

environmental challenges to pursue SGD, she told the mayors, during the brainstorming session. She said that her administration has decided to make Indore - bin free, litter free and dust free in coming months. Declaration signing session also saw Osaka City Government of Japan and Quezon City from Republic of Philippines sing city to city cooperation agreements on environment conservation, climate change and technology sharing for effective waste management.

bio-diversity;	approaches to 3R	and construction and demolition waste
<b>RECOMMENDATIONS OF THE FORUM</b>		
<ul style="list-style-type: none"> <li>Regional 3R Forum's contributions to participation countries for facilitating 3R policy dialogues and consolidating 3R policies and strategies need to be sustained</li> <li>Continued focus on resource productivity and waste reduction measures</li> <li>New and emerging waste streams need to be addressed</li> </ul>	<ul style="list-style-type: none"> <li>Closing gaps between institutional and investment needs and opportunities</li> <li>Emphasis on stakeholder engagement and consensus-building-based policy making</li> <li>Special attention to address specific challenges faced by small island countries and remote rural areas</li> </ul>	<ul style="list-style-type: none"> <li>3Rs need to be highlighted as a part of the global sustainability agenda</li> <li>Regional 3R Forum should be continued to lead global debate on resource efficiency, waste management &amp; 3Rs</li> <li>Capacities for data management and evidence-based policy making need to be enhanced</li> </ul>

**“W**e need to ensure that waste water is treated, so it could be utilized in effective ways. It is a question of policies and practices rather than technology

**Dr Kulwant Singh** | DIRECTOR, CEO, 3R, WASTE FOUNDATION INDIA

**“O**ur target is to reuse waste as much as we can to reduce pollution. We have to cooperate with automobile dismantlers to use plastic waste effectively

**Atsushi Takano** | GM, ISONO CORPORATION, JAPAN

**“T**here will be a vast set of ideas from stakeholders and for better implementation these needs to be work in collaboration

**Upendra Tripathy** | DIRECTOR GENERAL, INTERNATIONAL SOLAR ALLIANCE, INDIA

**“V**ery less percentage of industries in India treat water while household waste over 70% water through purifiers. This needs to be checked immediately

**Professor Asit K Biswas** | FACULTY AT SINGAPORE UNIVERSITY



A delegate clicking pictures during the event

## Our tech can be modified as per need

**Q & A**  
**Yasuo Takahashi**  
Japanese vice-minister

**J**apanese vice-minister for global environmental affairs Yasuo Takahashi said his country wished to share waste to electricity conversion technology with India to speed up waste management initiative under Swachh Bharat Abhiyan. In Indore, Takahashi spoke exclusively to **Salil Mekaad** and said Japan can also learn from experience of using its technology in a big country like India. Some excerpts of the interview:

**■ Japan has been closely associated with 3R Forum. What is the significance of India hosting it?**

**A.** We are eager to cooperate with Asia-Pacific countries in the field of waste management. Our PM is keen to cooperate in clean India initiative.

**■ PM Modi recently gave concept of 6Rs - reduce, reuse, recycle, recover, redesign and remanufacture. What do you feel about it?**

**A.** 3Rs (Reduce, Reuse and Recycle) are minimum requirement, 6R is an extension... taking the work in same direction. It is same concept as Japanese Mottainai philosophy.

**■ What kind of international cooperation you are looking at?**

**A.** We are looking at two types of cooperation - one is multi-lateral like this forum. We are also hosting a World Circular Economic Forum 2018 in October in Yokohama city. This is multinational cooperation in sharing waste management technologies. We are also looking for bilateral cooperation with many Asia Pacific countries on waste management issues.

**■ What has come out of the bilateral talks?**

**A.** We are discussing idea of cooperation like - possibility of introducing waste to en-

ergy facilities. We incinerate waste to generate power. We have more than 300 such facilities in Japan. We would like to share those experience and technologies to Asia Pacific countries through the bilateral dialogues.

**■ How can technologies tested in Japan help other countries?**

The approach used to handle the waste differ from country to country. So technologies used by us can be modified to suit needs. Through our cooperation, we can also learn what kind of technology is suitable for India and utilize the experience with other countries like Africa.

**I** river Ganga needs to be changed and rethink for desired results, said Stockholm Water Prize Laureate Professor Asit K Biswas, during the keynote address on Wednesday.

“I can assure as a scientist that river Ganga will be even more polluted by 2030 and money allocated to clean it, will be wasted,” said Biswas.

Another speaker D P Mathuria, executive director of National Mission for Clean

reduced on the need to manage water by public sector. He said water consumption in India is huge and measures like awareness and proper technology such as water treatment and recharging should be used to bring it down.

The per capita per day consumption of water in Indian urban society is about 180-220 litre as against 90 to 120 litre in countries like Czech Republic, Singapore and others which is more than sufficient for leading a

Professor Biswas said that instead of supplying water for free or at highly subsidized rate, water should be priced economically so that its value can be understood by everyone.

He said rather than spending thousands of rupees every month on purifying, pumping, cleaning tanks and in other processes to make the tap water drinkable, priced water from a centrally managed source will have much better quality.

## Plastic recycling can save marine ecosystem

**M**icroplastic particles, measuring less than 5mm in size, is the major cause of toxicity to coastal and marine ecosystem. Microplastic is ingested by fish and birds and it goes into their digestive tracts and brings toxic chemicals to whole eco-system, said Prof Hideshige Takada, Laboratory of Organic Geochemistry, Tokyo University of Agriculture and Technology.

Addressing a plenary session, Takada said that presence of microplastic is

### MAKING SEAS FREE OF PLASTIC

► 80 % of plastic waste in seas comes from land-based sources

► Items commonly found on beaches are single-use plastics like grocery bags, food packaging, bottles

► Management of plastic waste needed to prevent it from going into seas

► Using technology to reduce plastic usage and disposal of floating waste

alarming because it leads to contamination in marine ecosystem. “These micro particles are easily accessible to a wide range of aquatic organisms and ultimately transferred along

food web,” he said. Participants stressed on controlling excessive use of plastic and to introduce certain policies to regulate sources of plastic litter. “We need to use plas-

tic recycling process or promote awareness programmes through different media platforms, then only we will be able to clean our marine ecosystem,” said Wijemuni Wijith Gamini Zoysa of Sri Lanka. Due to industrialization and urbanization, plastic waste has turned out to be a major problem. Awareness should be generated on reducing the use of plastic. Platforms like social media and involving NGOs and schools can prove helpful, he said. **TNN**

## MSMEs need new tech to cut on waste

**P**ollution generated by industries depend on the technology used by them and this calls for institutional arrangement to monitor environmental regulations, said experts.

MSMEs are vulnerable to environment and social risk. They lack knowledge and capacity to afford expensive new technology to help reduce environment pollution.

SMEs in China are major polluters with 70 per cent share in total pollution of country. Professor Jin Hui Li said, “There are around 40 million SMEs here and they are the main contributor of environmental pollution.” Experts said

### TIME TO WORK ON WASTE MGMT

► MSMEs are unaware of legal requirements

► Proper technology should be adopted to reduce waste

► Need to shift from regulator to facilitator

► Industries should come up in well-designed clusters

SMEs should focus on minimizing waste and optimizing management. CII principal counsellor Shikhar Jain said that it's important for small firms to ensure ethical sourcing of goods and services. **TNN**

## Strict monitoring must for e-waste disposal

**R**ecycling of used plastic and electronics should be the prime responsibility of manufacturers and proper regulation should be in place to check implementation of treatment.

Experts at 3R forum said generation of electronics and plastic waste can be limited to negligible if the collection and recycling of waste is handled by actual manufacturers under strict monitoring by the local bodies.

Dr Sunil Herat, senior lecturer in Environmental Engineering (Waste Management), Griffith University, Australia said, “It is

producer's physical and financial responsibility to take back the product after use but in developing countries this is not being followed which leads to improper disposal.”

Experts said the problem in developing countries is that the policies are not based on scientific research. Another speaker Saibal Das Chowdhury, co-founder and CEO Urbanetic Singapore stressed on the importance of technology in reducing the amount of waste. Experts said that the future cities will be well connected, activated, shared and environmentally friendly. **TNN**