Control Board. The units handling e-waste are required to register with the CPCB.¹⁴ Under the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008, the Ministry of Environment and Forests is the nodal Ministry to deal with the cross-border movement of the perilous wastes and to grant permission for transit of the perilous wastes in the course of any part of India.

It has placed trade-in of perilous waste items fewer than three categories i.e., compounds that can be trade-in with prior approval, free imports under Open General License and compounds which are prohibited for import in India. The first category includes metal and metal bearing wastes of antimony, lead, galvanic sludge and waste lead acid batteries whole or crushed. An importer is required to have a license from the Directorate General of Foreign Trade. The list in the second category comprises resources such as iron, steel, zinc scrap, lead scrap except lead acid batteries waste of copper and its alloys. The wastes listed in this category are traded under Open General License. The third category prohibits trade-in of waste containing mercury, beryllium, arsenic, selenium, thallium, chromium compounds etc. as given in Schedule VI. Furthermore, the Ministry of Environment and Forests has constituted a Coordination Committee to oversee the execution of the Hazardous Wastes (Management, Handling and Trans-boundary Movement) Rules, 2008. The Committee consists of the representatives from the Ministry of Finance (Department of Revenue), Ministry of Commerce and Industry (DGFT), Ministry of Shipping, CPCB and selected State Pollution Control Boards and experts.

3. The E-waste (Management and Handling) Rules, 2011

Considering it necessary in the public interest to enable the resurgence or reuse of useful material from e-waste, thereby reducing the perilous wastes destined for clearance, and to make sure the ecologically effective management of all types of waste electrical and electronic tool, the Government introduced the draft E-waste (Management and Handling) Rules, 2010.¹⁵ After inviting objections or suggestions from the stakeholders, the Ministry of Environment & Forests has finalized the draft modified e-waste (Management and Handling), Rules 2010 in September

¹⁴ M.P. Ram Mohan, Iti Garg and Gayatri Kumar, "Regulating e-waste: a review of the international and Indian legal framework on e-waste," in Rakesh Johri, E-waste: Implications, Regulations and Management in India and Current Global Best Practices, TERI, The Energy and resources Institute (2008) p.170-71.

¹⁵"The draft E-waste (Management and Handling) Rules, 2010" (May 14, 2010) Government of India, Ministry of Environment and Forests.

2010 and put it on their website.

These Rules have come into force with effect from 1 January 2012 and implemented in the course of the State Governments or State Pollution Control Boards. Meanwhile the Department related Parliamentary Standing Committee on Industry functioning under the jurisdiction of the Chairman, Rajya Sabha, has exclusively taken up the subject of electronic wastes and Medium, Small and Micro Enterprises (MSMEs). It has heard the Secretary, MSME on the draft rules in its Meeting held on 20 December 2010. It was felt by the Committee that the views of the MSME on the aforementioned rules are important as hefty numbers of medium enterprises are involved in the management and remanufacturing of e-waste. The committee envisaged all recommendations from MSME in its report and submitted. Finally, we got the much awaited specific law on e-waste in India so as to control e-waste problem and to provide for its disposal.

4. Criticism of the e-waste rules, 2011

Even, the Rules on e-waste management framed by the Government have been criticized on several grounds by various ecological groups. First and foremost, it ignores the unorganized and small and medium sectors where 90 percent of the e-waste is generated. The law currently does not facilitate for any plan to rehabilitate those involved in informal remanufacturing. The Electronics Industry Association of India (ELCINA) with the support of the Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology, studied the status and impending of e-waste management in India in February 2009. Their findings proved that a symbiotic relationship between the formal and the informal segment was crucial. It said: “The informal segment’s role in assortment, segregation and dismantling of e-waste needs to be nurtured to complement the formal remanufacturers as supply chain partners. They should take on the higher know-how remanufacturing methods.¹⁶ The assortment and segregation and dismantling of e-waste is not perilous and the methods are efficiently carried out by the informal segment because mainly the e-waste can be refurbished and sold as second hand. The extraction of expensive metals is the perilous method, which should be left for the formal segment.

Secondly, the Rules also do not detail the industry model for assortment of e-waste from end-users. The legislations enacted by the Government cover generation, storage, transportation and clearance of perilous waste except do not propose a streamlined assortment mechanism. Never the less, other nations on e-waste have sought the participation and involvement of manufacturers as

¹⁶ “Its underbelly: Tricks of the e-waste trade”, Down to Earth, vol.19, no.1 (May 16- 31, 2010); DSIR Annual report 2009-2010; “Latest study identifies India’s e-waste impending”, Remanufacturing International (Mar. 17, 009).

they are best equipped to address the solutions to the complex composition of such goods.¹⁷

5. E-Waste (Management) Rules, 2016

Looking to growing problems of e-waste, the Central Government in the exercise of the powers provided under Sections 6, 8 and 25 of the Environment (Protection) Act, 1986 has notified these rules. E-Waste (Management) Rules, 2016 supersede the E-Waste (Management and Handling) Rules, 2011. It consists of 24 rules divided in Six Chapters and four Schedules. The rules aims to enables the recovery and/or reuse of useful material from ewaste, thereby reducing the hazardous wastes destined for disposal and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment. These rules shall come into force from 1st October, 2016. These rules shall apply to every Producer, Consumer and Bulk Consumer, Manufacturer, collection centers, dealers, e-retailer, re-furbisher, dismantler and recycler involved in the manufacture, sale, purchase and processing of electrical and electronic equipment, including their components, consumables, parts and spares which make the product operational but shall not apply to a. Used lead acid batteries as covered under the Batteries (Management and Handling) Rules, 2001 made under the Act; b. Micro enterprises as defined in the Micro, Small and Medium Enterprises Development Act, 2006 and c. Radio-active wastes as covered under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and Rules made there under.

Responsibilities under the Rule of 2016

Responsibility of Manufacturer

The manufacturer shall ensure that no damage is caused to the environment during storage and transportation of e-waste and also file annual returns to the concerned State Pollution Control board before the 30th June. The manufacturer shall be responsible to collect e-waste generated during the manufacture of any electrical and electronic equipment and channelise it for recycling or disposal;

Responsibility of Producer

The producer shall be responsible for the collection of e-waste generated from the „end of life“ of their products and channelizing it for recycling or disposal. And to ensure that such e-waste are channelized to registered dismantler or recycler. The import of electrical and electronic equipment

¹⁷ P. Srisudha, “Tackling e-waste”, The Hindu (Jun. 28, 2009).

shall be allowed only to producers having Extended Producer Responsibility-Authorization and also filing annual returns to the Central Pollution Control Board on or before 30th June of the financial year. The producer shall also be responsible for providing contact details such as address, telephone numbers helpline numbers to consumer(s) or bulk consumer(s) so as to facilitate return on fused electrical and electronics equipment. Further, the producer shall be responsible to create awareness among consumers or bulk consumers with regard to hazardous constituents, hazards of improper handling and improper recycling of e-waste and instructions for handling the equipment after its use along with do and don'ts.

Responsibilities of Collection Centers

The collection centres are responsible to collect e-waste on behalf of producer or dismantler or recycler or re-furbisher. The collection centre shall also ensure that e-waste collected by them is stored in a secured manner and no damage is caused to the environment during storage and transportation. The collection centre shall file annual return to State Pollution Control Board on or before the 30th day of June and also maintain the records of the e-waste.

Responsibilities of Dealers

The dealer shall collect the e-waste by providing the consumer a box, bin or a demarcated area to deposit e-waste, or through take back system and send the e-waste so collected to collection centre or dismantler or recycler. The dealer or e-retailer shall refund the amount as per take back system to the depositor of e-waste; every dealer shall ensure that the e-waste thus generated is safely transported to authorized dismantlers or recyclers and no damage is caused to the environment during storage and transportation of e-waste.

CONCLUSION

Electronic waste has become a huge problem for the world as we continue to grow the technology and become their slaves. If an instant action is not taken right away, it will continue to grow and will become a much bigger problem for the planet. Also, it has a massive bearing on environment and human life if not handled in an environmentally sound manner. There has to be sufficient rights for citizens to take legal recourse for damages caused to their health, environment and property. Therefore, it has become the necessity of the time to manage the electronic waste in an organized and safe manner with sustainable recycling technologies. There is a need for stringent penal provisions and robust monitoring mechanisms to deal and match up with electronic waste

of present times. It is imperative to have strict penalties like other countries analyzed here have because according to deterrence theory, people are most likely to be dispirited from committing a crime if the punishment is instantaneous, evident and severe. Also, there is a need to adopt effective strategy to encourage re-use, refurbishing or recycling of e-waste in specialized facilities to prevent environmental contamination and human health risks. The setback that we are facing today is – one, the lax or zero enforcement or implementation of existing regulatory framework. As it could be concluded after the detailed analysis of this research paper, that we have enough laws to deal with electronic waste be it Environment Acts (EPA, Water Act and Air Act) or IPC. Only problem is that they have not been implemented well. If an individual cannot file a complaint directly under any of the Environment Act, one can take an action under IPC. But it seems that even that has not been used properly which is quite apparent from the case laws filed under these provisions so far. Second, low level of awareness and sensitization among individuals as well as officials. Society and officials should be informed about the importance of the environment and impact of electronic waste on environment. Need of the hour is to imbibe in minds of the people the spirit of service and harmony with environment so that the errors of the past are not repeated. Thirdly, inadequate work-related safety is there for those who are involved in these processes which aggravates e-waste management. Fourth, central and state pollution control boards must be strengthened in terms of powers over all the environment related matter. There must be establishment of manpower and expertise is very well required.