Redefining SWACHH #WASTEMATTERS

Celebrating International Mountain Day (11 December 2018)

Workshop cum Brainstorming on

'Himalaya Matters for Ecological and Economic Security' at Indian National Science Academy, New Delhi

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Every bit of plastic that has ever been made is still lying on this planet.

Plastic pollution has become one of the most challenging problems that the world is facing currently. According to the study, Production, use, and fate of all plastics ever made by *Roland Geyer, Jenna R. Jambeck, Kara Lavender Law - 2017*; "**it is estimated that 8300 million metric tons (Mt) of virgin plastics have been produced to date**" The same study goes on to note the alarming fact that of all the 8.3million MT plastics that have been produced till 2015, 6.9 metric tonnes has been trashed and only 9% has been recycled. *India generates about 15,342 tons of plastic waste per day (Tonnes Per Day) and around 5.6 million tonnes per annum (70 percent) of total plastic consumption is discarded as waste. - Overview of Plastic Waste Management CPCB 2013.* Therefore much of the plastics that has been produced is lying in landfills, and in the oceans and rivers, causing soil and water pollution.

> *8 million tonnes of garbage is being dumped into the ocean every day - a garbage truck every minute.*
> *By 2050, there shall be more plastics in the ocean than fishes.*

Plastics do not degrade, but only break into tiny pieces, microplastics. These microplastics have entered our food chains and latest findings suggest humans are consuming an average of 5 g of plastic a week, equivalent to the weight of a credit card. A plethora of studies in 2018 have shown microplastic has been found in tap water, bottled water, salt, human excreta and the latest in 2019 being in the arctic snow too. The effect of plastics, especially the all pervasive micro-plastic on human health is yet to be fully determined but is considered extremely serious by the World Health Organisation.

Given all these, the problem of plastic waste is as serious an issue as climate change. From extraction to manufacture to use and disposal, plastic contributes to greenhouse gas emissions at every stage of its lifecycle and it is predicted that CO2 emissions from plastic could grow upto 2.75 billion tonnes by 2050. Production of plastic also consumes precious and limited petroleum reserves especially when one notes that 50% of all plastic made today is single use plastic that is trashed instantly.

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Thus the existing waste management system of piling up in landfills or burning of unsegregated is extremely harmful to the well-being of us and the planet.

The Indian Himalayan Region

In the mountainous Indian Himalayan Region(comprising of 12 states), managing plastic waste has become extremely challenging as the volume of plastics that is being used has grown enormously in the past 10 years. With rapidly changing lifestyles, changes in packaging and consumption patterns, and an ever increasing tourist footfall, the waste profile has undergone significant change with more and more plastics, especially single use and multilayered plastics being used and thrown at alarming rates. While recyclable plastics (such as PET) do constitute a part of the waste, collection challenges and poor linkages to recycling facilities are major impediments for recovery of such wastes, with the result that most of the waste generated end up being trashed. Only a very small percentage of the waste is recovered by the informal sector of scrap dealers and rag pickers.

Dumping of all waste in waterways or jhoras and rolling down hillsides have been the most preferred and convenient way for disposing waste in the mountain states and now is full of plastics. This includes the municipality, community or the individual resulting in environmental injustice for communities living downstream. Apart from this, burning of waste is also widely practiced all across the mountains resulting in toxic air and residual pollution. Dumped plastics and microplastics remain for hundreds of years without bio-degrading, continuously polluting the soil and water of the mountain environment as well as contaminating downstream and ultimately reaching the oceans. In addition, methane emissions from mixed waste kindles fires in landfills spewing toxic smoke including carcinogenic gasses like dioxins and furans. Plastic chokes waterways and contributes to landslides in the mountains.

While it is the responsibility of the Urban Local Bodies and Rural Local Bodies to manage waste, all ULBs have limited themselves to promoting the collect, transport and dump system for managing waste, choosing to shift the problem to another location rather than taking a holistic approach of truly managing waste. Most rural local bodies have no system in place and unsegregated waste is dumped down the hill. Now the volume of plastic waste that is entering our towns and cities and even rural areas is so huge, that traditional ways in which municipal bodies managed waste have totally become ineffective. Overflowing landfills are proof that the system is flawed and no longer working.

All these have resulted in unsanitary, unhygienic and poor living conditions for mountain communities that impacts their wellbeing as well as that of the larger ecosystem.

Thus there is an urgent need to Redefining Swachh to go beyond the brooms, dustbins, burning, landfilling and rolling it down the hill narrative to reduction of single use plastic and the load on landfills systematically. There is also a need to design sustainability in products and packaging as a long term strategy of waste management.

The Himalayan Cleanup 2018 & 2019

The Himalayan Cleanup is an annual event undertaken on 26 May across the 12 Mountain states including the hill districts of West Bengal and Assam to bring to fore the issue and challenges of plastic pollution in the mountains. In 2018 it cleaned up over 250 sites with the involvement of more than 200 organisations and 15000 volunteers and in 2019, 100 plus sites was cleaned. Darjeeling and Kalimpong was extremely active in the Himalayan Cleanup.

The main finding from the Himalayan Cleanup was that there has been a dramatic increase in plastic waste in the mountains, with volunteers observing that ‘Not a patch of ground is free from plastic waste’. The cleanup was taken forward as a process of self reflection too for the volunteers to see what makes up our waste and make changes to reduce waste, while bringing about a great sense of solidarity and volunteerism.

The other significant realisation was that while mountains were being bombarded with plastics in all forms, adequate systems to manage waste was virtually non existent. Most clean up sites faced challenges of safely disposing the waste that had been collected during the campaign, which brought to the fore the harsh reality that options for waste disposal were non existent for mountain communities.

The clean up showed than more than 95% of the non-biodegradable waste collected was plastic trash.

The waste details are further disaggregated in table below:

No	Type of waste	Percentage	Details
1	Multilayered Plastics (mostly popular junk food, sweets, gums, gutka)	62.67	Not recyclable.
2	Single use utensils (cups, plates, spoons, forks, bags)	17.19	Not recyclable
3	PET bottles	9.10	Recyclable, challenging to collect
4	Other plastic	5.09	Partly recyclable
5	Tetrapak	3.32	Recyclable. No linkage

The shiny Multilayered Plastics which make up the largest amount of trash has no technological solution in terms of disposal, which is why all of it ends being trashed. This is due to the many layers of material(impossible to separate) it is made up of making it impossible to recycle. The only way out is to design the material out on the long run bringing about sustainable material choices.

Single use plastic utensils that were recovered were also not recyclable and these could easily be reduced at municipality levels by phase out bans. These could be replaced with eco-friendly alternatives such as those made with leaves, bamboo, cloth, etc.

For recyclable options such as PET, TetraPak and others, recycling linkages need to be integrated by making companies responsible for collection and take back mechanisms.

Where do we go now?

This plastic pollution that is rampant across the mountains challenges the narrative that the Himalaya are sacred and pristine. It is important to acknowledge that the Himalaya have to respond to this increasing issue of waste and evolve mountain centric actions at different levels with the involvement of all stakeholders. The existing practices of waste management of rolling down the hill, landfilling and burning is not just insufficient but polluting and harmful to the well being of people and the planet. There is an urgent need to evolve site specific sustainable solutions based on reduction, replacement and recycling of waste.

The Solid Waste Management Rules 2016 and Plastic Waste Management Rules 2016 specifies a number of sustainable waste management steps that are to be complied with by all states and their local bodies extending to both urban and rural areas. The rules have been very poorly implemented by most of the states and this has prompted the National Green Tribunal to issue further notices to all states for immediate compliance. The rules provide an excellent pathway to address the issue of waste in the Himalaya.

Some of the salient features of the rules that can be immediately complied are as below -

1. **Segregation at source**

Segregation of waste enables communities to not only divert waste from the landfill but bring in a new narrative of waste to wealth by linking all recyclables to recycling streams. This changes the narrative to look at waste not as discards but material to be reused or be given a second life.

Facilities for storing the segregated dry waste must be made at a decentralised ward level or at cluster level. These can be established in coordination with scrap dealers who operate in the area, for easily accessing the existing linkage to recycling. In many places, community members deposit their own recyclables at such stations removing then the manual effort required to collect these kind of waste from every house.

60 to 70% of domestic waste is biodegradable and diverting this reduces the landfill load to a large extent. Linking food and biodegradable waste as animal feed, wherever possible is the best way to deal with this kind of waste. Where this option is not available or possible there are a diversity of composting solutions. Many municipalities in the country have now stopped collecting wet waste from households leaving the responsibility of its management to the waste generator.

- Generators to segregate waste into 3 - Wet (Biodegradable), Dry (Plastic, Paper, metal, wood, etc.) and domestic hazardous wastes (diapers, napkins, empty containers of cleaning agents, mosquito repellents, etc.) Used sanitary waste like diapers, sanitary pads to be wrapped separately. This segregation is just a stepping stone to better segregation.
- Households as well as bulk waste generators such as hotels and institutes must compost at their own level which can be incentivised/ motivated through training and other support to begin.
- Community and individual composting options should be looked at with along with the engagement of service providers.
- Street vendors to keep suitable containers for food waste, disposable plates, cups, cans, wrappers and deposit such waste at waste storage depot or container or vehicle as notified by the local authority.
- Any event, or gathering organised of more than 100 persons to ensure segregation of waste at source and handing over of segregated waste to waste collector or agency as specified by local authority.

2. **Local level byelaws**

Urban and rural bodies have been given the power to draft their own byelaws to address the waste situation which could incorporate the following -

- Introduce bans on single use plastics for waste reduction such as plastic bags, bottled water and single use plastic utensils
- Introduce garbage fee for household collection
- No throwing, burning, or burying of solid waste on streets, open public spaces or in the drain, or water bodies. ‘Spot Fine’ for Littering
- Payment of ‘User Fee’ to waste collector. ‘Spot Fine’ for Non-segregation.

3. **Extended Producer Responsibility**

Making producers responsible for the waste they are generating has to be embedded in all future strategies.-

- Take back mechanisms for all non biodegradable packaging material to be made by brand owners to collect back the packaging waste generated by them.
- Explore possibilities of using all recyclable materials in sanitary napkins and diapers by manufacturers or provision of special pouch for disposal in pack.
- Necessary financial assistance to be made to local authorities for establishment of waste management system by manufacturers of disposable products such as tin, glass, plastics packaging etc.
- In the long run, switching from multilayered plastics to sustainable packaging options is the only real solution.

4. **Integration and well being of the informal sector of waste workers and ragpickers**

While working to improve the waste situation, the informal sector of waste workers and ragpickers whose role in waste management needs to be acknowledged and integrated into the formal systems. Provisions for their well being and health are important factors to be considered immediately. There is a need to uphold their rights and dignity.

5. **Sustainable menstrual health**

There is a need to break the silence and taboo around menstruation. While talking about periods openly there is a need to promote sustainable menstrual health products and not get caught up only in products that are primarily plastic, loaded with toxic chemicals harmful to health. This non-biodegradable pads are thrown without any segregation or worse burnt in small incinerators.

Like wise the boom on baby diapers have not been addressed from a sustainability perspective and is the same as the sanitary pads, primarily plastic, loaded with toxic chemicals and non-biodegradable.

Steps to redefine swachh.

The Prime Minister's speech on Independence Day 2019 highlighted the importance of plastic eradication, and a step in this direction is through the proper implementation of the SWM Rules and PWM Rules.

There is a need to actualise it and demonstrate through **pilot wards** that are already undertaking some good practices in managing their waste and the initial interventions. The pilots could then be gradually scaled up to cover more wards in the municipality or in the rural bodies. Pilots must also be developed at the level of educational institutes, hotels and restaurants, Government offices or at a ward/village level, through a combination of knowledge and skill building as well as developing the required infrastructure so that a diversity of solutions are evolved.

ULBs, PRIs and Government offices must lead the way by becoming an exemplary space in terms of reduction of single use plastic by conducting a waste audit of the offices and then investing in sufficient water filters, reusable utensils, individual reusable water bottles, cloth bags, as well as waste segregation. To kickstart this initiative, reusable water bottle and a cloth bag each, with a prominent tagline on plastic bag reduction, could be provided to all the department staff to promote the culture of reuse. These experiences can then be translated to larger intervention spaces.

All events of the Government Departments to be planned and organised as zero waste events so as not to end up with waste especially single use plastic. Rethink on plastic flowers for decoration, bouquets

wrapped in plastics, plastic ribbons, plastic folders. Promoting local food and rethinking food beyond plastic packaged food promotes local food cultures and economies as well as reduces food miles. One can announce meetings where participants bring their own utensils or the offices invest in reusable utensils as well as filtered and boiled water instead of single use bottled water.

"Can we free India from single-use plastic? The time for implementing such an idea has come. May teams be mobilised to work in this direction. Let a significant step be made on October 2." PM Narendra Modi, August 15, 2019

Zero Waste Himalaya **(ZWH)** group is an informal platform of organisations and individuals concerned with the increasing problem of waste across the fragile Himalayan landscape and advocating zero waste principles and practices, specifically targeting plastic pollution.

Integrated Mountain Initiative **(IMI)** a platform of 12 Himalayan States of India promoting and advocating a mountain lens to intervention and policies for sustainable development.

Roshan (Darjeeling Prerna), Priya (WWF-India) and RPG (ECOSS) while working with their own organisations are part of the Zero Waste Himalaya and Integrated Mountain Initiative Families.