



aviral

Reducing Plastic Waste
in the Ganga

DATA INVENTORY FOR EFFECTIVE WASTE MANAGEMENT AND LAUNCH OF BASELINE ASSESSMENT STUDY OF SOLID AND PLASTIC WASTE IN HARIDWAR AND RISHIKESH

Webinar Report

Powered by: **ALLIANCE
TO END
PLASTIC
WASTE** 

Implemented by: **giz** Deutsche Gesellschaft
für Internationale
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In Cooperation with:  

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SUSTAINABILITY
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INTRODUCTION

A vast majority of Indian urban local bodies are in need of comprehensive solid waste management data vital for effective decision making. This was also true in case of the Aviral project cities of Haridwar and Rishikesh. As a result of the citywide baseline assessment done under the project an extensive report on the existing status of the municipal solid waste management was developed. This baseline assessment was conducted following a scientific methodology which renders the results of this assessment doubtless. River Ganga, with an annual input of approximately 0.12 million tonnes of plastic, is suspected to be the second largest source of riverine plastic litter into the oceans¹. Both the project cities are important cities on the upstream of the Ganga. The cities are two of the seven most populous in the state and cater to a large tourist influx as well. Hence it is evident that a large amount of the plastic pollution that is generated here could be potentially tapped and stopped from reaching the Ganga and ultimately the ocean.

The purpose of the base line assessment and dissemination was two pronged. On one hand it will act as a ready reference for the urban local bodies to take informed decisions with respect to municipal solid waste management and also implementing the project Aviral activities more efficiently with the sustenance plan. This is intended to fill some data gaps particularly regarding plastic waste management. The report has a detailed analysis of the quantity and characteristics of the total plastic waste found in the city. On the other hand, this report will set an example for a scientific waste assessment study adapted to local conditions of the Uttarakhand state.

The webinar was organized for the dissemination of the assessment report, its methodology and key findings, and emphasizing the need of data inventory in planning the effective waste management systems. The attendees of this webinar included officers from Uttarakhand Urban Development Directorate, members of Central Pollution Control Board, various State Pollution Control Boards, the municipal officials of various riverine and coastal cities including both the project cities, representatives from Alliance to End Plastic Waste, GIZ India staff, Aviral project team, various researchers, private recyclers and motivated citizen groups.

¹ Riverine plastic pollution from fisheries: Insights from the Ganges River system, River plastic emissions to the world's oceans

STRUCTURE OF WEBINAR

The webinar on **Data Inventory for Effective Waste Management** was held on 16th July 2021 at 3:00 pm IST. This was moderated by Ms. Kamna Swami, Project Coordinator - Aviral, GIZ. The language used in the webinar was primarily English. However, during the webinar some instances required deliberations in Hindi as well. The agenda of the webinar is listed in Table 1.

Table 1: Agenda of the webinar on Data Inventory for Effective Waste Management in Uttarakhand

Webinar on Data Inventory for Effective Waste Management		
Details: 3:00 to 4:30 PM at MS Teams		
Inaugural Session (3:00 to 3:45 pm)		
Time (IST)	Agenda	Speaker
3:00 to 3:10 pm	Welcome Address	Ms. Anja Meinecke, Head, Market and Clients, GIZ Mr. Chandra Bhushan, CEO, iFOREST
3:10 to 3:20 pm	Special Address - sharing Alliance plans to contribute in supporting solutions for plastic waste management in India	Mr. Nicholas Kolesch Vice President (Projects) Alliance to End Plastic Waste
3:20 to 3:35 pm	Presentation on the project and the City Reports	Mr. Chandra Bhushan, CEO, iFOREST
3:35 to 3:45 pm	Report Release and Inaugural Address	Dr. Prashant Gargava Member Secretary, Central Pollution Control Board Dr. Ashok Kumar Ghosh Member, REC, MoEF&CC and Chairman, Bihar State Pollution Control Board
Panel Discussion: Importance of Accurate Inventory for Planning Effective Waste Management System (Moderated by Ms. Kamna Swami, Project Coordinator - Aviral, GIZ) 3:45 – 4:30 pm		
3:45 to 4:15 pm	Panelists <ul style="list-style-type: none"> Mr. Chandra Bhushan CEO, iFOREST Mr. Ravi Pandey, Superintending Engineer and Nodal Officer (SWM & PWM), Urban Development Directorate, Uttarakhand Mr. Jai Bharat Singh Municipal Commissioner, Haridwar Municipal Corporation Mr. Vinod Lal Assistant Municipal Commissioner, Rishikesh Municipal Corporation Mr. Sanjit Rodrigues Collector, South Goa (Former Commissioner, Corporation of the City of Panjim) Ms. U Sarada Devi Additional Commissioner, Vijayawada Municipal Corporation 	
4:15 to 4:30 pm	Q&A and Vote of Thanks	

OVERVIEW AND TOPICS OF WEBINAR

Inaugural session:

The inaugural session of the webinar was started at 3:00 pm IST on 16th July 2021. In this session Dr. Prashant Gargava, Member Secretary of Central Pollution Control Board (CPCB), Dr. Ashok Ghosh, Chairman, Bihar State Pollution Control Board, GIZ, Mr. Nicholas Kolesch, Vice President (Projects), Alliance to End Plastic Waste (Alliance), Ms. Anja Meinecke, Head (Market and Client), and Mr. Chandra Bhushan, CEO, iFOREST were present. On same day, in Uttarakhand Harela, a festival of greenery was celebrated in which urban local bodies officials were busy in plantation of saplings and yet attended the webinar on time with optimal strength. The webinar was attended by approximately 120-150 Participants.

Ms Kamna Swami welcomed all the participants and speakers and set the context of the webinar. She also debriefed the flow of the webinar. The webinar was jointly organised by the International Forum for Environment, Sustainability and Technology (iFOREST) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH under the project AVIRAL - Reducing Plastic Waste in the Ganga, funded by the Alliance to End Plastic Waste (Alliance). Moving forward, Ms. Anja Meinecke welcomed the participants and shared about the objective of the study conducted in Haridwar and Rishikesh. Mr. Chandra Bhushan also developed upon the same and introduced both the city baseline assessment reports. Mr. Nicholas Kolesch, shared the Alliance's plans on how it is planning to contribute to supporting solutions for plastic waste management in India and how an accurate inventory helps in designing solutions better.

Presenting the City reports, Mr. Chandra Bhushan said "That one of the major challenges we faced was absence of any specific methodology to develop an inventory. This study provided us an opportunity to develop a robust methodology for inventorizing waste. This methodology can also be used by other municipalities in the country". Besides a method for developing a waste inventory, the study also involved 3 important components. The first was to understand the current status of waste management in both the cities, including evaluation of the past and current initiatives, population and source enumeration, waste management systems and infrastructure, and mapping the informal sector and plastic waste value chain. The second was to quantify and characterize solid and plastic waste, including development of solid and plastic waste inventory and assessment of different types of plastic. The third was to capture the perception, knowledge and attitude of various stakeholders on waste management. This included the households surveyed in Rishikesh (394) and Haridwar (383), and 180 commercial establishments in the two cities.

Releasing the report at the event, Dr. Prashant Gargava, emphasized on the need to bring in the behavioral change for managing waste problem for both businesses and people. "CPCB is putting a lot of emphasis on Extended Producer Responsibility (EPR) to tackle the issue of plastic waste, particularly Multi-Layer Packaging (MLPs). We are trying to tackle the problem throughout the value chain", said Dr. Gargava. He also emphasized on the need to harmonize the inventory methodology so that variation in data being received from different municipalities can be standardized. Dr Ashok Ghosh emphasized on the need to integrate waste inventory into the planning process for developing effective waste management infrastructure. He also suggested that "for resolving the plastic waste problem better understanding of the types and composition of plastics in the waste stream will be required".

Key findings of the baseline assessment:

- Segregation at source is poor, around 70% household in Haridwar and 90% households in Rishikesh use single bin for waste disposal.
- Data management system needs to be institutionalized for regular updation of waste inventory data.
- Decentralized waste processing systems is missing in both the cities.
- Plastic constitutes major portion of dry waste component; it is around 37% at Rishikesh and 31% at Haridwar.
- Role of informal waste collectors are significant in managing high value plastic, but the low value plastics such as LDPE and MLPs which constitutes approximately 70% of plastic waste, are of major concern.
- About 9% of total plastic waste generated in Rishikesh is unmanaged out of which 10% percent is burnt while 25 – 30 % leaks into the water bodies.
- Around 19% of total plastic waste generated in Haridwar is unmanaged out of which 13% percent is burnt while 30 – 35 % leaks into the water bodies.
- Waste management programmes and campaigns should be focused on bringing behavioral changes to ensure success of waste management system.

Plastic waste generation and its mismanagement is one of India's biggest environmental challenges currently. The changing lifestyle in both urban and rural areas is escalating the problem. However, there is lack of adequate data on solid and plastic waste generated from our cities. Moreover, it is inconsistent because of absence of a standard methodology to the solid and plastic waste inventory.

Panel Discussion: Importance of Accurate Inventory for Planning Effective Waste Management System

The second half of the webinar was dedicated to the panel discussions. This session started at the scheduled time of 3:45 pm IST and was moderated by Ms Kamna. The panellists in the session included Mr. Ravi Pandey, Superintending Engineer and Nodal Officer (SWM & PWM), Urban Development Directorate (UDD), Uttarakhand, Mr. Chandra Bhushan, CEO, iFOREST, Mr. Jai Bharat Singh, Municipal Commissioner, Haridwar Municipal Corporation, Mr. Vinod Lal, Assistant Municipal Commissioner, Rishikesh Municipal Corporation; Mr. Sanjit Rodrigues, Collector, South Goa (Former Commissioner, Corporation of the City of Panjim), and Ms. U Sarada Devi, Additional Commissioner, Vijayawada Municipal Corporation.

During the discussion Mr. Bhushan highlighted the difference between awareness and behavioural change. He said, "a household might be aware about their role to segregate but their behaviour has not changed". Mr. Pandey, from UDD, Uttarakhand shared some of the recent initiatives taken by the state in managing municipal solid waste. Mr. Jai Bharat Singh shared his concern on the issues with managing thermocol waste. He also showed his concerns regarding fabric waste generated as a result of pilgrim and tourism activities of the city. He appreciated the baseline study and explained how the results will be useful in planning for effective waste management system. Mr Vinod Lal congratulated the iFOREST and Aviral team for putting up one of its kind report that gives extensive data on plastic and solid waste of Rishikesh city. He highlighted that the data brought out in the report could be used in financial planning and budgeting of the waste management infrastructure. With Aviral project capacity building and focus on operational health and safety has increased.

Mr. Rodrigues shared the initiatives taken by Goa in managing the plastic waste, where as Ms. Sarada Devi, from Vijayawada Municipal Corporation, which was ranked fifth in the latest Swachh Sarvekshan Survey, explained how Vijayawada has been managing the data on waste inventory and the process in place for the same.

Webinar Closure:

The webinar ended on a positive note where participants from different State Pollution Control Boards, Municipalities, etc. appreciated the study and emphasized the need for such studies across so that a better understanding on the solid and plastic waste composition can be achieved, for designing/redesigning our waste management system. Considering the activities of project Aviral and the baseline assessment, the participants of other states extended an invitation to GIZ for establishing projects there as well. At last, the organizers thanked all the participants, guests and panelists for providing their valuable inputs and making the event successful.

Learnings for the webinar organization:

The webinar when done in the vernacular language gives a greater impact in a Hindi speaking state such as Uttarakhand where even the official language is Hindi.

QUESTIONS AND ANSWER

The participants posted their questions in the chat section of the webinar during the panel discussions and the report launch presentation. These questions have been collated in the following Table 2.

Table 2 The questions and answers during the webinar

S. No.	Name of the participant	Question	Answer
1	Punita Kumar	@Chandra Bhushan ji , Health care wastage or hospital wastage was considered as one of the parameters?	Not waste from hospitals as such only household domestic hazardous waste was part of the assessment.
2	Katharina Paterok, GIZ	@Chandra Bhushan ji , I understand that the baseline findings of both cities have a lot of similarities. What did you and your team found out to be the biggest difference(s) between both cities in terms of plastic waste management? Thank you	Both the cities are from the same state and also the cultural and social setting of both the cities are more or less identical. The major difference we found was, that in Haridwar the scope of leakages is more as more of the waste is being collected at the community bins. And the leakages also occurs at the transfer of waste between primary and secondary collection.
3	Madhuri Singh	@Ravi Pandey ji , how is the end product of plastic compactors used and which industry?	The collected plastic waste is sent to local recyclers who further send it to recycling industries.
4	Kapoor Kartik	@Chandra Bhushan ji , How much is approximated resource commitment (Finance and Human) to replicate the methodology in other cities ?	It will mostly depend upon the sample size. 4 – 5 member team for 2 – 3 months. During waste collection and analysis 16 – 20 member team for facilitating collection, particle size distribution, segregation and typology.
5	Merajuddin Ahmad, GIZ	@Chandra Bhushan ji , what are your views on the application of the plastic (qualitatively and quantitatively) generated in Haridwar and Rishikesh for plastic to fuel option. Also what are the specific check points in these two cities to be	During our assessment we could find 3 categories of plastics; <ol style="list-style-type: none"> 1. High value plastic, 2. Low value clean (non-contaminated) plastic 3. Low value contaminated plastic Highly contaminated plastics are not being reused by anyone including road constructions and waste to energy plants. If recycling of plastic is an objective then the amount of



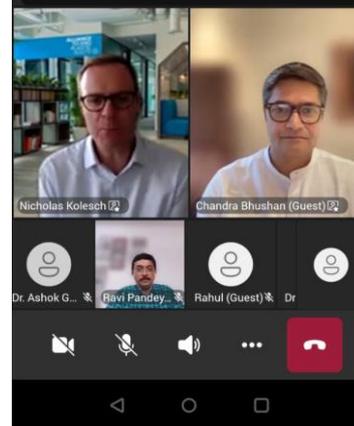
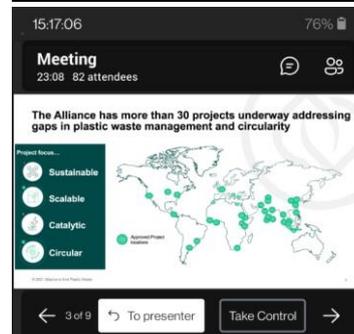
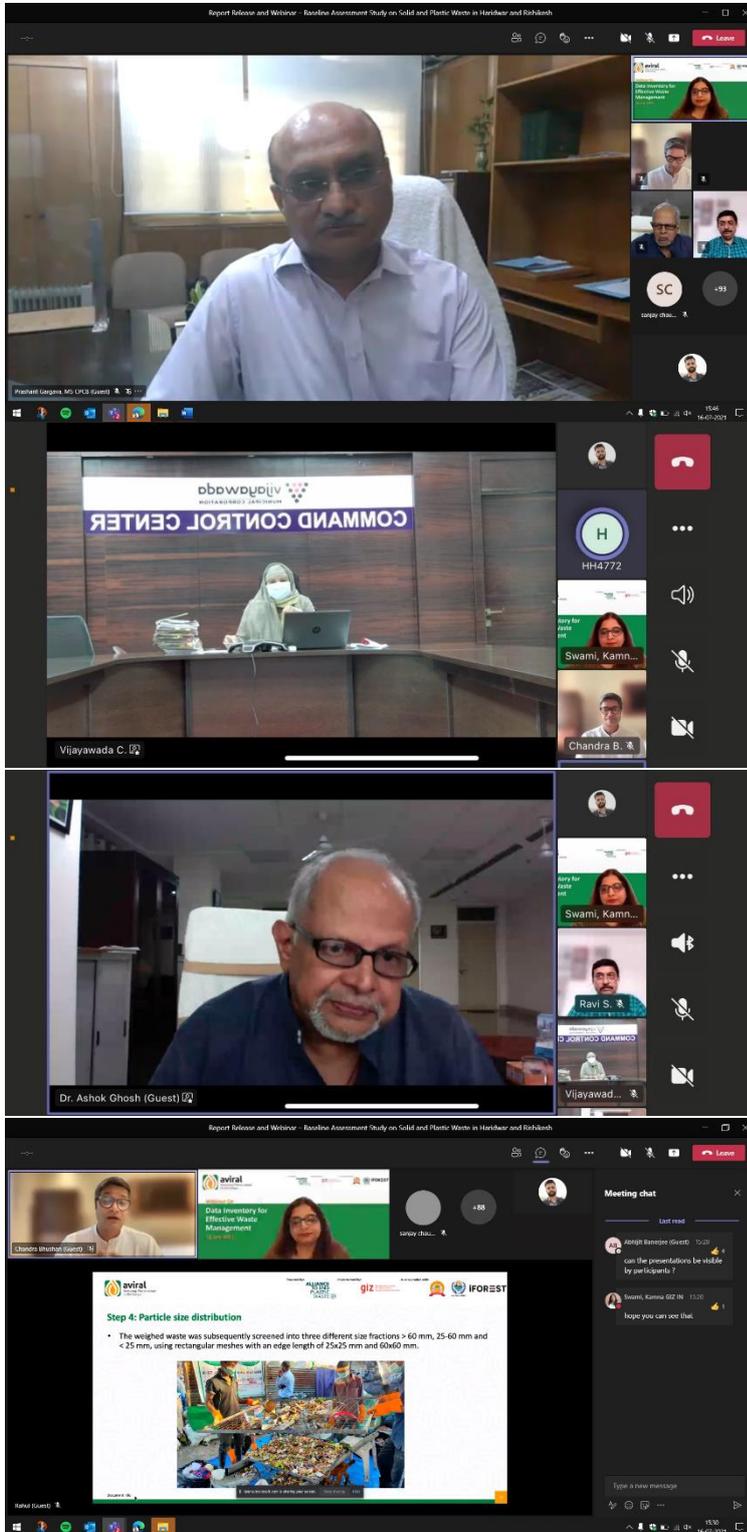
S. No.	Name of the participant	Question	Answer
		focused to control the eventual release of plastic into the river.	contaminated plastic will have to be reduced, by collecting these low value plastic before they get mixed and gets contaminated with other waste.
6	Dr. Prashant	@Chandra Bhushan ji , It was reported that plastic is around 30 -35%. Is it by weight or by Volume?	Our assessment was based on weight.
7	Sunita Mantri	@Ravi Pandey ji, @Jai Bharat Ji, @Vinod ji , Can we have no plastic zone in and around cities of Gangaji, this days we do have compatible plastics available	Around Ganga, usage of single use plastic is prohibited. The flowers, agarbatti, prashad etc sold in biodegradable packaging material.

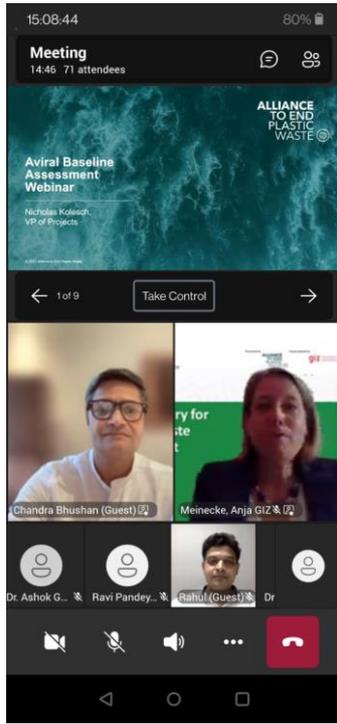
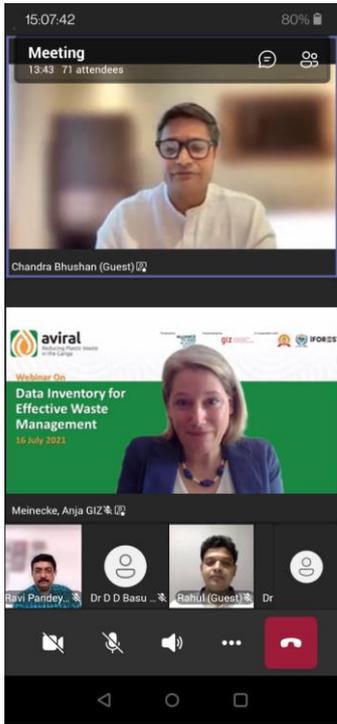
CONCLUSION

Ms Anja opened the inaugural session with a welcome address and aptly described the project Aviral. Mr Nicholas identified this study as an important milestone in the greater plan of Alliance to End Plastic Waste to reduce riverine and marine plastic pollution in India. Mr Bhushan explained the methodology, challenges and results of the baseline assessment study done in both the pilot project cities i.e. Haridwar and Rishikesh. These reports were then formally launched by Dr Gargava and Dr Ghosh through a virtual curtain raiser. At the same time these reports were also made available for the public on the Aviral website.

The panel discussion on 'Importance of accurate inventory for planning effective waste management system' let the panelists and participants further deep dive on the relevance of such studies and challenges posed by lack of organized data. The Municipal Commissioners of respective pilot cities, Mr Singh and Mr Lal, agreed on the usefulness of scientific waste management studies such as the baseline assessment. Data management is key to informed decision making and policy implementation. They elaborated on the vitality of such data in ready to assimilate form for effective planning of municipal solid waste management system especially plastic waste. It also gives a ready base to build upon and add more relevant data to the database. The role of data in budgeting and financing of solid waste management infrastructure as well as capacity development of the municipal corporation staff was also highlighted by them. Mr Rodrigues brought in his experience as a Municipal Commissioner of Goa and how the administration used data for nationally recognized plastic waste management initiatives. Ms Devi briefed the audiences about the efficient use of waste management data and its linkages with the Swachh Bharat Mission. Mr Pandey applauded the work done in the pilot cities and shared some other best practices in the state. He described the plastic and solid waste management actions taken by various urban local bodies around the pilot cities.

ANNEXURE 1: SCREENSHOTS OF THE WEBINAR





ANNEXURE 2: WEBINAR PRESENTATIONS