

TECHNICAL ACTIVITY CARRIED OUT BY CENTRES / OVERSEAS CHAPTERS

Name of Centre / Overseas Chapter:		Durgapur Local Centre	
Title of Activity:		World Environment Day Seminar on 'Beat Plastic Pollution'	
Activity under Divisional Board (delete which are not applicable):		ENDB	
Date:	10/06/2018	Venue:	Visvesvaraya Auditorium, Durgapur Local Centre



Mr R K Roy, Chairman delivering his welcome address and sitting (l to r): Dr B Ruj, Dr Rajnarayan Saha and Mr M N Bandyopadhyay



Dr B Ruj delivering his present on 'Beat Plastic Pollution'

The programme started with screening Short films on 'Beat Plastic Pollution\_CPCB\_Kolkata', 'How We Can Keep Plastics Out of Our Ocean - National Geographic' & 'World environment day Plastics presentation DEMO'.

The dignitaries on the dais were: Dr B Ruj, Sr Principal Scientist, Environment Group, CSIR-CMERI, Durgapur, Dr Rajnarayan Saha, NIT, Durgapur & Mr Anjan Fouzdar, Environmental Engineers, W.B. Pollution Control Board, Durgapur as Guests of Honour. Mr R K Roy, Chairman & Mr M N Bandyopadhyay, Honorary Secretary.

**At the outset, Mr M N Bandyopadhyay**, Honorary Secretary firstly introduced the Guests of Honour to the audience and he briefed the seminar theme 'Beat Plastic Pollution'. He said that this year India is the Global host of 2018 World Environment day. Ministry of Environment, Forest & Climate Change, has kindly agreed for associating The Institution of Engineers (India) in observing World Environment Day on 05 June 2018. The Ministry has permitted use of its logo at all events organized by IEI on this day.

**Chairman, Mr R K Roy** welcomed the dignitaries and audience and explained the theme "Beat plastic pollution". He highlighted that there is an urgent need to create awareness among people to protect environment in the current situation and ban usage of plastic. India is the global host of 2018 World Environment Day which takes place on June 5. With "Beat Plastic Pollution" as the theme for this year's edition, the world is coming together to combat single-use plastic pollution.

**Guest of Honour and 1<sup>st</sup> invited Speaker, was Dr Rajnarayan Saha** of NIT Durgapur and his presentation stated with the basics of plastics. He explained different types and size of plastics, how

plastic can be manufactured and properties. He deliberated over thermoplastics and explained the same. Further he explained category of plastics and the global consumption pattern which is 180 million tones and per capita it is 28kg. In India the consumption is 6.5 million tones and per capita is 6kg. He also told that total plastic carry bags consumption accounts for less than 1% of total plastic consumption. He mentioned that use of plastic will reduce green house emission but still we want to reduce the consumption of plastics. While comparing he told that carbon dioxide emission for jute bag packing of one lakh metric ton of atta is 6610 metric ton and if plastic bag used then it is 780 metric ton. He added further that despite all positive attributes plastic bags and uses are under scanner.

Major issues are 1) Health and safety 2) Toxicity 3) Biodegradability 4) Disposal & waste management. There is negative impact of plastics on land. It reduces soil fertility. It also spoils environmental balance and a major cause of land erosion and slide. It has impact on water quality and to marine animals and environment. It is not bio degradable. It creates a solid waste problem. The solution to disposal problems is to recycle and reuse. With plastics energy can be recovered. Calorific values of plastics are 45 MJ/KG and for coal is 29 MJ/KG. More stress to be given on bio degradable materials for packaging and other applications.

He concluded with the recommended that implementation of comprehensive packaging waste rule similar to those prevailing in developed countries. Proper implementation of municipal solid waste (management & handling) rule, 2000 of moef, Govt. of India .Uniform plastic carry bag thickness rule in the entire country and proper implementation of the same.

**Guest of Honour and 2<sup>nd</sup> invited speaker, Dr B Ruj** of CMERI. He talked about the environmental effects of plastics and their proper disposal. He told that effects are 1) Infertile land Leaching of toxic additives like lead, cadmium pigments 2) Choking of drains 3) Unaesthetic look Plastic disposal in ocean affects marine life ingestion of plastic debris mistaken as food by animals 4) Entanglement of animals and birds in plastic bags.

Toxic emissions due to burning of plastics such as that of CO<sub>2</sub>, Dioxins, Furans, Amines, Benzene etc. He mentioned that A Case Study: Recent Death of a Whale from eating more than 80 plastic bags in A case study enumerate which was published on 3rd June, 2018 Plastic rubbish weighing eight kg (17 lb) was found in the stomach of a whale that died in Thailand on 3rd June 2018 after a five-day effort to save it, as informed by marine officials.

He explained and concluded how plastic can generate energy and produce oil through video of exacting working condition. He explained Pyrolysis which is the thermal decomposition of carbonaceous material at elevated temperatures, in the absence of oxygen. It degrades mainly into 1) Solid Yield –Char/Black residue. 2) Liquid Yield –in the form of oil (Pyrolytic Oil) 3) Gas Yield –H<sub>2</sub>, CH<sub>4</sub>, C<sub>2</sub>H<sub>4</sub>, C<sub>3</sub>H<sub>8</sub>, C<sub>4</sub>H<sub>10</sub>. He deliberated the techniques of segregation of plastics from waste from CMERI Durgapur colony which was invented by the Scientists of CMERI Durgapur for their achievement and also gets patent.

**Guest of Honour, Mr A Fouzdar** of pollution control board discussed the laws and new PWM rule 2016.

- He told that Minimum thickness of Plastic carry bags increased from 40-50 Microns.
- Responsibility of local bodies and gram panchayat.
- Responsibility of Waste generator.
- Collect back system and extended producer's liability.
- Responsibility of retailers and street vendors.
- Registration of shopkeepers and street vendors

He concluded with the mention of

- salient features which are Carry bags made of recycled plastic or products made of recycled plastic shall not be used for storing, carrying, dispensing or packaging ready to eat or drink food stuff
- carry bag made of virgin or recycled plastic, shall not be less than 50 microns in thickness the manufacturer shall not sell or provide or arrange plastic to be used as raw material to a producer, not having valid registration from the concerned SPCB
- plastic sachet not be used for storing, packing or selling gutkha, tobacco and pan masala
- Recycling of plastic waste shall conform to the Indian Standard: IS 14534:1998

At the end after an interesting discussion, question and answer session Honorary Secretary, Mr M N Bandyopadhyay gave his vote of thanks marking the end of a successful event and said that the celebration of this day provides us with an opportunity to broaden the basis for an enlightened opinion and responsible conduct by individuals, enterprises and communities in preserving and enhancing the environment.