Promotion of Countermeasures against Marine Plastic Litter in Southeast Asia and India

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Learning from the perception surveys and behaviour change communication in Haridwar and Prayagraj

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HARIDWAR

Ganga entering plains – major pilgrimage spot

Residential population of 2.29 lakhs with an area of 12.3 km sq - Census 2011,

Nearly 2 crore tourists every year. At time of Kumbh – 10 million (district website)

City generates nearly 25TPD of Solid Waste out of which 5-6% is plastic waste

PRAYAGRAJ

Confluence of three rivers – pilgrimage spot

Residential population of 11.1 lakhs, with area of 82 km sq

High footfall during major melas/events-Kumbh Mela nearly 24 crores - district website

Contract for waste collection given to Hari Bhari

Ganga is one of the top 10 rivers that carry plastics to the ocean - study published in Environmental Science and Technology Journal
## Findings from the Perception Survey

<table>
<thead>
<tr>
<th>City</th>
<th>Perception</th>
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<tbody>
<tr>
<td><strong>HARIDWAR</strong></td>
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<tr>
<td>Ganga Sabha</td>
<td>‘Plastic cans are still one of the major plastic item used by the visitors’. ‘Apart from that clothes and plastic sheets are found in river waste’. Lack of strict penalization and fines.</td>
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<td>Nagar Nigam</td>
<td>‘Need measures or alternatives to improve city waste disposal system- which currently end up on landfill sites’.</td>
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<tr>
<td>School Children</td>
<td>‘Forty-Four percent students perceive that they know little about plastic pollution, while 32 percent perceive that they know quite a lot’.</td>
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**PRAYAGRAJ**

| Shopkeepers | ‘No dustbins installed in the market area, leads to dumping of waste in either drains or streets which eventually end up in the river’. |
| Navik       | ‘The plastic used for packaging of feed for Siberian crane is thrown by the visitors into the river during boat rides. ‘Navik ka nadi se Sambandh hai Sukhne ya Pradushit hone pe arthvyavastha par prabhav padega’ |
| Kalpvasi    | ‘Some perceive that burning is a solution to get rid of plastics, not aware of proper means of disposal of plastics’. |
| School Children | ‘Ninety-six percent of students feel that the disposal of plastics should be taught’. |

Generally aware of the issue amongst all stakeholders we interacted with – All respondent groups indicated at specific problems to find solutions for!
### Findings from Clean-up Drives

#### Haridwar – Vishnu Ghat
- **Institutions Involved:** NPC, Aakanksha Enterprise, National Rural Livelihood Mission (NRLM), College students, volunteers from other DA projects
- **No. Volunteers Involved:** 100+
- **Major Findings:**
  - **Area:** 1220 sq.m
  - **Total waste collected:** 186 kg
  - **Total plastic collected:** 61% of total waste
  - **No. of plastic types:** 21
  - **Major types of plastic:** Multilayer food wrappers, polythene and polyester + light packaging

#### Haridwar – Pant Deep Parking
- **Institutions Involved:** NPC, Aankshka Enterprise, National Rural Livelihood Mission (NRLM), College students, volunteers from other DA projects
- **No. Volunteers Involved:** 100
- **Major Findings:**
  - **Area:** 1345 sq.m
  - **Total waste collected:** 48 kg
  - **Total plastic collected:** 67% of total waste
  - **No. of plastic types:** 14
  - **Major types of plastic:** Polythene packaging, multilayer packaging and thin silver foil

#### Prayagraj – Near Aamitabh Bachan Puliya
- **Institutions Involved:** NPC, Ragpickers, Safai Karamcharis, Local Community, College Students
- **No. Volunteers Involved:** 80
- **Major Findings:**
  - **Area:** 1380 sq.m
  - **Total waste collected:** 359 kg
  - **Total plastic collected:** 37% of total waste
  - **No. of plastic types:** 10
  - **Major types of plastic:** Multilayer plastics and Thin polythene

#### Prayagraj – Below new Yamuna Bridge
- **No. of volunteers involved:** 75
- **Area:** 862 sq.m
- **Total waste collected:** 342 kg
- **Total plastic collected:** 35% of total collected waste
- **No. of plastic types:** 13
- **Major types of plastic:** Polythene bags (less than 50 micron category), milk packets, pharmaceutical wrappers, spice packets, injections, canes, plastic cement bags etc
Factors contributing to the marine litter problem

**BEHAVIOURAL**
- Conflict between religious practices and the need to reduce plastic use
- Notion of plastic only limited to polythene

**INFRASTRUCTURAL**
- Lack of collection systems and infrastructure – 203 plastic litter hotspots in Prayagraj
- Slums not on collection radar and major leakage points in Haridwar
- Lack of affordable alternatives for pilgrims/small businesses

**SYSTEMIC**
- Lack of economic value chain for managing plastic waste
- Huge influx of people during festivals/melas – lack of capacity to deal with the waste
- No evaluation of services provided by private contractors
Achievements

Stakeholder connect
Connected to more than 10 stakeholders from diverse background
Linked with faith based leaders
Recommendation letter from Municipal Corporation in Haridwar
Invitation by Ganga Sabha to carry out awareness generation activities during Kumbh

Capacity building and awareness generation campaigns
In the form of BIG sessions and awareness generation activities.
Reached to 1500+ numbers
Used creative means – street plays, magic shows, signature campaigns, rally etc. at the prime locations. Reached to 5000+ people. Eco clubs formed in school
Used local volunteer groups – Swachhagrahis and sanitation workers

Communication
Used traditional and social media
Social media – 14 posts divided into issue- activity- call for action
Traditional media – 35 posts in 2.5 months – 15lakh+ circulation copy
Designed leaflets in Hindi, brochures for stakeholders
Radio – 1.25 crore listeners
Outreach video – 50-52 LED screens in Prayagraj, main LED screen in Haridwar
Jingles – through radio and speakers at prime locations

Mega Event – Humara Sankalp Plastic Mukt Ganga
Organised at major location – Sangam and Har Ki Paudi
In Haridwar with support from Ganga Sabha
Participation by influential speakers – administration, Civil Society, Faith leaders, academia in both the cities
More than 2000 people attended and took pledge
Organised signature campaign in Haridwar.
In Prayagraj a small demonstration – collection of 1500 PET bottles and handing to Nagar Nigam. This was done in support from sanitation workers
Major Ganga cleanliness drive in Naini

The Ganga is considered the mother river of India, and its pollution has become a major concern. To address this, a major cleanliness drive was conducted in Naini, focusing on the collection of plastic and other waste. The drive was organized by the Union Ministry of Environment Forest and Climate Change in collaboration with the Uttar Pradesh government and the Ganga Devi Foundation.

Development Alternatives and the UN Environment Programme have collaborated to promote countermeasures against marine plastic pollution. As part of this initiative, the Ganges river has been identified as a priority area for waste management. The drive aimed to collect waste from the Ganges and its tributaries, thereby reducing the load of plastic and other pollutants.

The drive involved the participation of local communities, volunteers, and government officials. The collected waste was segregated and sent for proper disposal. The drive not only helped in cleaning the river but also raised awareness among the public about the importance of maintaining the cleanliness of rivers and the environment.

The Ganga cleanliness drive is a significant step towards protecting the river and ensuring a cleaner environment for future generations. It serves as a model for similar initiatives across India, promoting the concept of environmental stewardship.

Promotion of Counter Measures Against Marine Plastic Litter in India: Haridwar and Prayagraj

The promotion of countermeasures against marine plastic litter in India is a vital step towards reducing the environmental impact of plastic waste. The initiative involves collaboration between Development Alternatives and the UN Environment Programme. The focus is on promoting practices that reduce plastic pollution, such as recycling, composting, and the use of biodegradable alternatives.

In Haridwar and Prayagraj, the drive is being implemented with the support of local communities and government agencies. The initiatives aim to raise awareness about the dangers of plastic waste, encourage responsible waste management, and promote sustainable practices. The ultimate goal is to create a cleaner and healthier environment for all.

These efforts demonstrate the commitment of the Indian government and international partners to address the challenges posed by plastic pollution and to work towards a more sustainable future.
Strategy and Approach – Research and Action

- Each on-ground activity was informed by findings from the perception survey and interactions with local partners and Municipality.

**Perception Survey and stakeholder meetings**

- **Two Clean-up drives**

- **Ten BIG sessions**

- **Groups of volunteers for conducting clean-up drives**

- **Lack of information on negative impact on marine ecosystems** – included components on life cycle of plastic waste, types of plastics commonly available, target groups identified

**Communication material designed**

**One Mega Event**

**Stakeholder Workshop**

**Demonstrating a value chain for safe disposal or recycle of plastic**

Based on the survey, potential stakeholders and sites – like shopkeepers for value chain demo were identified. One pilot on converting plastic packets into low-grade diesel planned.
Data for international database generated. Perceived Survey with different stakeholders and stakeholder meetings.

Two Clean-up drives:
- Groups of volunteers for conducting clean-up drives
- Informed stakeholder groups

Ten BIG sessions:
- Data on plastic waste generated in the city, gaps in Municipality level systems identified
- Involved religious institutions – Shri Ganga Sabha
- Reached city-wide audience

Stakeholder Workshop:
- Collaboration between partners explored to demonstrate a functional example in the cities

Demonstrating a value chain for safe disposal or recycle of plastic.
Our stakeholder connect

**Haridwar – targeted Har Ki Paudi**

- **Ganga Sabha** – Connecting with other stakeholder groups, specially faith leaders. Associated to organise major campaigns and events at Har Ki Paudi, including the mega event
- **District Administration** – Understanding the problem, connecting with their contract companies, responsible for collection and management of waste
- **Pilgrims** – Organised awareness campaigns
- **Shopkeepers** – Associated for value chain demonstrations
- **CSOs** – AYUS, SDC
- **Indian Institute of Petroleum**
- **Youth** – Major volunteer group, Eco-clubs in school

**Prayagraj – targeted effort in Magh Mela**

- **Faith Leaders** – 10 ashrams, reaching to thousands of followers
- **Navik community** – Major stakeholder power to influence lakhs of pilgrims, held capacity building and awareness session
- **Volunteer Group** – Sanitation workers and Swachhagrahis – created awareness and demonstration of a small value chain of PET bottle collection
- **District Administration** – Problem analysis, display of outreach video
- **Shopkeepers** – Capacity building and awareness session
- **Youth** – Volunteer group, Eco-clubs in school

Used to amplify the message
Communication for behaviour change

Connected with AIR FM
Used two channels – Primary and Vivid Bharti channels for broadcasting
30 min program – importance, issue, call for action

Prepared 8 jingles - song on Ganga followed by a message
Played through radio and speakers

Developed leaflet – distribution through volunteer group
Program brochure for stakeholder group

Dates were selected through religious calendar
Organised at prime locations
Involved diverse stakeholders
Prepared jingles and video were played during the event

animated video – importance, issue, individual steps that can be taken
Contacted Municipal Corporation for displaying it on LED screens. Used the same in capacity building session

Mapped what was locally acceptable
Used local artists – modified the content
Performed at major sites
Organised before the mega event to build momentum

One Way

Program brochure for stakeholder group
Communication for behaviour change

Two Way – BIG Sessions
- Prepared the module
- Incorporated learning from perception survey
- Used different methods of delivery with different target audience – Naviks, schools, shopkeepers, sanitation workers, religious leaders, etc

Learning by Doing - Clean up Drives
- Volunteer groups majorly from capacity building workshops

Media
- Orientation of media personnel's in the beginning
- Strategy for social media post
- Designing of template for these posts
- 4 platforms – twitter, intsa, FB and LinkedIn
Gaps

Behavioral

1. No strategy for promoting moral and environmental consciousness over religious identity
2. **Limited knowledge** – life cycle of plastic and negative impacts of pollution not clear; understanding of plastics limited to polyethene
3. Absence of compulsory use of alternatives at institutional level

Infrastructural

1. Absence of basic infrastructure such as dustbins in prime locations
2. Current fleet of collection **vehicles not built for segregated collection**
3. **Slum** along the main river or drains *not included on the waste collection route* of the Municipality - major plastic leakage points

Systemic

1. Apart from some fraction of MLP that is sent to cement kiln, **no other value chain for disposal/recycling** of different categories of plastic
2. **No punishments/fines** for littering/leakage from institutions along the river
3. Alternatives not available
4. **Periodic awareness programmes and communication not prioritised**
5. Critical evaluation of the effectiveness of services provided by private contractors and mandatory resource recovery
Recommendations and way forward

**Behavioral**
1. Continuous capacity building and awareness generation programs
2. Municipality+CSO led promotion of alternatives - especially during major events
3. Using creative means to disseminate information
4. Working extensively with faith based leaders, using them to spread the message

**Infrastructural**
1. Basic infrastructure upgrade – dustbins installed at a 50m distance on prime locations. Frequent waste collection.
2. Informal waste collectors to be included in the system to recover maximum resources during collection
3. Collection system to be connected to CSOs making products out of waste material
4. Slums to be included on the collection map

**Systemic**
1. Pilot demonstration of some waste recycling/ co-processing solutions such as – SUP to IIPM, HDB into sheets. Enhance entrepreneurship around plastic recycling, technology and capacity development
2. Strengthening the partnership and network in cities especially with the city government and on ground stakeholders. Opportunities with other funding agencies like GIZ being explored.
3. Govt schemes such as SBM, Namami Gange to be synergized with Municipal level waste management system and initiatives such as UNEP countermeasures.
4. Affordable alternatives to be brought to compulsory use in govt. offices, Ganga Sabha establishments, Municipal institutions, main markets in the cities
5. Higher fines on littering and open dumping
THANK YOU