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# Solutions for Solid Waste Management in India



Proceedings of trialogue2047

28 July 2017







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# About trialogue2047

**trialogue2047** is a series of discussions organised by Development Alternatives, to explore how India can achieve its vision of becoming a green, inclusive and resilient nation by 2047, i.e. after 100 years of independence. **trialogue2047** brings together distinguished speakers to address issues like poverty alleviation, participatory policymaking, resource efficiency, Sustainable Development Goals, etc. The discussion held on 28 July 2017 addressed the theme of "Solutions for Solid Waste Management in India".

Speakers at trialogue2047 on "Solutions for Solid Waste Management in India"

Ms. Almitra H. Patel, Member, Supreme Court Committee for SWM

Ms. Lakshmi Narayanan, Co-founder, KKPKP, Pune and SWaCH

Ms. Swati Sambyal, Programme Manager, Environmental Governance - Waste Management, CSE, Delhi

### **Brief Overview**

As the Indian economy is expanding and material consumption is rising, a major challenge at hand is the management and containment of solid waste. Annually, 62 million tonnes of garbage is generated by the 377 million people living in urban India. (Report of the task force on Waste to Energy, Planning Commission, 2014) However, the issue is not just the amount of waste generated; even worse is the fact that more than 45 million tonnes, or 3 million trucks worth, of this garbage is untreated and disposed by municipal authorities every day - most of it in an unhygienic manner, leading to health issues and environmental degradation.

There is an ever increasing traction and focus on advocacy for scientific and sustainable solid waste management systems in the country. Specific targets under the Sustainable Development Agenda: Agenda 2030 also highlight proper waste management as an important pillar for development, with Goal 12 precisely focusing on sustainable consumption and production patterns to promote concepts like 'Reduce, Reuse, Recycle', 'Zero Waste' and 'Circular Economy'.

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# Introduction

Solid Waste Management Guidelines 2016 have detailed the most appropriate steps to change the waste management paradigm in the Indian context, and minimise its environmental impact. Minimum generation of waste by reusing and recycling, in tandem with proper segregation and treatment practices, is the most preferred approach to tackle the challenge that this sector poses. 50-60% of waste generated in most Indian cities is organic and biodegradable, leading to the conclusion that composting would help the country tackle a large volume of garbage that is dumped unscientifically, sparing the ample amount of resources used for its transportation and disposal.

Similar ingenious approaches have been promoted across the world for reducing resource consumption and increasing resource recovery from waste materials. The Korean government has promoted the "SSSR Campaign" (Ahnabada Campaign) - which stands for "Save, Share, Swap and Reuse" - to bring the reuse of goods into everyday habits; and has hosted marketplaces for exchanging or trading second-hand goods.

The major generators of solid waste are the big cities - Delhi, Mumbai, Bengaluru, Chennai and Kolkata - dumping anywhere from six to ten thousand tonnes of waste per day. (Compendium of Environmental Statistics, India 2015) The disposed waste has varied environmental, social and economic impacts.

Nearly 75% of the waste generated in India is not treated (Annual Report, CPCB, 2013), and openly dumped onto fallow lands, leaching lethal chemicals into the ground, toxic fumes into the air and poison into the water systems. The critical impact of this on public health is immeasurable, and can be witnessed through the rapid rise in pulmonary diseases, cancer occurrences, birth deformities etc. The World Health Organisation estimates that a better waste management system would ensure prevention of 22 types of diseases. (Mallapur, 2014)

The Indian Government has dedicated resources and technical capabilities to improve the waste situation in the country. The Waste Management Rules have been issued separately for different categories of waste, vis-à-vis, plastic, municipal, electronic, construction and demolition, hazardous and biomedical. The Municipal Solid Waste Management Rules primarily aim to achieve 100% collection and segregation of waste to ensure efficient treatment and disposal.

The three speakers come with valuable experience in the waste management sector:

- 1. **Ms. Almitra H. Patel** is an environmental policy advocate. Her landmark 1996 Public Interest Litigation in the Supreme Court against open dumping of municipal solid waste was instrumental in the drafting of the Municipal Solid Waste Management Rules.
- 2. **Ms. Lakshmi Narayanan** is an active social worker. She is now the General Secretary of Kagad Kach Patra Kashtakari Panchayat (KKPKP) in Pune, which is a union of waste pickers, enabling them to fight for their rights as legitimate workers, and rally for a better future for their children.
- 3. **Ms. Swati Sambyal** is a Municipal Solid Waste Management expert. She actively analyses and shares her views on government policies in the sector. She has co-authored the book, *Not in My Backyard*, which gives an explicit view of waste issues in Urban India.

Conversion of waste to energy via incineration is not widely accepted in India, owing to its commonly known negative environmental impacts, though it is widely practiced globally. The *trialogue2047* aimed to explore answers to various questions as described below:

The first question that the *trialogue2047* attempted to address was, "What should be the principles for Solid Waste Management in India?"

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Ms. Almitra H. Patel highlighted that waste was never a problem until the 1970s. In Vedic times, food waste was composted and recycled to the agricultural lands. It was only in the 1970s that plastic was introduced, and mountains of waste were created. In 1996, it was decided that we must go back to Vedic principles through which valuable nutrients can be recycled back to the land. If one has unmixed waste, good compost or biogas can be generated, also aiding in recycling of the dry waste. This is also known to generate value and dignity for the work of waste pickers. Article 51(A) marks the duties of citizens, and Article 51(AG) marks duties to protect and nurture our environment, save our lakes, forest and wildlife, and care for all living beings. Bringing attention back to the 'Waste to Energy' concept, Ms. Patel mentioned that it was a western concept, used solely to keep their cities warm with the heat produced from waste burning. However, this concept cannot be applied to a tropical country like India.

She also mentioned that the National Green Tribunal in 2016 passed a rule that untreated wet waste and waste with low calorific value shall not go unsegregated into Waste to Energy plants. Thus, in the Indian scenario, non-biodegradable, non-recyclable and combustible waste available for Waste to Energy plants are merely 15% of the total waste generated. In conclusion, Ms. Patel advised against the uptake of obsolete Waste to Energy technologies from western countries.

Ms. Isher Judge Ahluwalia, a renowned economist, highlighted that committing oneself to spread awareness and engage people to start source segregation is an important step towards the concept of zero waste.

The second question that the **trialogue2047** attempted to address was, "What are the most suitable models for qualitatively improving the waste management system in India, on the criteria of clean technology, environment sustainability, economic viability and consumer behaviour?"

Ms. Lakshmi Narayanan re-emphasised that customised daily collection systems could be beneficial. These would have to focus on the inclusion of informal sector, which could be achieved by providing decent incentives to waste pickers and informal recyclers. The municipalities should set up systems for ensuring source segregation, and also economic viability in recycling the waste that is diverted to the recycling stream. As Ms. Swati Sambyal highlighted, waste is a resource, and can generate value, providing holistic environmental, social and economic benefits. There is a need for the correct selection of technology for waste management, which can be identified once the composition of garbage is known, which further indicates a need for better data and waste quantification systems in the country.

The third question that the trialogue2047 attempted to address was, "How can we enhance the capacities of different stakeholders - the government, private players, civil society, communities and individuals – to strengthen their potential role in solving the solid waste problem of India?"

Ms. Lakshmi Narayanan shared with the audience that there is an engaging relationship between the Mohalla committee, waste pickers, citizens, municipality and sanitary officers in Pune, enabling them to speak respectfully and inclusively about the informal sector, and that there is sensitivity and recognition for the workers. SWaCH is a user pay model in Pune. It handles all the logistics of waste pickers. The municipality pays only the overheads of the organisation, and the households pay the waste pickers directly. This amount is ten times more than what the municipalities have been paying the waste pickers historically, due to which many have been empowered. The focus should be on shifting the responsibility of waste management on the citizens - the generators of waste.

Mr. Ashutosh Dixit, representative of an RWA in Delhi, shared that many people in Delhi NCR rent flats on shift basis and it becomes difficult to monitor the waste segregation in this situation. He suggested that the Municipal Corporation should force and encourage people to segregate, with due and effective implementation of the policies in place.

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Ms. Patel drew attention to the informal recovery and recycling sector, calling it as one of the most important stakeholders in the informal sector. Improving its working conditions would be quintessential to setting up an alternate system for better waste management.

Mr. Ranjit Devraj, President of the Sukhdev Vihar RWA, talked about the court case they have been fighting for the last 8 years against the functioning of the Waste to Energy plant at Okhla. He highlighted its adverse health impacts on the residents, their constant effort to shut down the plant, and the lack of any response from the Corporation.

#### Conclusion

The overall discussion was based on how to manage waste within the city, so that people do not face another incident like the one at Ghazipur (East Delhi), where a mountainous garbage dump collapsed because of heavy rain, killing two people. People from different fields and parts of the country tried to share their experience, and raised issues related to waste and its management.

The platform gathered various stakeholders, and was conducive to developing a holistic understanding of the challenges and setbacks in the waste management sector of India. From academic views, practitioners' experiences and citizens' voices, the discussion demanded deeper reflection and assertive action from all concerned. The dialogue stressed on the need for continued deliberations among the stakeholders, which can be achieved through capacity building and behaviour change initiatives for the citizens, municipalities and CSOs. Also the municipality should refuse to accept unsegregated waste, promoting *in situ* composting, as this is the need of the hour. The participants responded that the civil societies are doing their bit to change the behaviour of people and to convince them to manage waste. It is important that the citizens, too, should come together to combat this situation. The government laws should be reinforced, and penalty should be charged from those who violate them. The enriching discussion was summed up by Mr. George C. Varughese and Ms. Zeenat Niazi from Development Alternatives, with a commitment to absorb and work on the propositions that came in from different participants.

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