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INAE, New Delhi

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Indian
Institute
of Technology
Bombay



ONE-DAY NATIONAL WORKSHOP

URBAN & RURAL CHALLENGES IN MANAGEMENT OF SOLID WASTE IN INDIA: A CIRCULAR ECONOMY APPROACH TO BUILDING SMART HABITATS

Venue: IIT Bombay Campus, Victor Menezes Convention Centre (VMCC) Hall No. 21 (Second Floor) (Opposite IDC) Powai, Mumbai 400076	Date: 24 th September, 2019 (Tuesday)
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The current generation (in 2019) of municipal solid waste in urban India is nearly 78 million tonnes (from 435 million urban population) and in rural India is nearly 97 million tonnes (from 916 million rural population). The recent estimates for year 2050 are: 155 million tonnes from 660 million urban population and nearly 160 million tonnes from 979 million rural population.

India has had satisfactory track record of contributing in the international initiatives, *namely*, *Millennium Development Goals* (MDGs) during 2001 and 2015 as well as *Sustainable Development Goals* (SDGs) since 2016 – wherein each nation has their own target to be fulfilled and each reports the respective progress to the steering committee at the United Nations Organization (UNO). In the same period, the Government of India has had several targeted programmes to upgrade sanitation and other municipal services across the nation through several initiatives including *Jawaharlal Nehru National Urban Renewal Mission* (JNNURM) and *Smart Cities* programme managed by the Ministry of Urban Development. The *Swachh Bharat Abhiyan* steered by our Prime Minister has recently inspired all the citizens to participate actively in the nation-wide campaign to clean-up our habitats and work places.

Recently, the Government of Maharashtra, *vide* the *Notification* dated 23rd March, 2018, prohibited manufacture, usage, sale, storage, transport of certain products made from plastics and thermocol. The objective of the notification is to address concerns about usage and disposal of plastics, including accumulation of polymeric wastes in landfills, water bodies and natural habitats, impacts on wildlife, aquatic life and eco-systems, leaching of chemicals from plastic products, impact on health of humans and animals, floods in urban settlements leading

loss of lives and damage to properties and infrastructure, taking in to account increase in extreme events due to climate change. The Government of Tamil Nadu, too, has notified the ban on plastics of various kinds and for a variety of uses by the *Notification* dated 25th June, 2018.

All these efforts are, in fact, directed at motivating municipalities to formally adopt the “8-R concept” (Regulate, Rethink, Repair, Reduce, Reuse, Recover, Recycle and Re-manufacture) to conserve energy, minimize wastes, and promote waste recycling. This would be possible in reality only when the development planning agencies make targeted efforts to create the markets and engage the local community to make this strategy financially viable and socially sustainable.

We, the Indian National Academy of Engineers (INAE), IIT Bombay, Indian Institute of Chemical Engineers (IICChE) and Indian Environmental Association (IEA) from Mumbai, have decided to join hands and organize a Workshop in IIT Bombay on Tuesday, 24th September, 2019 during 9:00 AM and 6:00 PM in Mumbai. The organisers request the presence of delegates of Municipal Corporation of Greater Mumbai, plastic manufacturers and users, housing societies, ALMs, real estate developers, corporate organisations engaged in providing processes and products, waste management companies and academic institutions. We are looking forward to receiving your enthusiastic response.

The tentative schedule of the programme is presented below:

08:30 – 09:00	Registration; Breakfast and Tea/Coffee	
09:00 – 09:15	Welcome and Introduction to the Workshop	
	Prof. Shyam R. Asolekar (about 5 min) Coordinator of the Programme Environmental Science & Engineering Department (ESED) Indian Institute of Technology Bombay	
	Round of Introduction (about 10 min)	Participants
09:15 – 09:45	How do We Fulfil our Commitments to SDGs?: <i>Opportunities for Environmental Management in India's Urban and Rural Habitats</i>	Prof. Shyam R. Asolekar Environmental Science & Engineering Department (ESED) IIT Bombay
09:45 – 10:15	Composting of Biodegradable Solid Wastes: <i>Experiences in Centralized and Decentralized Treatment</i>	Mr Hrishit Shroff and Mr Saurabh Shah Excel Industries Ltd. Mumbai
10:15 – 10:45	Waste to Energy Technologies and Success Stories from the Perspectives of Environment, Public Health and Business	Prof Arun D Sawant, Director & Mr. D. M. Shrotriya, President Waste to Energy Research Council, Navi Mumbai
10:45 – 11:00	Tea/Coffee	

11:00 – 11:45	Inauguration Ceremony	
	Chief Guest & Keynote Address: Dr. Anil Kakodkar Chairman, Rajiv Gandhi Science & Technology Commission, Mumbai	
11:45 – 12:15	Challenges and Opportunities for Municipalities in India while Managing Solid Wastes	Dr. Rakesh Kumar, Director, National Environmental Engineering Research Institute, Nagpur (to be confirmed)
12:15 – 12:35	Industry Case Presentation: Challenges in Plastic Reuse and Recycle: <i>Engineering Solutions for Disposal of Plastic Waste</i>	Mr. Suhas S. Dixit, Director, Agile Process Chemicals LLP and Pyrocrat Systems LLP, Navi Mumbai
12:35 – 13:05	Management of Legacy Wastes for Resource and Material Recovery	Richa Singh, Prof Bakul Rao and Prof. Shyam R. Asolekar IIT Bombay
13:05 – 14:00	Lunch	
14:00 – 14:20	“Nisarg Runa” Technology for Bio-degradable Wastes: <i>Past Experiences and the Future Prospects</i>	Dr S T Mehetre, Scientific Officer, Nuclear Agri. & Biotech. Division, BARC, Trombay, Mumbai 400 085
14:20 – 14:50	Biomethanation vs. Composting: How Does One Make a Rational Decision?	Dr Sharad Kale (Retired from BARC) Expert for Waste-to-Energy in the Committee of DBT
14:50 – 15:10	Industry Case Presentation: WtoE by Combining Segregated Solid waste with Biological Sludge: <i>Concept to Commissioning</i>	Mr Prashant Chitnis Senior Vice-President (Tech.) , Ion Exchange (India) Limited, Mumbai
15:10 – 15:30	Ban on Plastics in Maharashtra: <i>What Worked and What Did Not?</i>	Mr Nandkumar Gurav Maharashtra Pollution Control Board, Mumbai
15:30 – 15:50	Co-processing of Municipal Solid Wastes and Polymeric Wastes in Cement Kilns: <i>Potential Opportunities and Challenges</i>	Mr Ulhas Parlikar Consultant, Mumbai
15:50 – 16:00	Facilitators: PhD Scholars, IITB What are the priority areas in “Environmental Management” of Urban India? The Questionnaire Survey of Participants based on the individuals’ perspectives	Presentation of the Summary of the Questionnaire Survey: Presenter: Prof. Satish B. Agnihotri, CTARA and CPS, IIT Bombay
16:00 – 16:30	Technologists’ Group Discussion: <i>Drivers and obstacles in promoting sustainable technologies for municipal solid waste management</i>	Participants: Prof Sanjay Mahajani, Prof Anurag Garg, Prof Munish Chandel, Prof Bakul Rao Facilitators: Mr Yogen Parekh, Environmental Consultant and Prof. Shyam R. Asolekar
16:30 – 16:50	Role of Environmental Policy & Law as the Tool while Transitioning to Sustainable Futures	Dr. Ajay Deshpande Centre for Policy Studies, IIT Bombay

Valedictory Session		
16:50 – 17:30	The S&T Perspective of Government of India in the Context of Solid Waste Management(TBD by the Guest) Challenges faced by the State of Maharashtra while Cleaning-up Our Cities and Villages	Dr Neeraj Sharma, IAS(to be confirmed) Department of S & T, Government of India, New Delhi Shri. Anil Diggikar, IAS(to be confirmed) Principal Secretary Environment Department Government of Maharashtra
Q&A Session		
17:30 – 17:45	Final Comments & Closure	
17 :45	Tea/Coffee, Fellowship & Networking	2 nd Floor Foyer VMCC, IIT Bombay

CONTACT PERSONS	
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ORGANISED BY:
INDIAN NATIONAL ACADEMY OF ENGINEERS
IN ASSOCIATION WITH:
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
INDIAN INSTITUTE OF CHEMICAL ENGINEERS
INDIAN ENVIRONMENTAL ASSOCIATION

ABOUT INAE

The Indian National Academy of Engineering (INAE), founded in 1987, comprises India’s most distinguished engineers, engineer-scientists and technologists covering the entire spectrum of engineering disciplines. INAE functions as an apex body and promotes the practice of engineering & technology and the related sciences for their application to solving problems of national importance. The Academy provides a forum for futuristic planning for country’s development requiring engineering and technological inputs and brings together specialists from such fields as may be necessary for comprehensive solutions to the needs of the country.

INAE is an autonomous institution supported partly through grant-in-aid by Department of Science & Technology, Government of India. INAE represents India at the International Council of Academies of Engineering and Technological Sciences (CAETS), USA and is one of the member-academies of CAETS.

ABOUT IIT BOMBAY

Established in 1958, the second of its kind, IIT Bombay was the first to be set up with foreign assistance. The funds from UNESCO came as Roubles from the then Soviet Union. In 1961 Parliament decreed the IITs as 'Institutes of National Importance'. Since then, IITB has grown from strength to strength to emerge as one of the top technical universities in the world. The institute is recognised worldwide as a leader in the field of engineering education and research. Reputed for the outstanding calibre of students graduating from its undergraduate and postgraduate programmes, the institute attracts the best students from the country for its bachelor's, master's and doctoral programmes. Research and academic programmes at IIT Bombay are driven by an outstanding faculty, many of whom are reputed for their research contributions internationally.

ABOUT IICChE

Indian Institute of Chemical Engineers (IICChE) is a confluence of streams of professionals from academia, research institutes and industry. It provides them the appropriate forum for joint endeavours to work for development of human capital and serve industries through application of chemical engineering and allied sciences. It made a modest beginning in 1947 with only 30 members under the leadership of Dr. Hira Lal Roy, the founding father of Chemical Engineering Education and Research in India. Mumbai Regional Centre (MRC) was established in 1985. Over the last few decades, MRC has grown to emerge as the leading and resourceful Centre with support and patronage of different academic institutions, industrial organizations and government bodies. MRC has been the most active Centre and upholds the mission and vision of IICChE through organizing technical and professional meetings, seminars, conferences, workshop on areas relevant to the profession for exchange of professional experiences on a common platform for mutual benefits.

ABOUT IEA

The Indian Environmental Association (IEA) was formed in the year 1996 with the primary purpose of providing a platform to professionals involved in the field of environment to address critical environmental issues faced by the society and develop optimum solutions for them. Today, the IEA has around 300 life members and 50 corporate members spread all over India which include Engineers, Scientists, Planners, State Pollution Control Boards, Operators, Non-Government organizations etc. The Association enjoys the reputation of professional integrity

and competence with the Government of India and contributes its expert views for formulating national policies and standards pertaining to environmental protection.

REGISTRATION FEES

For Industries & Consultants: Rs. 5,000 per participant *
(which is inclusive of GST)

*You may choose to apply 25% reduction in fees if you are going to sponsor more than one person from your organization for the workshop.

For Sponsorship:

Gold Rs. 50,000
(This includes participation of 3 participants)

Silver Rs. 35,000
(This includes participation of 2 participant)
(which is inclusive of GST)

Send Fees by A Crossed Cheque: Please fill the **Google Form** and make crossed cheque payable to “**INAE MUMBAI LOCAL CHAPTER**” and **send the cheque to Prof Shyam R. Asolekar** by courier or scanned copy by email.

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No Fees for the Following . . . but, Registering *via* ‘Google Form’ is Compulsory

Delegates from INAE, IITB, IICHe and IEA

Delegates from Academic Institutions including Researchers, Faculty Members, Post-Doctoral Scientists and Students

Nominated and Invited Delegated from Municipality, Pollution Control Board, Housing Societies, ALMs and Rotary Clubs

All should fill the following Google Form. Link for Registration:

<https://docs.google.com/forms/d/1F5DMic28LiwAI0k2cVKsEKSNb3gZWaj3glf2YDI-3Oc/edit>