



## ANNEXURE II



# PLASTIC LEAKAGE PATHWAYS - MACROPLASTIC ASSESSMENT REPORT



The banner in the center of the group photo reads: "National Survey of Plastic Leakage in the Ganges River Basin, India (2018-2019)" and features logos of the Ministry of Environment, Government of India, and the National Bureau of Aquaculture, Government of India.





# Table of Contents

|  |    |
|--|----|
| Macro-plastic Assessment in Ganga and Yamuna Basin in Haridwar Agra, Prayagraj & and coastal city Mumbai ..... | 4  |
| 1.0 About Macro-plastics .....   | 4  |
| 2.0 Methodology for Macro-plastic assessment in the Mekong Region .....  | 4  |
| 2.1 Preparation .....  | 5  |
| 2.2 Location of the clean-up .....   | 5  |
| 2.3 Time & Data .....  | 5  |
| 2.4 Organizer & Participants .....   | 5  |
| 2.5 Implementation .....   | 7  |
| 2.6 List of equipment required for clean up .....  | 10 |
| 2.7 Data collection and analysis methods .....   | 10 |
| 3.0 Macro-plastic assessment in India .....  | 11 |
| 3.1 SOP for Macro plastic assessment / clean up activity Protocol for segregation of solid waste               | 12 |
| 3.2 Protocol for segregation of plastic waste .....  | 12 |
| 3.3 Do's and Don'ts .....  | 12 |
| 3.4 Summary of findings of clean up activities .....   | 18 |
| 3.5 Area covered under clean up activities at 12 locations .....   | 18 |
| 3.6 Waste collected and segregated .....   | 19 |
| 3.7 No. of categories of plastic found during clean ups .....  | 20 |
| 4.0 Findings of clean up activities .....  | 20 |
| 4.1 Haridwar Clean ups .....   | 20 |
| Pant Deep Parking, Haridwar, Uttarakhand (24 <sup>th</sup> January 2020) .....                                 | 20 |
| Vishnu Ghat Bridge, Haridwar, Uttarakhand (22 January 2020) .....  | 21 |
| 4.2 Agra Clean ups .....   | 21 |
| Hathi Ghat, Agra (6 <sup>th</sup> Nov 2019) .....  | 21 |
| Pohiya Ghat, Agra (3 <sup>rd</sup> January 2020) .....   | 21 |
| HathiGhat, Agra (20 March 2020) .....  | 22 |
| 4.3 Prayagraj Clean ups .....  | 22 |
| RamGhat, Prayagraj (2 <sup>nd</sup> November 2019) .....   | 22 |
| RamGhat, Prayagraj (3 <sup>rd</sup> November 2019) .....   | 22 |
| Salori Nullah near Amitabh Bachchan culvert, Prayagraj (7 <sup>th</sup> January 2020) .....                    | 23 |



|  |    |
|--|----|
| Below New Yamuna Bridge, Arail, Naini, Prayagraj (12 March 2020).....                                  | 23 |
| 4.4 Mumbai Clean ups.....  | 23 |
| Sagar Vihar, Sector 08, Vashi, Mumbai (Mangroves) (2 <sup>nd</sup> November 2019).....                 | 23 |
| Chimbai Beach, Near Chimbai Police Chowki, Bandra West, Mumbai (3 <sup>rd</sup> December 2019)...      | 24 |
| Gorai Creek, Near Gorai Bridge, Kandivali (West), Charkop Gaon, Mumbai (2 <sup>nd</sup> March 2020)... | 24 |
| 5.0 City wise prominent plastic categories found .....   | 24 |



# Macro-plastic Assessment in Ganga and Yamuna Basin in Haridwar Agra, Prayagraj & coastal city Mumbai

## 1.0 About Macro-plastics

Macro plastics are large fragments of plastic, typically over 5 mm size which are found in the land as well as as marine eco system mostly because of manmade menace.

Macroplastic is clearly visible plastic and generally will not (with a few exceptions) have a direct impact on the food chain. However, macroplastic degrades into microplastic due to different processes such as hydrolysis, photo-degradation or mechanical/physical degradation.

Land-based macroplastic is considered one of the major sources of marine plastic debris. However, estimations of plastic emission from rivers into the oceans remain scarce and uncertain, mainly due to a severe lack of standardized observations.

## 2.0 Methodology for Macro-plastic assessment in the Mekong Region

Standard methodology for macro plastic assessment is not available in public domain. The Clean-up & Survey methodology followed on the International Coastal Cleanup Day on 21 September 2019, under the Counter Measure Project has been briefed in this segment. The clean up was undertaken in the Mekong region.

The methodology adopted gave the guidance on how to conduct the clean-up and the survey of which data is to be incorporated into GIS platform. The important aspects covered under the methodology are:

1. **Preparation**
2. **Implementation:**
  - Physical inspection
  - Survey methodology
  - Drone Usage

The details of Preparation and implementation activities are summarized below.



## **2.1 Preparation**

The preparation activity involves the selection of location of clean up, its time & date and figuring out the organizer and participants of the clean up. The details of preparation activity are:

### **2.2 Location of the clean-up**

- a. The location of clean-up should be identified in consideration of the local “Hotspot” related to the rivers and waterways.
- b. It is recommended to discuss the location of the clean-up in each pilot city among expert group members.
- c. Latitude and longitude are required to identify the location of the clean-up.

### **2.3 Time & Data**

- a. The date should be on 21 September 2019, but the day around is also acceptable especially for the survey purpose.
- b. The time should be arranged in the early morning to avoid strong sunlight. (7:30 – 9:00am, maybe good)

### **2.4 Organizer & Participants**

- a. Organizer should be the partner of the Counter MEASURE project
- b. Organizer deploys three teams such as survey, clean-up, and photo (before and after) with GPS teams
- c. Organizer conducts the waste characterization survey from the sample bags collected in the clean-up
- d. If you already have an existing programme of clean-up, please utilize it.
- e. Organizer consults with the officer in charge of waste management in local governments to manage all collected bags properly (Transfer, Recycle and Dispose).

The preparation activity prepared for Mekong clean up is placed below for reference:



**Table-1: Organizer & existing Initiative for Clean-up (Mekong)**

|  |                             |   |                             |                             |                             |
|--|-----------------------------|---|-----------------------------|-----------------------------|-----------------------------|
| <b>1. Organizer</b>                          | Mae Fah<br>Luang            | Mae Fah<br>Luang National<br>Univ. of<br>Laos | City of<br>Kitakyusyu       | City of<br>Kitakyusyu       | ENDA                        |
| <b>2. Target City</b>                        | Chiang<br>Rai               | Vientiane                                     | Ubon<br>Ratchatani          | Phnom<br>Penh               | Can Tho                     |
| <b>3. Contact person</b><br><br>(EMAIL/TE L) | Dr. Panate                  | Dr. Panate<br>(tbc)                           | Mr. Takagi<br>(tbc)         | Mr. Takagi<br>(tbc)         | Ms. Linh                    |
| <b>4. Existing Initiative</b>                | Trash Hero                  | Tbc   | tbc                         | tbc                         | tbc                         |
| <b>5. Hotspot &amp; Clean-up location</b>    | tbc<br>(Latitude/Longitude) | tbc<br>(Latitude/Longitude)                   | tbc<br>(Latitude/Longitude) | tbc<br>(Latitude/Longitude) | tbc<br>(Latitude/Longitude) |
| <b>6. Time/date of Clean-up</b>              | tbc, 21 Sep                 | tbc, 21 Sep                                   | tbc, 21 Sep                 | tbc, 21 Sep                 | tbc, 21 Sep                 |
| <b>7. Estimated # of participants</b>        | tbc                         | Tbc   | tbc                         | tbc                         | tbc                         |
| <b>7. Survey Team</b>                        | Mae Fah<br>Luang            | Mae Fah<br>Luang National<br>Univ. of Laos    | City of<br>Kitakyusyu       | City of<br>Kitakyusyu       | ENDA                        |
| <b>8. Photos (Before and After)</b>          |                             |   |                             |                             |                             |
| <b>9. Drone/Mob App use</b>                  | GIC                         | Pirika  | GIC                         | Pirika                      | Pirika                      |
| <b>10. Microplastic Sampling</b>             | GIC/(Pirika)                | Pirika  | GIC/(Pirika)                | Pirika                      | Pirika                      |

## 2.5 Implementation

The activities under implementation task are as follows:

- a) Organize three teams (1. Survey, 2. Clean-up, and 3. Photo (before and after) with GPS)
- b) Prepare for all materials and equipment such as PPE, collection bag (numbering), data sheet (Figure 1 & 2), scale, pen, board, and so on.
- c) Take photos with GPS around the site before and after the clean-up
- d) Visual Inspection may be required especially before the Clean-up.
- e) Drone/Mob App may be used by GIC/Pirika as an option of visual inspection.
- f) Instruct the clean-up operation to all volunteers with notification of any risks
- g) Notify exclusion of liability of the organizer from any injuries and accidents during the clean-up
- h) Conduct the survey after the collection of wastes.
- i) Data entry of collected data into the excel sheet after the survey, analyze and develop the summary report with photos
- j) Promote the recycling for collected wastes
- k) Hand over to all collected wastes during the clean-up to the local authorities
- l) Clean the site after completion of the survey
- m) *Drone/Mob App use will be conducted by GIC and Pirika Team.*
- n) *IDEA/Pirika may conduct microplastic collection in the rivers and waterways on this occasion.*



# VOLUNTEER

## OCEAN TRASH DATA FORM



Ocean and waterway trash ranks as one of the most serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris threatens human health, wildlife, communities and economies around the world. The ocean faces many challenges, but trash should not be one of them. Ocean trash is entirely preventable, and data you collect are part of the solution. The International Coastal Cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

### HERE IS HOW IT WORKS:



#### SITE INFORMATION:

Cleanup Site Name:

State or Province:  Zone or County:

Country:  Nearest Coastline or Landmark:

#### MOST UNUSUAL ITEM COLLECTED:

#### TYPE OF CLEANUP:

Land: ☐ Underwater: ☐ Watercraft: ☐

#### NUMBER OF VOLUNTEERS WORKING ON THIS CARD:

adults  children (under 18)

#### DATE:

#### GO PAPERLESS!

Collect and record your data on **Clean Swell!**

Download the free app on your mobile device.



Please return this form to your area coordinator. If you are unable to do so, please mail or email it to:

Ocean Conservancy  
Attn: International Coastal Cleanup  
1300 18th Street, NW, 8th Floor, Washington, DC 20036  
cleanup@oceanconservancy.org

Trash Free Seas: [www.oceanconservancy.org/cleanup](http://www.oceanconservancy.org/cleanup)  
Be a Green Boater: [www.oceanconservancy.org/do-your-part/green-boating](http://www.oceanconservancy.org/do-your-part/green-boating)  
Sponsor: [www.oceanconservancy.org/cleanup/sponsor](http://www.oceanconservancy.org/cleanup/sponsor)  
Clean Swell: [www.oceanconservancy.org/cleansewell](http://www.oceanconservancy.org/cleansewell)



Figure 1 Sample data sheet

# TRASH COLLECTED

**Citizen scientist:** Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas®

**EXAMPLE:**

Plastic Bags: ||||| = 8

**TOTAL #**  
↓

Please **DO NOT** use words or check marks.  
Only **numbers** are useful data.

| MOST LIKELY TO FIND ITEMS:                 |   | TOTAL #        |
|--|---|----------------|
| Cigarette Butts:                           | = |                |
| Food Wrappers (candy, chips, etc.):        | = |                |
| Take Out/Away Containers (Plastic):        | = |                |
| Take Out/Away Containers (Foam):           | = |                |
| Bottle Caps (Plastic)                      | = |                |
| Bottle Caps (Metal)                        | = |                |
| Lids (Plastic) :                           | = |                |
| Straws/Stirrers:                           | = |                |
| Forks, Knives, Spoons:                     | = |                |
| <b>FISHING GEAR:</b>                       |   | <b>TOTAL #</b> |
| Fishing Buoys, Pots & Traps:               | = |                |
| Fishing Net & Pieces:                      | = |                |
| Fishing Line (1 yard/meter = 1 piece):     | = |                |
| Rope (1 yard/meter = 1 piece):             | = |                |
| <b>OTHER TRASH:</b>                        |   | <b>TOTAL #</b> |
| Appliances (refrigerators, washers, etc.): | = |                |
| Balloons:                                  | = |                |
| Cigar Tips:                                | = |                |
| Cigarette Lighters:                        | = |                |
| Construction Materials:                    | = |                |
| Fireworks:                                 | = |                |
| Tires:                                     | = |                |
| <b>TINY TRASH LESS THAN 2.5CM:</b>         |   | <b>TOTAL #</b> |
| Foam Pieces                                | = |                |
| Glass Pieces                               | = |                |
| Plastic Pieces                             | = |                |

| PACKAGING MATERIALS:                       |   | TOTAL # |
|--|---|---------|
| 6-Pack Holders                             | = |         |
| Other Plastic/Foam Packaging:              | = |         |
| Other Plastic Bottles (oil, bleach, etc.): | = |         |
| Strapping Bands:                           | = |         |
| Tobacco Packaging/Wrap:                    | = |         |

| PERSONAL HYGIENE:           |   | TOTAL # |
|-----------------------------|---|---------|
| Condoms:                    | = |         |
| Diapers:                    | = |         |
| Syringes:                   | = |         |
| Tampons/Tampon Applicators: | = |         |



| DEAD/INJURED ANIMAL | STATUS          | ENTANGLED | TYPE OF ENTANGLEMENT ITEM |
|---------------------|-----------------|-----------|---------------------------|
|                     | Dead or Injured | Yes or No |                           |

**ITEMS OF LOCAL CONCERN:**  
 1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_

**CLEANUP SUMMARY (circle units)**

Number of Trash Bags Filled:

Weight of Trash Collected:  lbs/kgs

Distance Cleaned:  miles/km

Figure 2: Sample data sheet 2

The Lessons learnt from the clean up activity should be documented. Any important waste category which is found other than that listed in the provided trash sheet should be listed properly.

The localized list of plastic items found during clean up has to be recorded, so that records will be useful in creating targeted interventions for reduction.



## **2.6 List of equipment required for clean up**

The indicative list of equipments used in the Mekong region clean up are as follows:

1. Hand gloves
2. A measuring tape
3. Pens, clip boards, and forms for recording
4. Ground (blue) sheets to spread the collected materials on the ground sheet to sort, to show and to take photos
5. Scales of different capacities, e.g. one to measure from 1g and another heavy-duty one that can measure up to 50kg. A handheld one is relatively useful, but may not be ideal.
6. A medical box/ kit for minor injuries (e.g. cuts)
7. Guidelines to organize a low plastic, outdoor event (e.g. water and food for volunteers without individual plastic packaging)
8. A broom and a dustpan, because the small pieces are most difficult to collect and count
9. Mid-size bags or containers to store the light items. Winds blew away plastic bags and small pieces when separating (Especially at the beach)

## **2.7 Data collection and analysis methods**

The highlights of the data collection and analysis methods are as follows:

1. Take photos of all the bags collected before weighing.
2. Weigh all organic materials (except dead animal) separately.
3. Need to record the Bag ID number for sampling.
4. Place the content of the bags over the ground blue sheet before sorting in order to avoid waste getting mixed with sand.
5. Need enough surveyors. It took 4 hrs for 4 people to sort and record 28kg of waste. Roughly it takes one hour to sort 2kg per person.
6. Consider microplastic data as well
7. Promote recycling after the survey by making specific collection arrangements.
8. Analyze the gathered data and share the finding.

### 3.0 Macro-plastic assessment in India

In this chapter we have reflected the the major macro plastic categories found in Agra, Allahabad , Haridwar and Mumbai cities.

Towards macro-plastic assessment in the four cities were planned in association with Partner Agencies (TERI in Mumbai, Chintan in Agra, Development Alternatives in Allahabad and Haridwar. A total of 12 clean up drives have been undertaken by NPC in last 4 months.

The clean up drives were executed as per standard protocol developed by NPC. NPC along with partner agencies and local volunteers had carried out these 12 cleanup drives successfully. The details of the cleanup drives under taken are as follows:

| S.no. | Name of hot spot                          | Name of city | Date of clean up |
|-------|---|--------------|------------------|
| 1     | Hathi Ghat                                | Agra         | 06-Nov-19        |
| 2     | Pohiyaghat                                | Agra         | 03-Jan-20        |
| 3     | Hathi Ghat                                | Agra         | 20-Feb-20        |
| 4     | Katghar Basti,                            | Prayagraj    | 03-Nov-19        |
| 5     | Ram ghat                                  | Prayagraj    | 02-Nov-19        |
| 6     | Pant Deep Parking                         | Haridwar     | 24-Jan-20        |
| 7     | Vishnu ghat                               | Haridwar     | 22-Jan-20        |
| 8     | Vashi Mumbai                              | Mumbai       | 02-Nov-19        |
| 9     | Chimbai Beach                             | Mumbai       | 03-Dec-19        |
| 10    | Amitabh BachanPulliya                     | Prayagraj    | 08-Jan-20        |
| 11    | Gorai Creek, Near Gorai Bridge, Kandivali | Mumbai       | 02-Mar-20        |
| 12    | Near Naini Bridge                         | Prayagraj    | 12-Mar-20        |

The protocols developed for carrying out the clean up drives are listed below:

- 3.1 SOP for Macro plastic assessment / clean up activity Protocol for segregation of solid waste**
- 3.2 Protocol for segregation of plastic waste**
- 3.3 Do's and Don'ts**















The Standard operating procedures were developed to structure the over all clean up drive and define the step wise activities to be performed within a specific time frame. Since the clean up activities were executed with the help of local volunteers comprising of representatives of partner agencies, local NGOs, sanitary workers etc., the SOP helped in enabling the participants of clean up group to acquaint with the proceedings and accomplish the tasks. The procedure reflected on aspects of demarcation of boundary for clean-up area, wearing of personal protective equipment, collection of mixed waste, filling in gunny bags, labelling of gunny bags, segregation of plastic waste, weighing of waste, categorizing the plastic waste collected etc.

The posters were developed showcasing the various categories of plastic and non plastic waste to be collected and segregated.

The Do's and Don'ts were also developed for the clean up drive.

The copy of the SOP, categories of plastic waste & non plastic waste, the do's & don'ts and the banner used during clean up are placed as follows:

# SOP For Macro Plastic – Assessment / Cleanup Activity

| Steps | Description   | Sample Photos   | Duration        | Tools Require   |
|-------|---|---|-----------------|---|
| 1.    | Demarcate cleanup area along the Boundary   |    | 30 minutes      | strips of (fluorescent colour ) chalk powder                            |
| 2.    | Label bags <ol style="list-style-type: none"><li>Place</li><li>Date</li><li>Bag No.</li></ol>   |    | 20 minutes      | Permanent marker pens   |
| 3.    | Divide team into 2 groups <ol style="list-style-type: none"><li>Collection of litter (Group 1)</li><li>Segregation of waste (Group 2)</li></ol>   |   | 20 minutes      | Data Sheet for recording names  |
| 4.    | Wear Personal Protective gear / equipments<br>PPEs such as, Glove, Mask   |   | 10 minutes      | Glove, Mask   |
| 5.    | Collect 1 gunny bag per group of 4-5 volunteers for collection of waste litter  |  | 20 minutes      |   |
| 6.    | Pick the the litter and collect in the gunny bag and clean the site   |  | 60 – 90 minutes | 1gunny \$a#) ust pan) \$room  |
| 7.    | After collection of litter report to NPC team   |  | 20 minutes      |   |
| 8.    | Weigh each waste litter bag and record and inform NPC team. In a group of 4-5 volunteers one person shall be responsible for collection, weighing and recording of weight of bag containing waste litter. |  | 20 minutes      | Weighing balance, data sheet for recording                              |
| 9.    | Transfer weighed bags to the blue sheet (around 3-4 bags in one blue sheet) and place the mixed waste on the sheet.   |  | 30 minutes      |   |
| 10.   | Volunteers of group 2 (segregation of waste) to join at this stage. And segregate of plastic waste from non plastic.  |  | 10 minutes      |   |
| 11.   | Weigh segregated plastic and inform NPC team  |  |                 |   |
| 12.   | One volunteer to segregate one plastic category from segregation team. Then place it in appropriate carton box labeled with name of plastic waste category.   |  | 60-90 minutes   | Carton box  |
| 13.   | Non plastic material shall be discarded and placed in garbage bins available at cleanup site after segregation of waste.  |  | 30 minutes      | Broom, dust pan   |
| 14.   | Weigh cardboard boxes with one category of plastic waste and inform NPC team. For each plastic waste category, count waste piece and volunteers responsible for that category shall inform NPC team.      |  | 30 minutes      | Weighing box, Datasheet for recording weight and count of plastic waste |



NON-PLASTIC WASTE

Papers waste



Metal parts



Food waste



Wood



Beverage Bottle  
(glass)



Beverage Cans  
(Non -Plastic)



Disposal Plates  
(paper)



Biodegradable  
waste



Cotton fabric





# PLASTIC WASTE

**Milk Pouch and  
Water Pouches**



**Multilayered packaging  
material**



**Razor  
toys  
Plastics**



**Cloth type -  
polypropylene  
bags**



**Ritual Material  
e.g. Plastic Chains,  
Gods frame,  
Plastic moulds**



**Low density  
plastic packaging  
material e.g. Tea  
packs, Sanitary  
packs**



**Food wrappers  
(Biscuits, namkin  
packet etc)**



**Bottle and  
Beverage Bottle  
(Plastic)**



**Lids (Plastic)**



**Straws**



**Grocery Bags  
(Plastics)**



**Polybags**



**Woven bags  
(e.g. Cement bag)**



**Tubes (e.g. toothpaste)**



**Disposable cups**



**Rubberised slipper**



**Cups & Plates  
(foams)**



**Cigarette Butts**







The Young  
Leaders Plastic  
Challenge



**clean  
seas**  
turn the tide  
on plastic



# Dos and Don'ts

## Do's ✓

1. Wear your protective gear (masks and gloves) when handling the waste
2. Beware of sharps present in the waste. Don't pick them directly with your bare hands
3. Segregate the plastics from the mixed waste
4. The plastic product should be crushed / multilayered to avoid reuse
5. Collect the waste till the bag is 3/4<sup>th</sup> full
6. Do not drag the bags and lift the bags carefully with support 3-4 volunteers per bag
7. Use broom and dustpan to pick the waste and clean the area
8. Avoid needle (or from any other sharp) prick injuries
9. Be careful regarding staples on the labels from being torn or separate from the bag
10. Use permanent markers for coding / labeling bags
11. Prefer to use tare weight and weighing segregated and sorted plastics on the electronic balance
12. Be cautious while weighing with spring balance such as not to injure hands or so
13. Avoid overcrowding tarpaulin areas
14. Wash / rinse hands well after / post cleanup exercise and use hand sanitizer before taking refreshments.



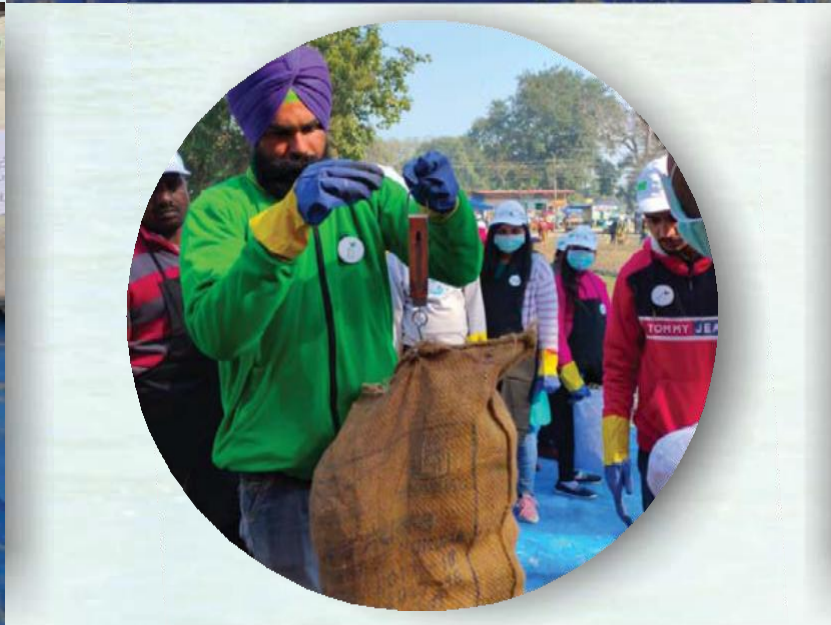
## Don'ts X

1. Do not Reuse plastic products
2. Do not mix plastic with other waste
3. Do not burn plastic waste
4. Do not spill waste
5. Do not walk into slush or on wet soil and wear proper shoes that can grip the soil or the ground surface
6. Do not vigorously the dust plastics or cloth or such waste being collected to control dust from becoming airborne during the process of cleanup





# PROMOTION OF COUNTERMEASURES AGAINST MARINE PLASTIC LITTER IN SOUTHEAST ASIA AND INDIA



The Young Leaders Plastic Challenge



turn the tide on plastic

उपाय  
प्लास्टिक मुक्त नदी के लिए



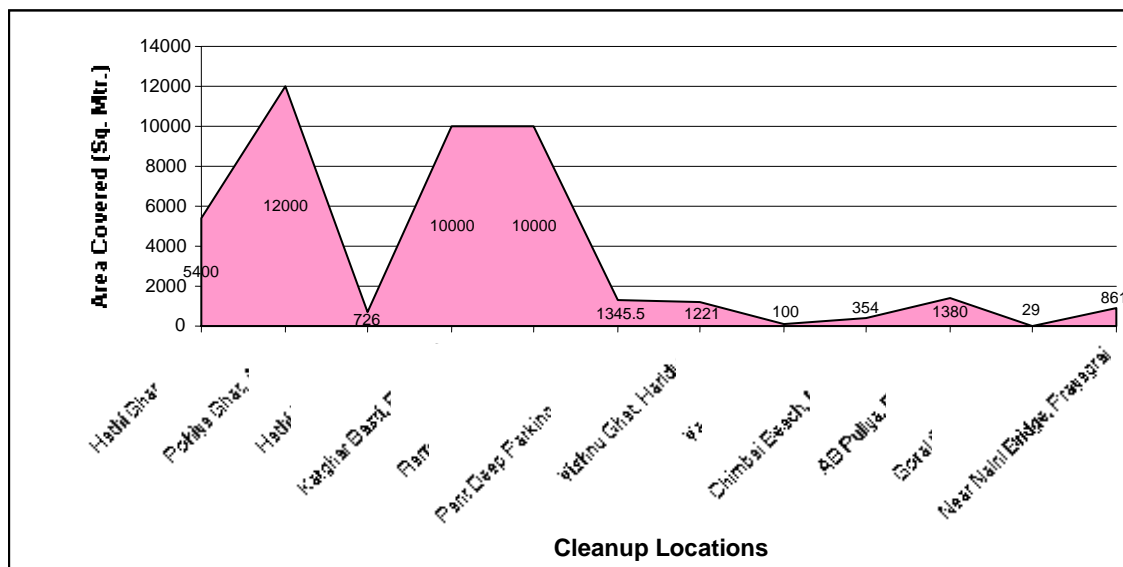
### 3.4 Summary of findings of clean up activities

A total consolidated area of 43,417 square meters of area was covered under the clean up activities in 4 cities, where a total trash of 2.60 tons was collected from which 726 kgs of plastic waste (28% of total waste) of different categories(21) were segregated.

| S.no. | Particulars                                   | Values      |
|-------|---|-------------|
| 1     | Total clean ups                               | 12          |
| 2     | No. of cities covered                         | 4           |
| 3     | Total area covered under clean up in 4 cities | 43417 sqmtr |
| 4     | Total trash collected                         | 2606 kgs    |
| 5     | Total plastic waste segregated                | 726 kgs     |
| 6     | Composite % of plastic in total trash         | 28%         |
| 7     | No. of categories of plastic found in waste   | 21          |

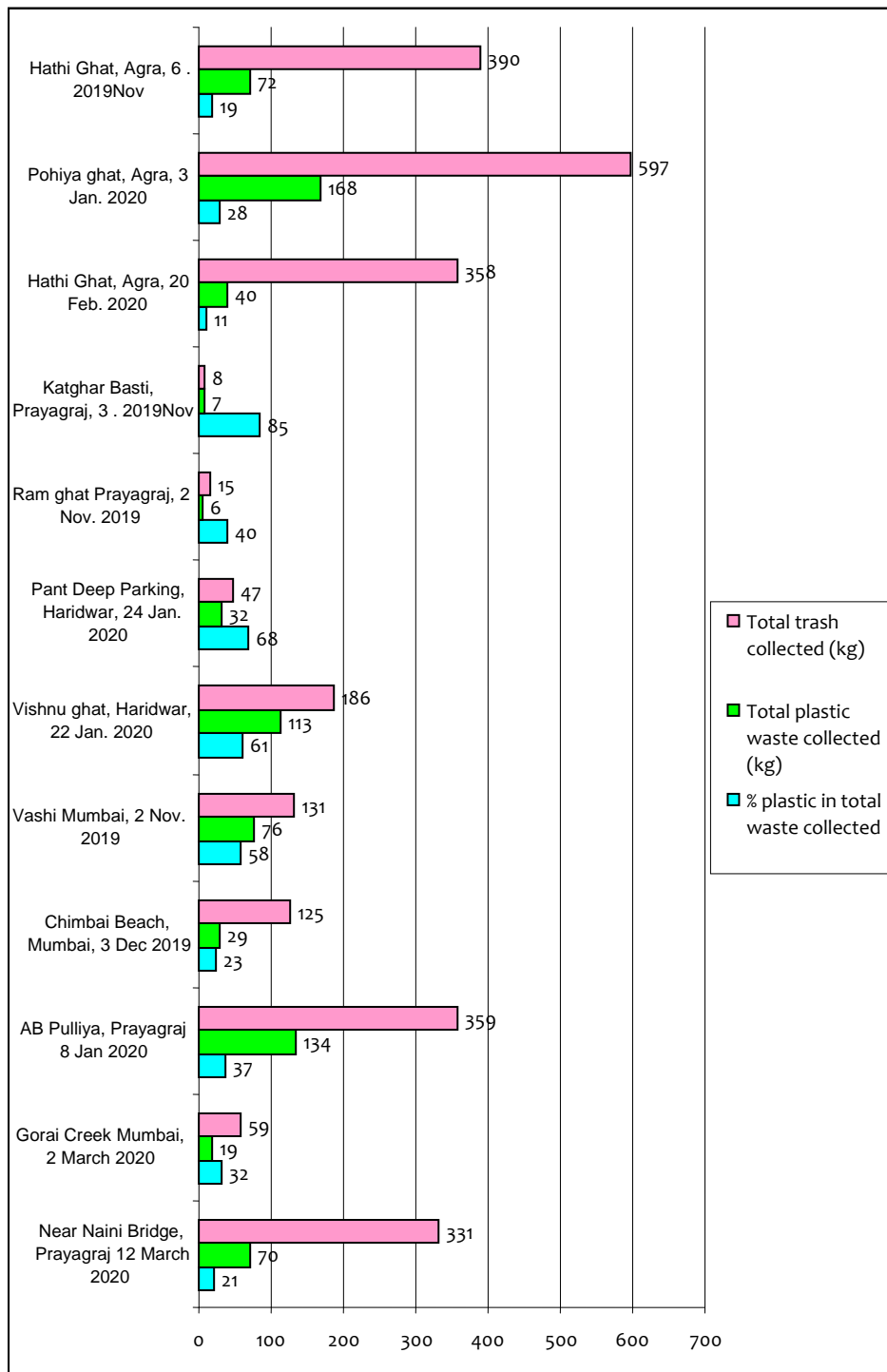
The city wise detail of clean up activities is indicated in the graph below:

### 3.5 Area covered under clean up activities at 12 locations

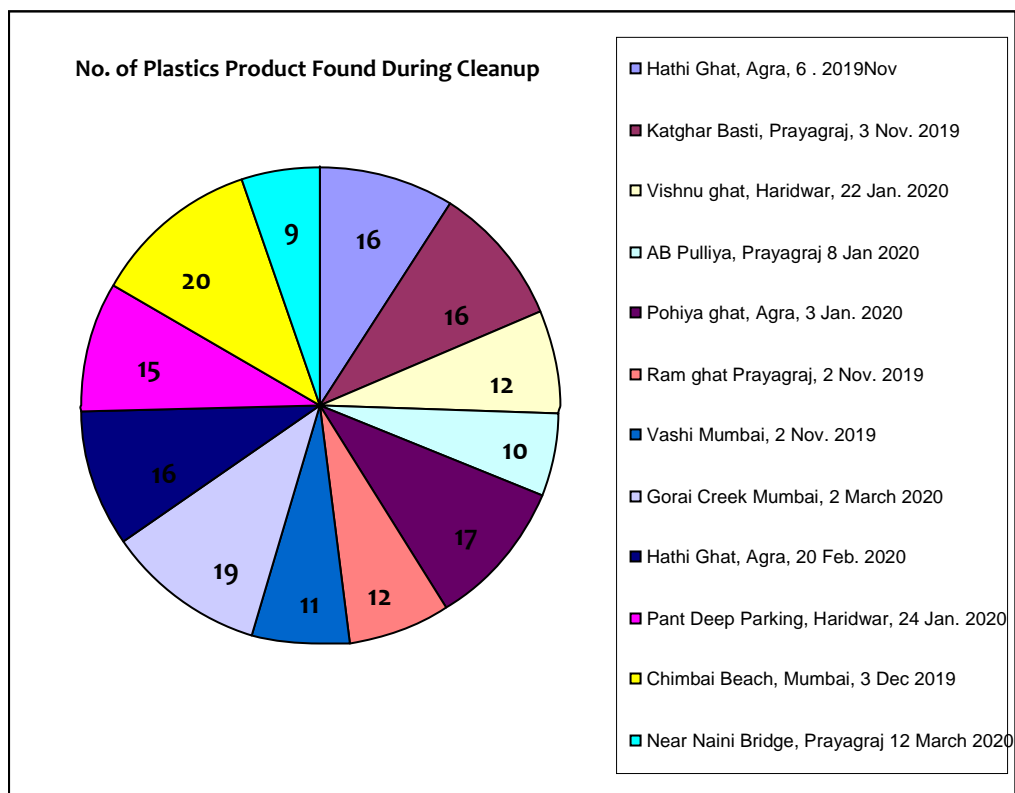


Area covered under cleanup (Sq. mtr.)

### 3.6 Waste collected and segregated



### 3.7 No. of categories of plastic found during clean ups



### 4.0 Findings of clean up activities

Detailed clean up reports of 12 clean up drives undertaken are placed at Annexure I to Annexure XII. The summary of the clean up activities is summarized ahead.

#### 4.1 Haridwar Clean ups

Two clean up drives were carried out at Haridwar, one at Vishnu ghat and the other at Pantdeep parking.

##### Pant Deep Parking, Haridwar, Uttarakhand (24<sup>th</sup> January 2020)

| CLEANUP SUMMARY  |        |      |
|--|--------|------|
| Number of Gunny Bags Filled with mixed trash:  | 13     | nos  |
| Number of Gunny Bags opened for segregation of type of plastics:   | 13     | nos  |
| Weight of Mixed Trash Collected from 13 Gunny Bags:  | 47.47  | kg   |
| Weight of mixed trash from 13 Gunny Bags used for segregation of types of Plastic:                         | 47.47  | kg   |
| Weight of Plastic from 13 Gunny Bags used for segregation of types of Plastic:                             | 32.21  | kg   |
| Area Cleaned:  | 1345.5 | sq m |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 13 number of bags): | 67.85  | %    |
| Thus, Estimated plastic in 13 bags filled  | 32     | kg   |

|  |      |         |
|--|------|---------|
| Plastic weight/Area for Clean Up           | 24   | gm/sq m |
| mixed waste trash weight/Area for Clean Up | 35.3 | gm/sq m |

#### Vishnu Ghat Bridge, Haridwar, Uttarakhand (22 January 2020)

| CLEANUP SUMMARY  |        |         |
|--|--------|---------|
| Number of Gunny Bags Filled with mixed trash:  | 17     | Nos     |
| Number of Gunny Bags opened for segregation of type of plastics:   | 8      | Nos     |
| Weight of Mixed Trash Collected:   | 186.26 | kg      |
| Weight of mixed trash from 8 Gunny Bags used for segregation of types of plastic:                        | 95.9   |         |
| Weight of Plastic from 8 Gunny Bags used for segregation of types of plastic:                            | 64.57  | kg      |
| Area cleaned:  | 1221.4 | Sq. m   |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 8 number of bags) | 67.30  | %       |
| Thus, Estimated plastic in 17 bags filled  | 125    | kg      |
| Plastic weight/Area for Clean Up   | 103    | gm/sq m |
| mixed waste trash weight/Area for Clean Up   | 152.5  | gm/sq m |

#### 4.2 Agra Clean ups

There were three clean ups carried out at Agra, two times at Hathi ghat and once at Pohiyaghat.

##### Hathi Ghat, Agra (6<sup>th</sup> Nov 2019)

| CLEANUP SUMMARY   |        |         |
|---|--------|---------|
| Number of Gunny Bags Filled with mixed trash:   | 36     | nos     |
| Number of Gunny Bags opened for segregation of type of plastics:  | 9      | nos     |
| Weight of Mixed Trash Collected:  | 390.34 | kg      |
| Weight of mixed trash from 9 Gunny Bags used for segregation of types of Plastic:                         | 89.05  | kg      |
| Weight of Plastic from 9 Gunny Bags used for segregation of types of Plastic:                             | 13.719 | kg      |
| Area Cleaned:   | 5400   | sq m    |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 9 number of bags): | 15.41  | %       |
| Thus, Estimated plastic in 36 bags filled   | 60     | kg      |
| Plastic weight/Area for Clean Up  | 11     | gm/sq m |
| mixed waste trash weight/Area for Clean Up  | 72.3   | gm/sq m |

##### Pohiya Ghat, Agra (3<sup>rd</sup> January 2020)

| CLEANUP SUMMARY  |        |       |
|--|--------|-------|
| Number of Gunny Bags Filled with mixed trash:  | 30     | Nos   |
| Number of Gunny Bags opened for segregation of type of plastics:   | 8      | Nos   |
| Weight of Mixed Trash Collected:   | 596.5  | kg    |
| Weight of Mixed Trash 8 Gunny Bags used for segregation of types of plastic:                             | 148.4  | kg    |
| Weight of Plastic from 8 Gunny Bags used for segregation of types of plastic:                            | 68.945 | kg    |
| Area cleaned:  | 12000  | Sq. m |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 8 number of bags) | 46.46  | %     |

|  |      |         |
|--|------|---------|
| Thus, Estimated plastic in 32 bags filled  | 277  | kg      |
| Plastic weight/Area for Clean Up           | 23   | gm/sq m |
| mixed waste trash weight/Area for Clean Up | 49.7 | gm/sq m |

#### **HathiGhat, Agra (20 March 2020)**

| CLEANUP SUMMARY   |       |         |
|---|-------|---------|
| Number of Gunny Bags Filled with mixed trash:   | 25    | nos     |
| Number of Gunny Bags opened for segregation of type of plastics:  | 5     | nos     |
| Weight of Mixed Trash Collected:  | 357.9 | kg      |
| Weight of Mixed Trash from 5 Gunny Bags used for segregation of types of Plastic:                         | 74.4  |         |
| Weight of Plastic from 5 Gunny Bags used for segregation of types of Plastic:                             | 40.3  |         |
| Area Cleaned:   | 726   | sq m    |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 5 number of bags): | 54.18 | %       |
| Thus, Estimated plastic in 25 bags filled   | 194   | kg      |
| Plastic weight/Area for Clean Up  | 267   | gm/sq m |
| mixed waste trash weight/Area for Clean Up  | 492.9 | gm/sq m |

#### **4.3 Prayagraj Clean ups**

There were four clean ups carried out at Prayagraj. Two were pilot clean ups carried out at Ram ghat and Katghar Basti. Two other clean ups were carried out at Sarohi nallah, Amitabh BachanPulliya and at New Naini bridge.

#### **RamGhat, Prayagraj (2<sup>nd</sup> November 2019)**

| CLEANUP SUMMARY   |       |         |
|---|-------|---------|
| Number of Gunny Bags Filled with mixed trash:   | 4     | nos     |
| Number of Gunny Bags opened for segregation of type of plastics:  | 4     | nos     |
| Weight of Mixed Trash Collected:  | 14.6  | kg      |
| Weight of Plastic from 4 Gunny Bags used for segregation of types of Plastic:                             | 14.6  | kg      |
| Area Cleaned:   | 10000 | sq m    |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 4 number of bags): | 100   | %       |
| Thus, Estimated plastic in 4 bags filled  | 15    | kg      |
| Plastic weight/Area for Clean Up  | 1     | gm/sq m |
| mixed waste trash weight/Area for Clean Up  | 1.5   | gm/sq m |

#### **RamGhat, Prayagraj (3<sup>rd</sup> November 2019)**

| CLEANUP SUMMARY  |       |         |
|--|-------|---------|
| Number of Gunny Bags Filled with mixed trash:  | 4     | Nos     |
| Number of Gunny Bags opened for segregation of type of plastics:   | 4     | Nos     |
| Weight of Mixed Trash from 4 Gunny Bags:   | 8.5   | kg      |
| Weight of Plastic from 4 Gunny Bags used for segregation of types of plastic:                            | 8.5   | kg      |
| Area cleaned:  | 10000 | Sq. m   |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 4 number of bags) | 100   | %       |
| Plastic weight/Area for Clean Up   | 1     | gm/sq m |



### Salori Nullah near Amitabh Bachchan culvert, Prayagraj (7<sup>th</sup> January 2020)

| CLEANUP SUMMARY  |       |         |
|--|-------|---------|
| Number of Gunny Bags Filled with mixed trash:  | 32    | Nos     |
| Number of Gunny Bags opened for segregation of type of plastics:   | 8     | Nos     |
| Weight of Mixed Trash Collected:   | 359.0 | kg      |
| Weight of Mixed Trash from 8 Gunny Bags used for segregation of types of plastic:                        | 81.8  | kg      |
| Weight of Plastic from 8 Gunny Bags used for segregation of types of plastic:                            | 33.24 | kg      |
| Area cleaned:  | 1380  | Sq. m   |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 8 number of bags) | 40.63 | %       |
| Thus, Estimated plastic in 32 bags filled  | 146   | kg      |
| Plastic weight/Area for Clean Up   | 106   | gm/sq m |
| mixed waste trash weight/Area for Clean Up   | 260.1 | gm/sq m |

### Below New Yamuna Bridge, Arail, Naini, Prayagraj (12 March 2020)

| CLEANUP SUMMARY  |       |         |
|--|-------|---------|
| Number of Gunny Bags Filled with mixed trash:  | 18    | Nos     |
| Number of Gunny Bags opened for segregation of type of plastics:   | 5     | Nos     |
| Weight of Mixed Trash Collected:   | 330.7 | kg      |
| Weight of mixed trash from 5 Gunny Bags used for segregation of types of plastic:                        | 106.8 | kg      |
| Weight of Plastic from 5 Gunny Bags used for segregation of types of plastic:                            | 70.3  | kg      |
| Area cleaned:  | 861.3 | sq. m   |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 5 number of bags) | 65.8  | %       |
| Thus, Estimated plastic in 18 bags filled  | 218   | kg      |
| Plastic weight/Area for Clean Up   | 253   | gm/sq m |
| mixed waste trash weight/Area for Clean Up   | 384.0 | gm/sq m |

## 4.4 Mumbai Clean ups

Three clean up drives were carried out at Mumnai, at Vashi, Chimbai beach and Gorai creek locations.

### Sagar Vihar, Sector 08, Vashi, Mumbai (Mangroves) (2<sup>nd</sup> November 2019)

| CLEANUP SUMMARY   |        |         |
|---|--------|---------|
| Number of Gunny Bags Filled with mixed trash:   | 9      | nos     |
| Number of Gunny Bags opened for segregation of type of plastics:  | 9      | nos     |
| Weight of Mixed Trash Collected:  | 131    | kg      |
| Weight of mixed trash from 9 Gunny Bags used for segregation of types of Plastic:                         | 131    | kg      |
| Weight of Plastic from 9 Gunny Bags used for segregation of types of Plastic:                             | 75.53  | kg      |
| Area Cleaned:   | 100    | sq m    |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 9 number of bags): | 57.66  | %       |
| Thus, Estimated plastic in 9 bags filled  | 76     | kg      |
| Plastic weight/Area for Clean Up  | 755    | gm/sq m |
| mixed waste trash weight/Area for Clean Up  | 1310.0 | gm/sq m |

**Chimbai Beach, Near Chimbai Police Chowki, Bandra West, Mumbai (3<sup>rd</sup> December 2019)**

| CLEANUP SUMMARY   |        |         |
|---|--------|---------|
| Number of Gunny Bags Filled with mixed trash:   | 8      | nos     |
| Number of Gunny Bags opened for segregation of type of plastics:  | 3      | nos     |
| Weight of Mixed Trash Collected:  | 125    | kg      |
| Weight of Mixed Trash Collected from 3 gunny bags:  | 40.65  | kg      |
| Weight of Plastic from 3 Gunny Bags used for segregation of types of Plastic:                             | 11.177 | kg      |
| Area Cleaned:   | 353.8  | sq m    |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 3 number of bags): | 27.50  | %       |
| Thus, Estimated plastic in 8 bags filled  | 34     | kg      |
| Plastic weight/Area for Clean Up  | 97     | gm/sq m |
| mixed waste trash weight/Area for Clean Up  | 353.1  | gm/sq m |

**Gorai Creek, Near Gorai Bridge, Kandivali (West), Charkop Gaon, Mumbai (2<sup>nd</sup> March 2020)**

| CLEANUP SUMMARY   |        |         |
|---|--------|---------|
| Number of Gunny Bags Filled with mixed trash:   | 8      | nos     |
| Number of Gunny Bags opened for segregation of type of plastics:  | 5      | nos     |
| Weight of Mixed Trash Collected:  | 59.005 | kg      |
| Weight of Mixed Trash from 5 Gunny Bags used for segregation of types of Plastic:                         | 39.705 |         |
| Weight of Plastic from 5 Gunny Bags used for segregation of types of Plastic:                             | 18.655 | kg      |
| Area Cleaned:   | 29.229 | sq m    |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 5 number of bags): | 46.98  | %       |
| Thus, Estimated plastic in 8 bags filled  | 28     | kg      |
| Plastic weight/Area for Clean Up  | 948    | gm/sq m |
| mixed waste trash weight/Area for Clean Up  | 2018.7 | gm/sq m |

## 5.0 City wise prominent plastic categories found

The mixed wastes collected during the clean up drives were subsequently segregated to arrive at the plastic waste composition in the total waste collected. The standard list of plastic waste & its format for data collection, which was adhered to while segregating the plastic waste during clean up activities is given in the table below:

| S. No. | Most Likely To Find Items:   | Total No. of categorized plastics from gunny bags of segregated plastics | Total weight in Kg of categorized plastics from gunny bags of segregated plastics |
|--------|--|--|---|
| 1      | Cigarette Butts  |  |   |
| 2      | Multilayer Large and Medium Size for snacks, chips, namkeen, biscuits etc. |  |   |
| 3      | Multilayer Sachets for Shampoo, Tobacco, tea, coffee, tomato sauce etc.    |  |   |
| 4      | Multilayer Gift Wrapping Paper   |  |   |

| S. No.              | Most Likely To Find Items:  | Total No. of categorized plastics from gunny bags of segregated plastics | Total weight in Kg of categorized plastics from gunny bags of segregated plastics |
|---------------------|---|--|---|
| 5                   | Monolayer Plastic Packaging used for food, detergent etc.                 |  |   |
| 6                   | Synthetic woven bags used for cement packaging etc.                       |  |   |
| 7                   | Hard Plastic such as HDPE Pipes, HDPE bottles, HDPE tubes, tray, PVC etc. |  |   |
| 8                   | Polythene bags (colored white, black)                                     |  |   |
| 9                   | Woven Polycloth Bags for Carrying Groceries/Vegetables                    |  |   |
| 10                  | Disposable paper cups coated with plastic film                            |  |   |
| 11                  | Disposable plastic Cups/Glasses   |  |   |
| 12                  | Packing used for water, milk etc.   |  |   |
| 13                  | Take Out/ Away containers (Plastic)                                       |  |   |
| 14                  | Take Out/ Away containers (Food)  |  |   |
| 15                  | Paper bags coated with plastic film                                       |  |   |
| 16                  | Bottle plastic caps   |  |   |
| 17                  | Shopping Bags/ Grocery Bags   |  |   |
| 18                  | Plastic tubes (Dantkanti, Facewash cap)                                   |  |   |
| 19                  | Flowers garlands, pooja samagri etc made up of Plastic                    |  |   |
| 20                  | Black X ray film  |  |   |
| 21                  | Plastic strings used for tying  |  |   |
| 22                  | Plastic Purse (Synthetic Leather)   |  |   |
| <b>FISHING GEAR</b> |   |  |   |
| 1                   | Fishing Buoys pots & traps:   |  |   |
| 2                   | Fishing Net & Pieces:   |  |   |
| 3                   | Fishing Line (1 Yard/ meter)= 1 piece                                     |  |   |
| 4                   | Rope (1 Yard/ meter)= 1 piece   |  |   |
| <b>OTHER TRASH</b>  |   |  |   |
| 1                   | Appliances (refrigeration, washers etc)                                   |  |   |
| 2                   | Balloons  |  |   |
| 3                   | Cigar tips  |  |   |
| 4                   | Cigarette Lighters  |  |   |
| 5                   | Cigarette Packets   |  |   |
| 6                   | Construction Materials with plastic component                             |  |   |
| 7                   | Fireworks(Lamination made of plastic film)                                |  |   |
| 8                   | Tires & Rubber  |  |   |
|                     |   |  |   |
| 9                   | Footwear  |  |   |
| 10                  | Beverage Bottle (plastic)   |  |   |

| S. No.                             | Most Likely To Find Items:  | Total No. of categorized plastics from gunny bags of segregated plastics | Total weight in Kg of categorized plastics from gunny bags of segregated plastics |
|------------------------------------|---|--|---|
|                                    | including PET Bottle  |  |   |
| 11                                 | Foams   |  |   |
| 12                                 | Rubber Ball   |  |   |
| 13                                 | Straws  |  |   |
| 14                                 | Cups & Plates (Thermocol)   |  |   |
| 15                                 | Thermocol & Other Trash   |  |   |
| 16                                 | Toys, Pens and Toothbrush   |  |   |
| <b>PACKAGING MATERIALS</b>         |   |  |   |
| 1                                  | 6- Packs Holders  |  |   |
| 2                                  | Other Plastic/Foam Packaging  |  |   |
| 3                                  | Other Plastic Bottle  |  |   |
| 4                                  | Strapping Bands   |  |   |
| 5                                  | Medicine Packaging  |  |   |
| 6                                  | Garment/Textile Packaging Material                                  |  |   |
| 7                                  | Low density plastic packaging material (Diapers, Sanitary packs)    |  |   |
| <b>PERSONAL HYGIENE</b>            |   |  |   |
| 1                                  | Condoms   |  |   |
| 2                                  | Diapers   |  |   |
| 3                                  | Syringes  |  |   |
| 4                                  | Tampons/Tampon Applicators  |  |   |
| 5                                  | Sanitary napkins/pads   |  |   |
| <b>TINY TRASH LESS THAN 2.5 CM</b> |   |  |   |
| 1                                  | Foam pieces   |  |   |
| 2                                  | Glass pieces  |  |   |
| 3                                  | Plastic pieces  |  |   |
| <b>ITEMS OF LOCAL CONCERN</b>      |   |  |   |
| 1                                  | Glazed Paper having plastic lamination                              |  |   |
| 2                                  | Fragmented/ torn/ dusty mixed plastic waste                         |  |   |
| 3                                  | Synthetic Jackets   |  |   |
| 4                                  | Synthetic Bags  |  |   |
| 5                                  | Synthetic Belt pouch  |  |   |
| 6                                  | Synthetic Clothes/Clothes   |  |   |
| 7                                  | Synthetic flowers   |  |   |
| 8                                  | Pan shop synthetic sheet  |  |   |
| 9                                  | Ritual Material   |  |   |
| 10                                 | God Sculptures having synthetic cloth material & plastic ornaments. |  |   |
| 11                                 | Plastic Sheet & other thicker plastic bags. Color-Black & White     |  |   |
| 12                                 | Milky white bottles for carrying gangajal                           |  |   |
| 13                                 | Tobacco, Pan Masala Sachet/Wrappers                                 |  |   |
| 14                                 | Silver foil disposable plates & bowls                               |  |   |

| S. No. | Most Likely To Find Items: | Total No. of categorized plastics from gunny bags of segregated plastics | Total weight in Kg of categorized plastics from gunny bags of segregated plastics |
|--------|----------------------------|--|---|
|        | having plastic lamination  |  |   |

On the basis of the above comprehensive list of plastic waste, the prominent categories of plastic waste have been indicated in the charts ahead.

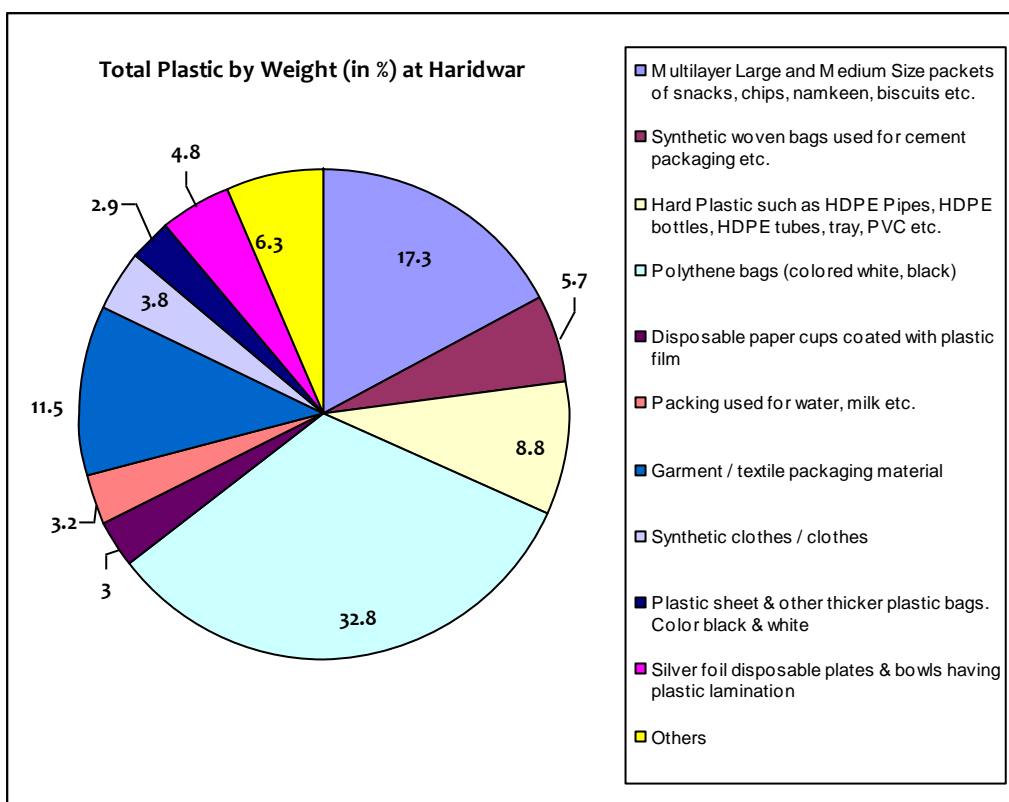
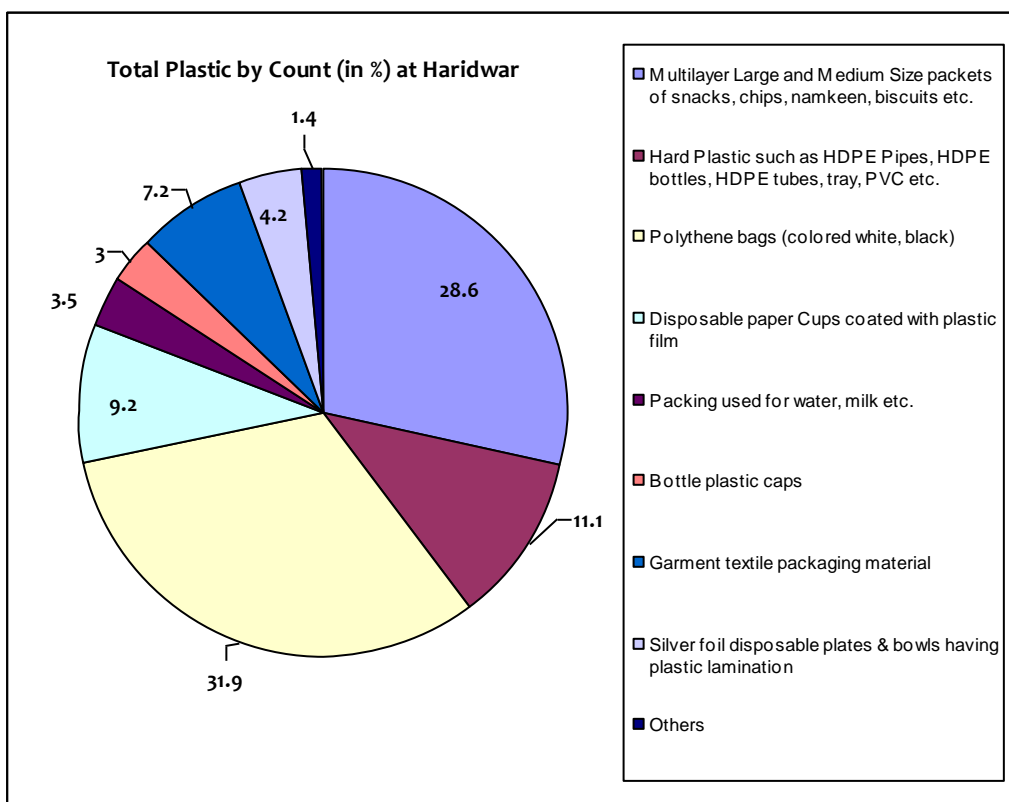
### 5.1 Prominent plastic types found in clean ups at Haridwar

The values of category wise total plastic waste collected during each of the two clean ups carried out in Haridwar have been collated on count basis as well as on weight basis. The prominent plastic categories found in Haridwar are:

- i. Multilayer packaging packets
- ii. Polythene carry bags,
- iii. HDPE pipes, tubes, trays etc.
- iv. Disposable plastic cutlery, and
- v. Garment packing material

The following charts depict the prominent plastic wastes in Haridwar, on the basis on count and on the basis of weight.



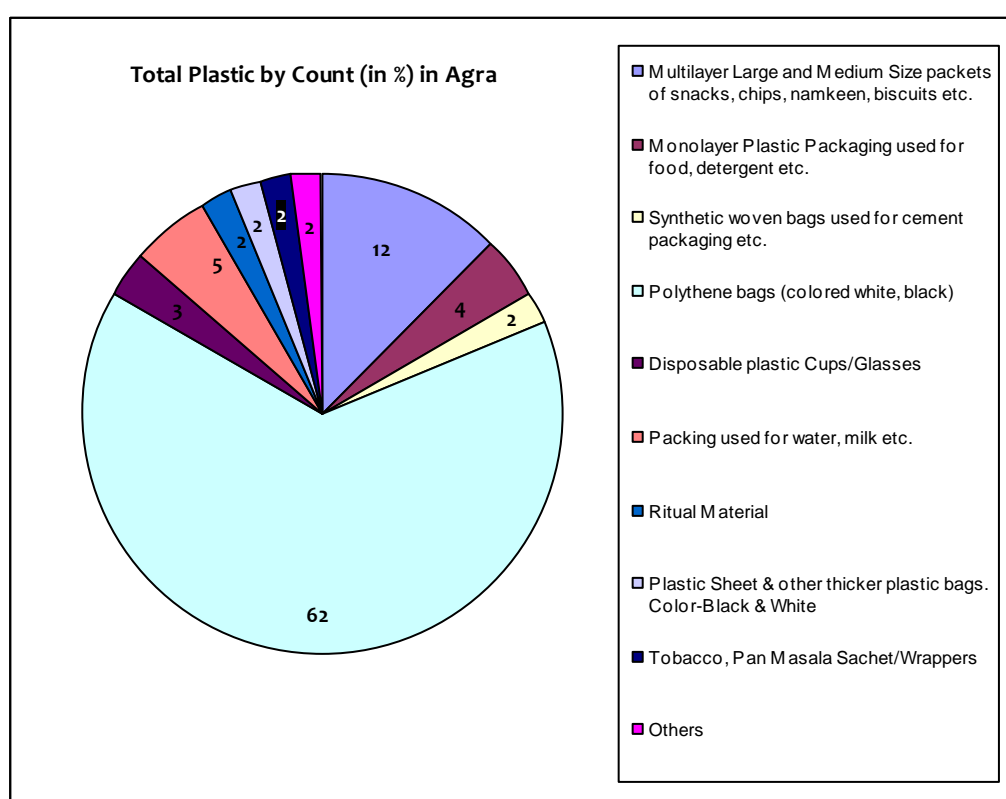


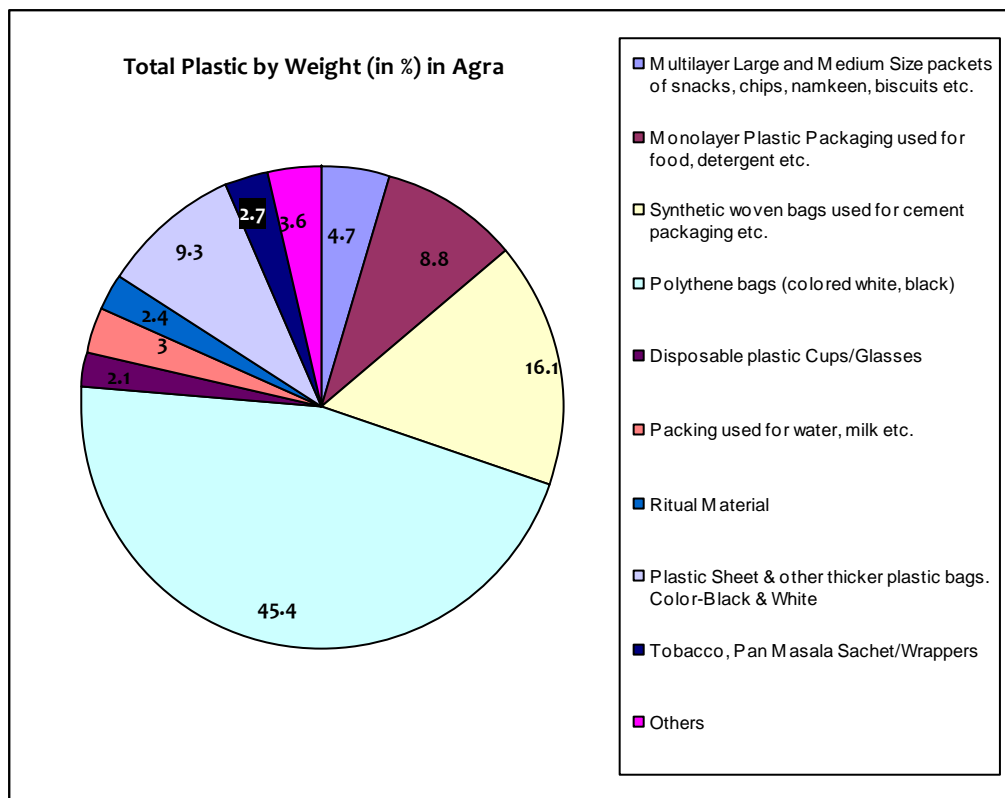
## 5.2 Prominent plastic types found in clean ups at Agra

The values of category wise total plastic waste collected during each of the three clean ups carried out in Agra have been collated on count basis as well as on weight basis. The prominent plastic categories found in Agra are:

- i. Polythene carry bags,
- ii. Multilayer packaging packets
- iii. Monomer plastic packing used for food, detergents etc.
- iv. Synthetic woven bags, and
- v. Plastic sheets

The following charts depict the prominent plastic wastes in Agra, on the basis on count and on the basis of weight.



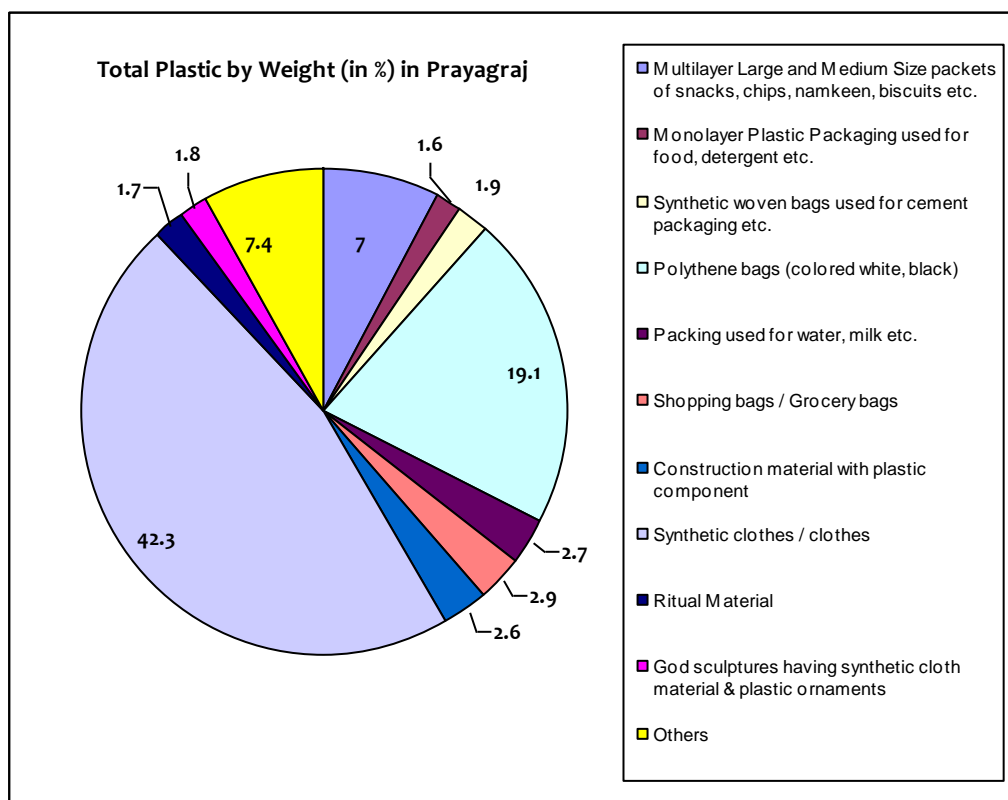
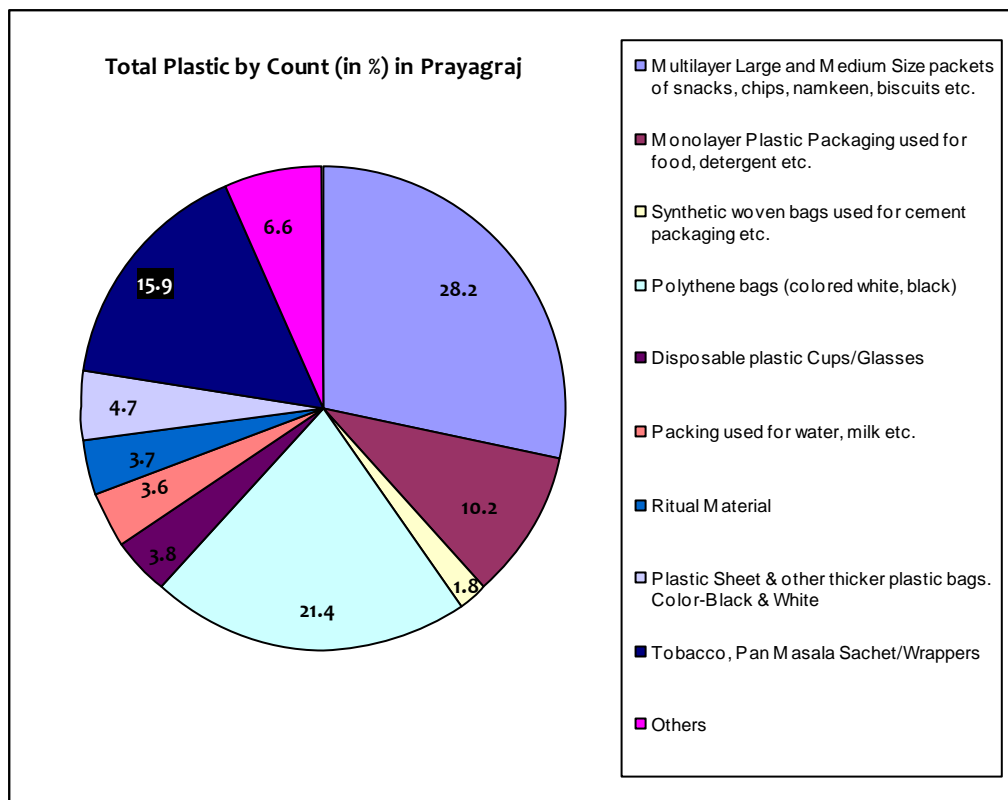


### 5.3 Prominent plastic types found in clean ups at Prayagraj

The values of category wise total plastic waste collected during each of the four clean ups carried out in Prayagraj have been collated on count basis as well as on weight basis. The prominent plastic categories found in Prayagraj are:

- i. Multilayer packaging packets
- ii. Polythene carry bags,
- iii. Wrappers of Tobacco / Pan masala
- iv. Synthetic clothes / woven bags
- v. Plastic sheets

The following charts depict the prominent plastic wastes in Prayagraj, on the basis on count and on the basis of weight.



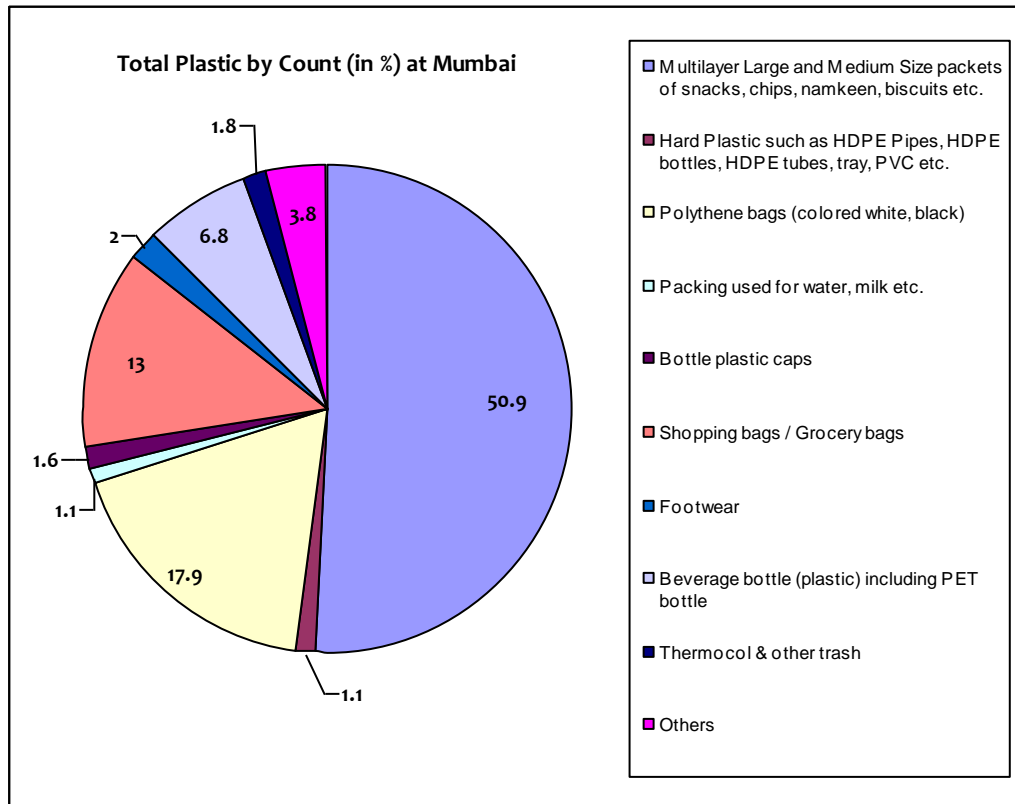
#### 5.4 Prominent plastic types found in clean ups at Mumbai

The values of category wise total plastic waste collected during each of the three clean ups carried out in Mumbai have been collated on count basis as well as on weight basis. The prominent plastic categories found in Mumbai are:

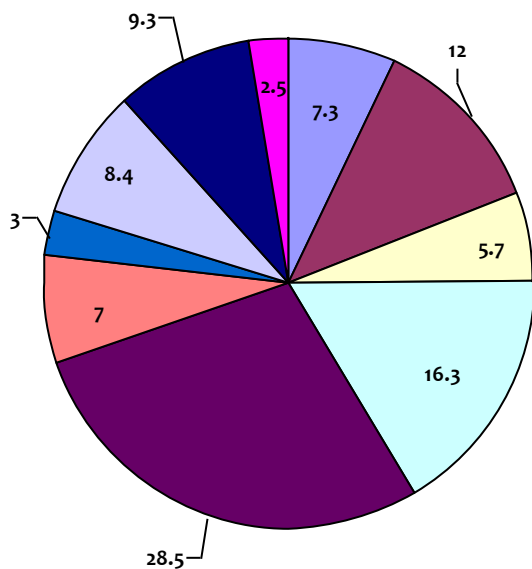
- i. Multilayer packaging packets

- ii. Polythene carry bags,
- iii. Shopping / grocery bags.
- iv. Synthetic woven bags, and
- v. Plastic sheets

The following charts depict the prominent plastic wastes in Mumbai, on the basis on count and on the basis of weight.



**Total Plastic by Weight (in %) at Mumbai**



- Multilayer Large and Medium Size packets of snacks, chips, namkeen, biscuits etc.
- Synthetic woven bags used for cement packaging etc.
- Polythene bags (colored white, black)
- Shopping bags / Grocery bags
- Tyres & Rubbers
- Footwear
- Beverage bottle (plastic) including PET bottle
- Thermocol & other trash
- Synthetic clothes / clothes
- Others



# 12 CLEAN UP REPORTS IN FOUR STUDY AREAS

---

## Contents

|  |     |
|--|-----|
| Haridwar, Near Vishnu Ghat Bridge, Cleanup Report – 1.....                       | 37  |
| Haridwar, Pant Deep Parking, Cleanup Report – 2.....                             | 58  |
| Agra, Haathi Ghat, Cleanup Report – 3.....                                       | 76  |
| Agra, Pohiya Ghat, Cleanup Report -4 .....                                       | 95  |
| Agra, Haathhi Ghat, Cleanup Report – 5 .....                                     | 116 |
| Prayagraj, Ram Ghat, Cleanup Report – 6.....                                     | 133 |
| Prayagraj, Katghar Basti, Katghar Slum Area, Cleanup Report – 7 .....            | 156 |
| Prayagraj, Near Amitabh Bachchan Puliya, Salori Village, Cleanup Report – 8..... | 183 |
| Mumbai, Vashi, Cleanup Report – 9.....   | 200 |
| Mumbai, Chimbai Beach, Near Chimbai Police Chowki, Cleanup Report – 10 .....     | 215 |
| Mumbai, Gorai Creek, Near Gorai Bridge, Cleanup Report – 11 .....                | 231 |

**A report on**  
**"Clean Up Activity near Vishnu Ghat Bridge,**  
**Haridwar, Uttarakhand**

dated: 22<sup>nd</sup> January, 2020



*under*

***Promotion of Counter Measures against marine  
plastic litter in South East Asia and India - UNEP***



***Submitted by:***

**National Productivity Council**

(Under Ministry of Commerce & Industry, Govt. of India)

**Lodi Road, New Delhi**

## Table of Contents

|   |           |
|---|-----------|
| <b>Haridwar, Near Vishnu Ghat Bridge, Cleanup Report – 1 .....</b>              | <b>37</b> |
| 1. Location.....  | 37        |
| 2. Time and Date .....  | 38        |
| 3. Participants/organizations.....  | 38        |
| 4. Activity Leaders.....  | 38        |
| 5. Rationale for location selection .....                                       | 38        |
| 6. Area covered, with photos of pre-clean .....                                 | 39        |
| 7. Methodology, in case there are any deviations from approved methodology..... | 40        |
| 8. Photos during Clean-Up.....  | 40        |
| 9. Photos post clean-up.....  | 40        |
| 10. Qualitative outcomes of clean-up .....                                      | 40        |
| 11. Quantitative outcomes of clean-up .....                                     | 42        |
| Annexure I: Photographs Captured during Clean Up Activity .....                 | 43        |
| Annexure II: Pre and Post Clean Up Photographs .....                            | 46        |
| Annexure III: Trash data sheet for River Bank/Channel bank.....                 | 49        |
| Annexure IV: Cleanup Team .....   | 54        |

## Haridwar, Near Vishnu Ghat Bridge, Cleanup Report – 1

### 1. Location

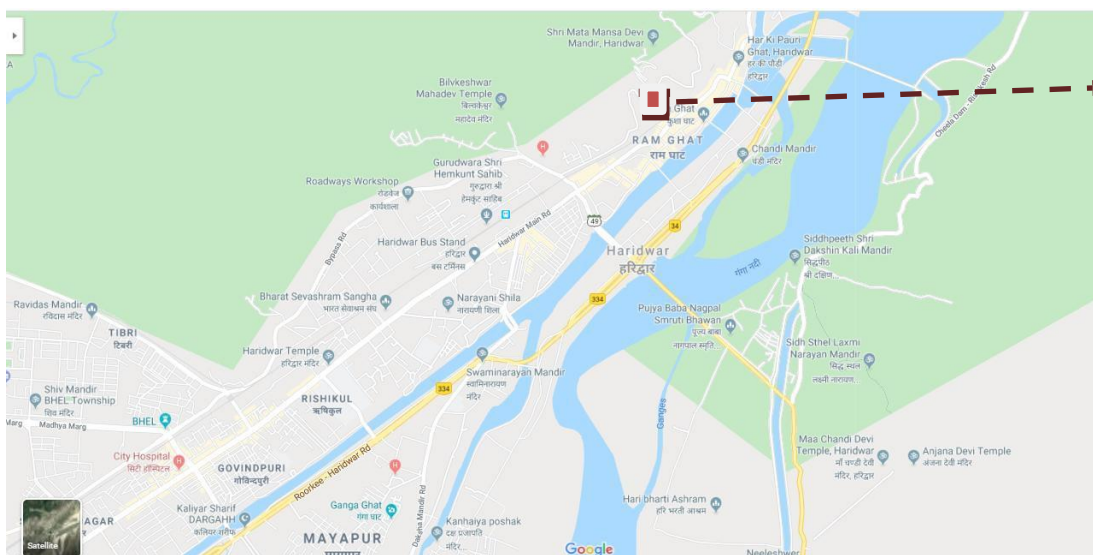
**Clean Up Site Name:** Near Vishnu Ghat Bridge, Haridwar.

**State:** Uttarakhand

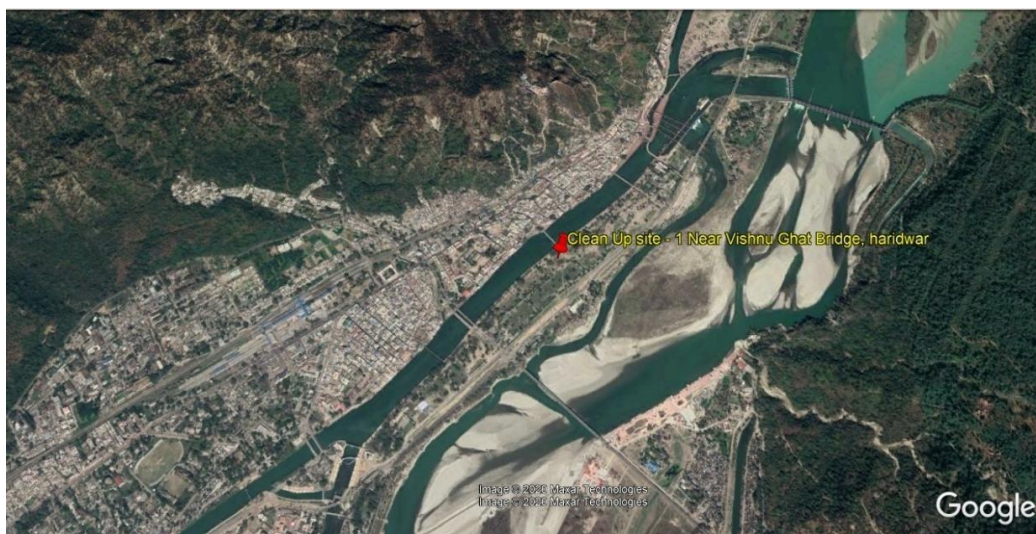
**Country:** India

**Landmark:** Near National Highway to Dehradun, Vishnu Ghat Bridge, Haridwar

**Latitude and Longitude** – 29.9587867, 78.1690907 (as per location site indicated). **Shortest displacement distance from water flow:** The site is adjacent to Vishnu Ghat bridge at approximate distance 50 meters only.



**Clean Up Site -1 Near Vishnu Ghat Bridge, Haridwar**



## 2. Time and Date

**Time** : 9.00 am – 3.00 pm

**Date** : 22<sup>nd</sup> January, 2020

## 3. Participants/organizations

**Participating Organisations:** National Productivity Council, Development Alternatives (DA), Adarsh Yuva Samiti, Aakansha Enterprises, Prabhat Skill Development Center.

Details of Clean Up team is attached as **Annexure- IV**.

## 4. Activity Leaders

- Technical Team from National Productivity Council (NPC): Mr. Ashish Kumar Verma (Environment), S.K. Jain (Environment). Mr. Himendra Singh (Environment)
- Partner Organizations: Ms. Suhani Gupta and Sh. Rao Aashkar from Developmental Alternatives (DA), Shri Lakhwinder Singh (Adharsh Yuva Samiti) and respective team.

## 5. Rationale for location selection

Site is located on the bank of the Ganga canal water channel across Vishnu Ghat where lots of temporary human settlement were established and lots of waste material including plastics such as milk pouches, polythene, multilayered packaging etc were found, released during the activities in the area. In addition to this, it was informed by the nearby local residents that these people established temporary shops in this area. During sacred season (like kanwar yatra) every year, the refreshments including tea (prepared with milk), gutakha, tobacco etc are served from these shops. The pilgrims consume refreshment items here itself and throw the wrappers, packagings etc at this place itself. The shoppers consume milk from milk pouches in preparing tea and throw milk pouches in this area. These activities create lots of litter. Some part of litter fly into water canal channel. Some part of litter gets washed off during rain and carried to this canal water channel. Of the remaining plastic litter, part of litter is collected by the Nagar Nigam Haridwar and part of it gets buried in the ground.



## 6. Area covered, with photos of pre-clean

Approximately an area of 1,221.4sq.meters (39.4m x 31m) was selected for Clean Up which was marked on the ground using chalk powder and measuring tape & around 186 kg of total mixed waste was collected by volunteers. The Pre Clean Up site photographs are depicted below:





**7. Methodology, in case there are any deviations from approved methodology.**

Methodology adopted was as per the approved methodology of UNEP. However it was adapted as per river bank site requirements.

**8. Photos during Clean-Up**

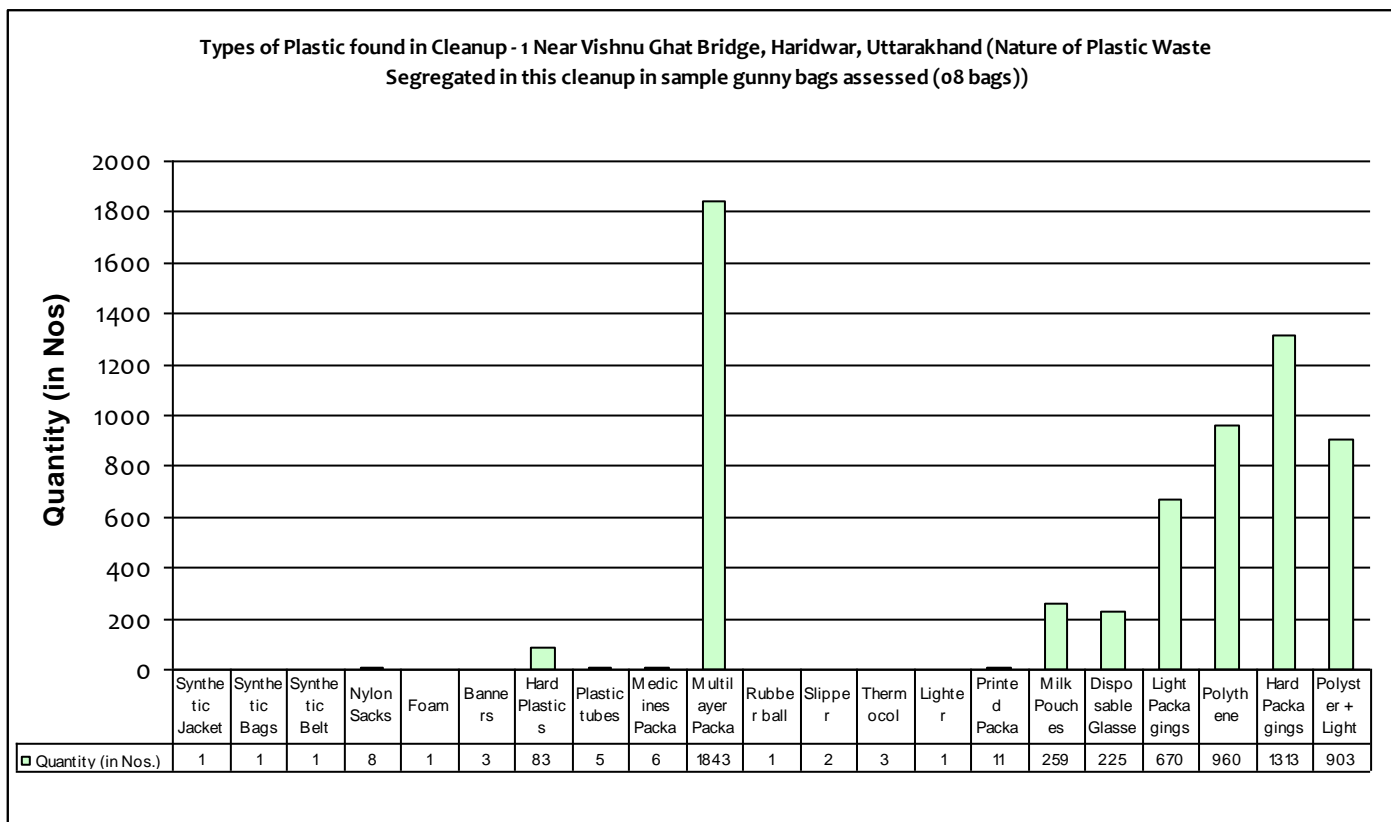
A few photographs depicting the clean up study are presented in **Annexure I**. The volunteer utilized the PPE arranged and enthusiastically addressed the task. Gunny bags were used for mixed waste collection that was strewn on the land area. Water flowing at Vishnu Ghat from North East to South West direction, reaches the Ganga river in about 5 kms distance.

**9. Photos post clean-up.**

Photographs depicting the Post Clean Up study are depicted in **Annexure II**.

**10. Qualitative outcomes of clean-up**

- a. 21 types of waste categories identified were found during the Clean Up. Figure 1 below depicts the categories.
- b. The special feature at this site is the high percentage (61%) of aggregate, segregated plastic vis a vis mixed waste
- c. A collection of light colored & black thin polythene including numerous small torn pieces amounted for maximum numbers and thermocol, foam pieces, medicine packagings, footwear, PET bottles, were very few.
- d. Multilayer packagings nos. including torn pieces were approx (29%) vis a vis the total numbers of various plastic collected ( $1843/6300$ ) = 29% approximately.
- e. Highly efficient volunteers i.e. elders (especially college students) were engaged in counting the varieties of segregated plastics in the time of the study/clean up and macroplastic assessment.
- f. The site had a significant amount of disposable plastic glasses/cups and thin silver plastic silver foils that line light cardboard/paper bowls & plates
- g. The dustbins were primarily located in the paved /tiled areas adjacent to the Ghat area to Vishnu Ghat bridge and very few in the packaging areas to service the floating population having refreshments in parking area.



## 11. Quantitative outcomes of clean-up

Data on plastic waste segregated during clean up was recorded as per the adapted trash data sheet format of UNEP as provided in **Annexure III**.

At this site in mass terms about 61% plastics was recovered as part of Clean Up exercise in the area vis vis mixed waste collected area bades.

The density of plastic was collected on  $1221\text{m}^2$  found has been  $(113/1221)\text{kg/m}^2 = 93\text{g/m}^2$ . and density of mixed waste collected has been  $(186/1221) = 152\text{gm/m}^2$ .

Data on plastic waste segregated during clean up was recorded as per the trash data sheet format of UNEP as provided in **Annexure III**.

## **Annexure I: Photographs Captured during Clean Up Activity**



**Volunteer Group Photos with Personal Protective Equipment (PPE)**



**Introductory Speech and brief about procedures for Clean Up**





**Photographs captured during collection of mixed waste near Vishnu Ghat Bridge, Haridwar**







## Personnel Protective Equipment



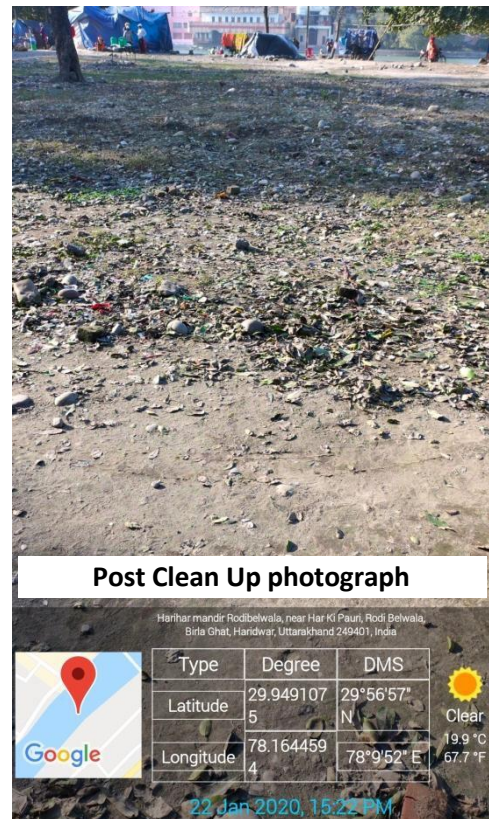
### Photographs captured during Volunteers taking Pledge



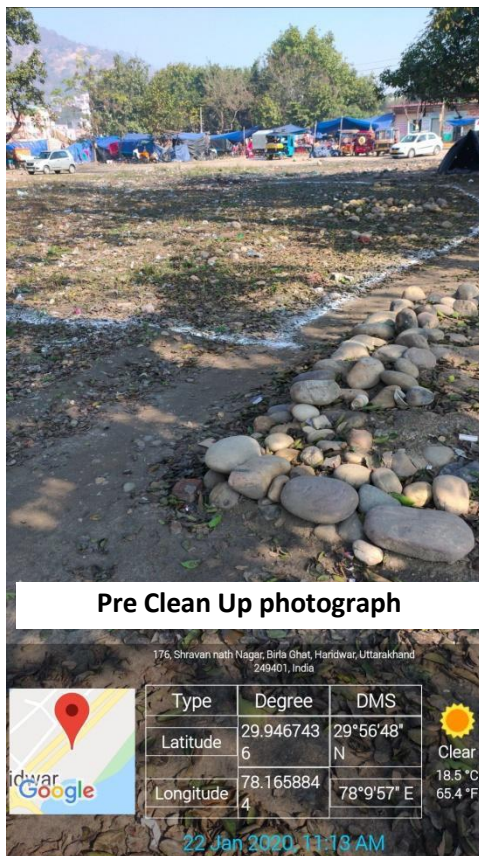
### Photographs captured after arranging types of plastic



## Annexure II: Pre and Post Clean Up Photographs









At the end, all the collected waste is handed over to Haridwar Nagar Nigam for final disposal



## VOLUNTEER-

### River Bank/Channel Bank Trash Data Form

Ocean and waterways including river trash rank as one of the most serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris threatens human health, wildlife, communities and economies around the world. The ocean faces many challenges, but trash should not be one of them. Ocean trash is entirely preventable, and data you collect are part of the solution. The international cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

#### Site Information:

Clean up Site Name: **Near Vishnu Ghat Bridge, Haridwar, Uttarakhand**

State: **Uttarakhand**

Zone or Country: **INDIA**

Country: **INDIA**

Landmark: Near National Highway to Dehradun, Vishnu Ghat Bridge, Haridwar

| MOST UNUSUAL ITEM COLLECTED |                   |      |            |
|-----------------------------|-------------------|------|------------|
| Land                        | Adult             |      | 110        |
| Under Ground Water          | Children under 12 |      |            |
| Water                       |                   | Date | 22.01.2020 |

# TRASHCOLLECTED

**Citizen scientist:** *Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas*

**Table: Macroplastic assessment of sample set of bags (08 nos.) with separated plastics from mixed waste**

| S.NO. | MOST LIKELY TO FIND ITEMS:   | Total No. of categorized plastics from 08 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 08 gunny bags of segregated plastics |
|-------|--|---|--|
| 1.    | Cigarette Butts  | -   | -  |
| 2.    | Multilayer Large and Medium Size for snacks, chips, namkeen, biscuits etc. | 1843  | 8.604  |
| 3.    | Multilayer Sachets for Shampoo, Tobacco, tea, coffee, tomato sauce etc.    |   |  |
| 4.    | Multilayer Gift Wrapping Paper   |   |  |
| 5.    | Monolayer Plastic Packaging used for food, detergent etc.                  | 11  | 0.253  |
| 6.    | Synthetic woven bags used for cement packaging etc.                        | 8   | 1.972  |
| 7.    | Hard Plastic such as HDPE Pipes, HDPE bottles, HDPE tubes, tray, PVC etc.  | 1396  | 7.182  |
| 8.    | Polythene bags (colored white, black)                                      | 1630  | 14.69  |
| 9.    | Woven Polycloth Bags for Carrying Groceries/Vegetables                     |   |  |
| 10.   | Disposable paper cups coated with plastic film                             | 225   | 0.489  |
| 11.   | Disposable plastic Cups/Glasses  |   |  |
| 12.   | Packing used for water, milk etc.  | 259   | 1.797  |
| 13.   | Take Out/ Away containers (Plastic)  |   |  |
| 14.   | Take Out/ Away containers (Food)   |   |  |
| 15.   | Paper bags coated with plastic film  | -   | -  |
| 16.   | Bottle plastic caps  |   |  |
| 17.   | Grocery/Shopping Bags  | -   | -  |
| 18.   | Plastic tubes (Dant kanti, Facewash cap)                                   | 5   | 0.032  |

| S.NO.                      | MOST LIKELY TO FIND ITEMS:                             | Total No. of categorized plastics from 08 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 08 gunny bags of segregated plastics |
|----------------------------|--|---|--|
| 19.                        | Flowers garlands, pooja samagri etc made up of Plastic |   |  |
| 20.                        | Black X ray film                                       |   |  |
| 21.                        | Plastic strings used for tying                         |   |  |
| 22.                        | Plastic Purse (Synthetic Leather)                      |   |  |
| <b>FISHING GEAR</b>        |  |   |  |
| 1.                         | Fishing Buoys pots & traps:                            | -   | -  |
| 2.                         | Fishing Net & Pieces:                                  | -   | -  |
| 3.                         | Fishing Line (1 Yard/ meter)= 1 piece                  | -   | -  |
| 4.                         | Rope (1 Yard/ meter)= 1 piece                          | -   | -  |
| <b>OTHER TRASH</b>         |  |   |  |
| 1                          | Appliances (refrigeration, washers etc)                |   |  |
| 2.                         | Balloons   |   |  |
| 3.                         | Cigar tips   |   |  |
| 4.                         | Cigarette Lighters                                     | 1   | 0.01   |
| 5                          | Cigarette Packets                                      |   |  |
| 6                          | Construction Materials with plastic component          |   |  |
| 7                          | Fireworks(Lamination made of plastic film)             |   |  |
| 8                          | Tires & Rubber   |   |  |
| 9                          | Footwear   | 2   | 0.098  |
| 10                         | Beverage Bottle (plastic) including PET Bottles        | -   | -  |
| 11                         | Foams  | 1   | 0.139  |
| 12                         | Rubber Ball  | 1   | 0.061  |
| 13                         | Straws   | -   | -  |
| 14                         | Cups & Plates (thermocol)                              | -   | -  |
| 15                         | Thermocol & Other Trash                                | 3   | 0.079  |
| 16                         | Toys, Pens and Toothbrush                              |   |  |
| <b>PACKAGING MATERIALS</b> |  |   |  |
| 1.                         | 6- Packs Holders                                       |   |  |
| 2.                         | Other Plastic/Foam Packaging                           |   |  |
| 3.                         | Other Plastic Bottle                                   |   |  |
| 4.                         | Strapping Bands  |   |  |
| 5.                         | Medicine Packaging                                     | 6   | 0.019  |
| 6.                         | Garment/Textile Packaging                              | 903   | 9.436  |

| S.NO.                      | MOST LIKELY TO FIND ITEMS:  | Total No. of categorized plastics from 08 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 08 gunny bags of segregated plastics |
|----------------------------|---|---|--|
|                            | Material  |   |  |
| 7.                         | Low density plastic packaging material (Diapers, Sanitary packs)    |   |  |
|                            | <b>PERSONAL HYGIENE</b>   |   |  |
| 1.                         | Condoms   | -   | -  |
| 2.                         | Diapers   |   |  |
| 3.                         | Syringes  |   |  |
| 4.                         | Tampons/Tampon Applicators  | -   | -  |
| 5.                         | Sanitary napkins/pads   |   |  |
|                            | <b>TINY TRASH LESS THAN 2.5 cm</b>                                  |   |  |
| 1.                         | Foam pieces   | -   | -  |
| 2.                         | Glass pieces  | -   | -  |
| 3.                         | Plastic pieces  | -   | -  |
|                            | <b>ITEMS OF LOCAL CONCERN</b>                                       |   |  |
| 1.                         | Glazed Paper having plastic lamination                              |   |  |
| 2.                         | Fragmented/ torn/ dusty mixed plastic waste                         |   |  |
| 3.                         | Synthetic Jackets   | 1   | 1.094  |
| 4.                         | Synthetic Bags  | 1   | 0.855  |
| 5.                         | Synthetic Belt pouch  | 1   | 0.174  |
| 6.                         | Synthetic Clothes/Clothes   |   |  |
| 7.                         | Synthetic flowers   |   |  |
| 8.                         | Pan shop synthetic sheet  |   |  |
| 9.                         | Ritual Material   |   |  |
| 10.                        | God Sculptures having synthetic cloth material & plastic ornaments. |   |  |
| 11.                        | Plastic Sheet & other thicker plastic bags. Color- Black & White    | 3   | 2.381  |
| 12.                        | Milky white bottles for carrying gangajal                           |   |  |
| 13.                        | Tobacco, Pan Masala Sachet/Wrappers                                 |   |  |
| 14.                        | Silver foil disposable plates & bowls having plastic lamination     |   |  |
| <b>DEAD/INJURED ANIMAL</b> | <b>STATUS</b>   | <b>ENTANGLED</b>  | <b>TYPE OF ENTANGLEMENT ITEM</b>   |
| 1                          | Dead or injured   | Yes or No   | -  |

| CLEANUP SUMMARY  |         |       |
|--|---------|-------|
| Number of Gunny Bags Filled with mixed trash:  | 17      | Nos   |
| Number of Gunny Bags of separated plastic:   | 16      | Nos   |
| Number of Gunny Bags opened for segregation of type of plastics:   | 8       | Nos   |
| Weight of Mixed Trash Collected:   | 186.26  | kg    |
| Weight of Plastic Waste from 16 Gunny Bags:  | 112.472 | kg    |
| Weight of Mixed Trash from 16 Gunny Bags   | 176.875 |       |
| Weight of Plastic from 8 Gunny Bags used for segregation of types of plastic:                              | 64.57   | kg    |
| Area cleaned:  | 1221.4  | Sq. m |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 16- number of bags) | 63.59   | %     |

## Annexure IV: Cleanup Team

| S. No. | Name of Technical Team | Organization                  |
|--------|------------------------|-------------------------------|
| 1      | Mr. Ashish Kumar Verma | National Productivity Council |
| 2      | Sh. S.K. Jain          | National Productivity Council |
| 3      | Mr. Himendra Singh     | National Productivity Council |

| S. No. | Name of Voluntarily Support Team | Organization             |
|--------|----------------------------------|--------------------------|
| 1      | Ms. Suhani Gupta                 | Development Alternatives |
| 2      | Sh. Rao Aashkar                  | Development Alternatives |
| 3      | Lakhwinder Singh                 | Adarsh Yuva Samiti       |
| 4      | Mr. Anuj                         | Adarsh Yuva Samiti       |

| Registration Sheet of Volunteer Engrosed in Clean Up near Vishnu Ghat Bridge, Haridwar UNEP |                     |     |                 |
|---|---------------------|-----|-----------------|
| 1.  | Karnail Singh       | 2.  | Neha Bhardwaj   |
| 3.  | Jyoti Dhiman        | 4.  | Rakesh          |
| 5.  | Neelam              | 6.  | Sonal Sharma    |
| 7.  | Hitesh Saini        | 8.  | Vipin Kumar     |
| 9.  | Prem                | 10. | Brijesh Kumar   |
| 11.   | Saurabh             | 12. | Deepak Kumar    |
| 13.   | Pooja Dhiman        | 14. | Shivani Saini   |
| 15.   | Rajni Arya          | 16. | Kajal           |
| 17.   | Pratima Bhardwaj    | 18. | Shubham Kumar   |
| 19.   | Vishnu Priya Sharma | 20. | Dheeraj Sharma  |
| 21.   | Komal Pokhriyal     | 22. | Lakshmi         |
| 23.   | Robin Sairi         | 24. | Deepali         |
| 25.   | Yash Bhardwaj       | 26. | Manju           |
| 27.   | Bhism Lata Sharma   | 28. | Asha            |
| 29.   | Arti                | 30. | Prashant Ghajht |
| 31.   | Nisha               | 32. | Kalichal        |
| 33.   | Shivani Thakur      | 34. | Gagan Chahuan   |
| 35.   | Sangeeta Dutta      | 36. | Poonam          |
| 37.   | Shilpa              | 38. | Baby            |
| 39.   | Deepa               | 40. | Neetu Mandal    |
| 41.   | Reena               | 42. | Sonia           |
| 43.   | Poonam              | 44. | Babita          |
| 45.   | Beena               | 46. | Rekha           |
| 47.   | Suman               | 48. | Ranjita         |
| 49.   | Sangeeta            | 50. | Rajkumari       |
| 51.   | Sunita              | 52. | Neelam          |
| 53.   | Lakhbir Singh       | 54. | Kamlesh         |
| 55.   | Sahidul             | 56. | Pinki           |
| 57.   | Hobby               | 58. | Harsh           |
| 59.   | Kadambari           | 60. | Kanchan Verma   |
| 61.   | Nandani Sharma      | 62. | Sahil Verma     |
| 63.   | Sunita              | 64. | Sachin Chahuhan |
| 65.   | Rajbhadur Saini     | 66. | Madhu           |
| 67.   | Anny Saini          | 68. | Shobha          |
| 69.   | Ranjita             | 70. | Shalu           |



| Registration Sheet of Volunteer Engrosed in Clean Up near Vishnu Ghat Bridge, Haridwar UNEP |                   |      |                   |
|---|-------------------|------|-------------------|
| 71.   | Rajkumari         | 72.  | Nikhil Verma      |
| 73.   | Tushar Pathak     | 74.  | Rajat Arora       |
| 75.   | Nikita Kaur       | 76.  | Himani            |
| 77.   | Nidhi             | 78.  | Reeta             |
| 79.   | Vipin Kumar       | 80.  | Malti             |
| 81.   | Menka Kashyap     | 82.  | Rupa              |
| 83.   | Harsh Pal         | 84.  | Arun Kumar        |
| 85.   | Shubham Arora     | 86.  | Gaurav            |
| 87.   | Pragya Arora      | 88.  | Ajay Kumar Sharma |
| 89.   | Shiv Shnkar Jonal | 90.  | Aashkar Ali       |
| 91.   | Madan Singh       | 92.  | Munish Dutt       |
| 93.   | Rekha             | 94.  | Beerbala          |
| 95.   | Nikhil            | 96.  | Poonam Devi       |
| 97.   | Harish            | 98.  | Kusum             |
| 99.   | Arjun             | 100. | Pinki             |
| 101.  | Sandeep           | 102. | Anuj              |
| 103.  | Charanjeet Singh  | 104. | Aruna             |
| 105.  | Amar Prakash      | 106. | Priyanka          |
| 107.  | Mohd Feroz khan   | 108. | Reeta             |
| 109.  | Saheban Ali       | 110. | Angret Singh      |

**A report on**  
**"Clean Up Activity at Pant Deep Parking,**  
**Haridwar, Uttarakhand**

dated: 24<sup>th</sup> January, 2020



*under*

***Promotion of Counter Measures against marine  
plastic litter in South East Asia and India - UNEP***



***Submitted by:***

**National Productivity Council**

(Under Ministry of Commerce & Industry, Govt. of India)

**Lodi Road, New Delhi**

## Table of Contents

|   |           |
|---|-----------|
| <b>Haridwar, Pant Deep Parking, Cleanup Report – 2 .....</b>                    | <b>58</b> |
| 1. Location.....  | 58        |
| 2. Time and Date .....  | 59        |
| 3. Participants/organizations.....  | 59        |
| 4. Activity Leaders.....  | 59        |
| 5. Rationale for location selection .....                                       | 59        |
| 6. Area covered, with photos of Pre-Clean Up status.....                        | 59        |
| 7. Methodology, in case there are any deviations from approved methodology..... | 60        |
| 8. Photos during Clean-Up.....  | 60        |
| 9. Photos post Clean-Up. ....   | 60        |
| 10. Qualitative outcomes of Clean-Up .....                                      | 60        |
| 11. Quantitative outcomes of Clean-Up.....                                      | 61        |
| Annexure I: Photos Captured during Clean up Activity .....                      | 63        |
| Annexure II: Pre & Post Clean Up Photographs.....                               | 66        |
| Annexure III: Trash data Sheet for River Bank/Channel Bank .....                | 68        |
| Annexure IV: List of Volunteers Participated/registered on site.....            | 72        |

## Haridwar, Pant Deep Parking, Cleanup Report – 2

### 1. Location

**Clean Up Site Name:** Pant Deep Parking, Haridwar.

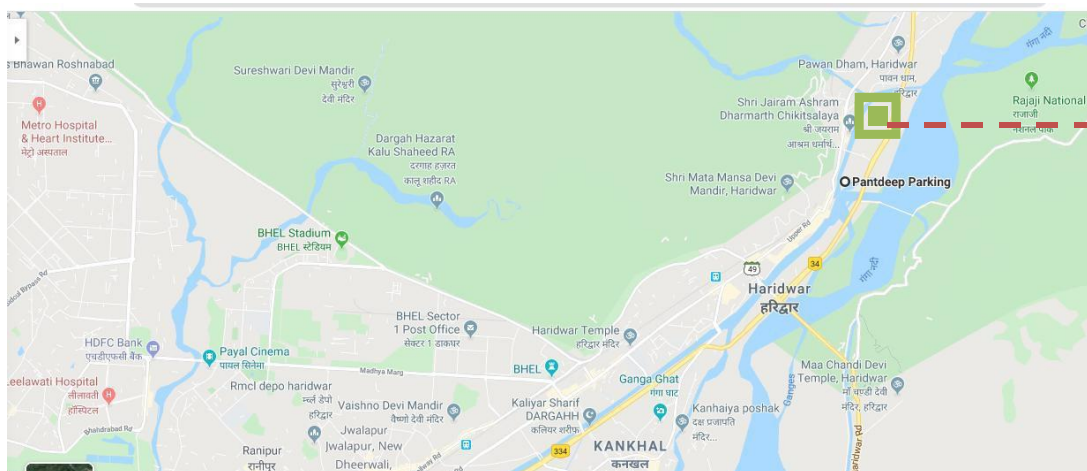
**State:** Uttarakhand

**Country:** India

**Landmark:** Near National Highway NH-34 Haridwar to Dehradun, Pant Deep Parking, Haridwar

**Latitude and Longitude** – 29.9587867, 78.1690907 (as per location site indicated).

Shortest displacement distance from water flow: The site is adjacent to Har ki podi at an approximate distance of 100 metres only.



Plates of Google Map Street View - Clean Up Site 2 Pant Deep Parking



Plates of Google Earth Image - Clean Up Site 2 Pant Deep Parking

## 2. Time and Date

**Time** : 9.00 am – 3.00 pm

**Date** : 24<sup>th</sup> January, 2020

## 3. Participants/organizations

**Participating Organisations:** National Productivity Council, Development Alternatives (DA), Adarsh Yuva Samiti, Aakansha Enterprises.

Details of Clean Up team is attached as **Annexure- IV**.

## 4. Activity Leaders

- Technical Team from National Productivity Council (NPC): Dr. Harsh Thukral, (Environment), Sh. S.K. Jain (Environment), Mr. Himendra Singh (Environment).
- Voluntarily Support Leader: Ms. Aakriti Uttam and Sh. Rao Aashkar Development Alternatives (DA), Shri Lakhwinder Singh (Adharsh Yuva Samiti) and the respective team.

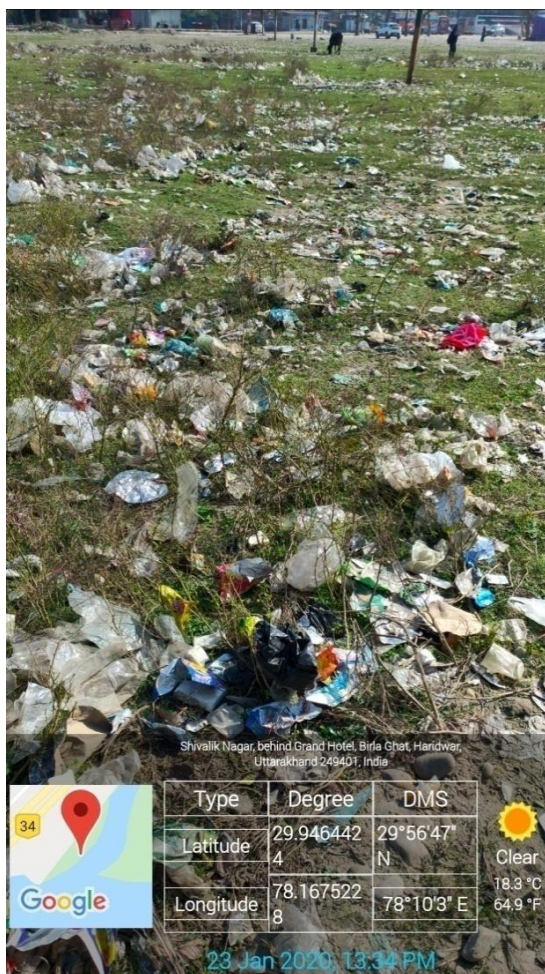
## 5. Rationale for location selection

Site is located near the bank of the Har ki podi where lots of devotees come from across India and perform rituals and sacred activities. On the opposite side of the site there is a NH-34 Highway from Haridwar to Dehradun where transport vehicles move such as buses, cars etc. Many of these also halt here for refreshment which releases plastic waste such as multilayer packagings, plastic disposable cups, plates and glasses. The site is essentially a low lying area vis a vis surroundings and the highway where the trash and other materials goes in the river water through drains/passage or during seasonal runoff.

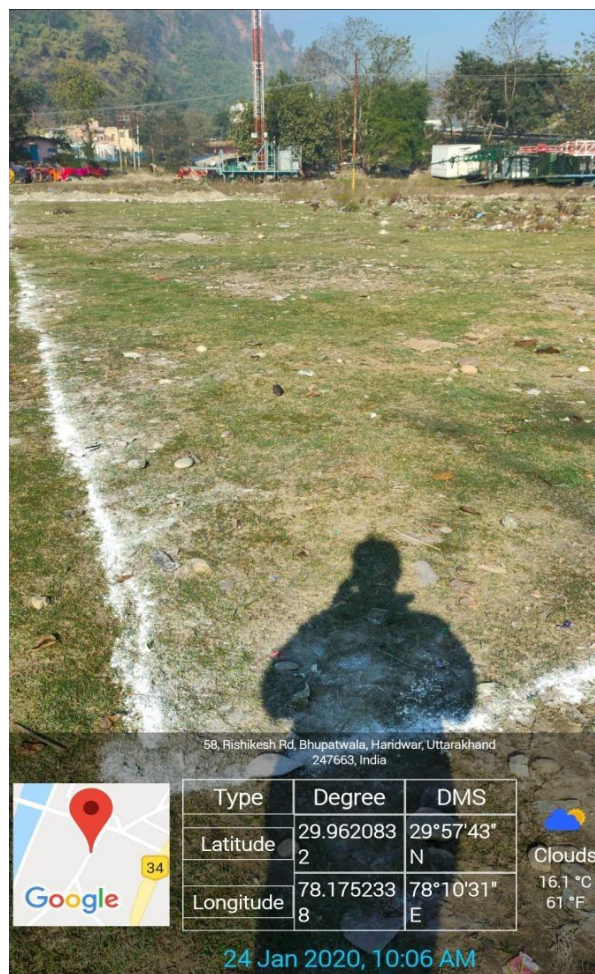
## 6. Area covered, with photos of Pre-Clean Up status

Approximately an area of 1,345.5sq.meters (39m x 34.5m) was selected for Clean Up which was marked on the ground use chalk powder and measuring tape & around 47 kg of total mixed waste was collected by volunteers. The Pre Clean Up site photographs are as depicted below:





**Pre Clean Up Plates at Pant Deep Parking, Haridwar**



**Demarked site with Chalk powder**

## 7. Methodology, in case there are any deviations from approved methodology.

Methodology adopted was as per the approved methodology of UNEP. However it was adopted as per river bank site scenario requirements.

## 8. Photos during Clean-Up

A few Photographs depicting the clean up study are presented in **Annexure I**. The volunteer utilised the PPE arranged and enthusiastically addressed the task. Gunny bags were used for mixed waste collection that was strewn on the land area. Water flowing at Har ki Podi is flowing North east to South West direction, reaches the Ganga river in about 5kms distance

## 9. Photos post Clean-Up.

Photographs depicting the Post Clean Up study are depicted in **Annexure II**.

## 10. Qualitative outcomes of Clean-Up

- a) 15 types of plastic waste categories identified were found during the Clean Up. Graph below depicts the categories.
- b) The special features at this site is the high percentage (67%) of aggregate, segregated plastic vis a vis mixed waste.
- c) A collection of light colored & black thin polythene including numerous small torn pieces amounted for maximum numbers and thermocol, foam pieces, medicine packagings, footwear, PET bottles, were very few.
- d) Multilayer packagings nos. including torn pieces were approx (27%) vis a vis the total numbers of various plastic collected  $(1748/6264) = 27\%$  approximately.  
Note: Total Nos. of all the types segregated plastic is 6264.
- e) Highly efficient volunteers elders (no. of school children) in counting the varieties of segregated plastics in the time of the study/clean up and macroplastic assessment.
- f) A unique feature at this site is that some synthetic flowers were also found in the plastics collection and segregation which could be an inclusion in the ritual process/aarti that devotees tend to undertake.
- g) Some sanitary pads were also found on this site.
- h) The site had a significant amount of disposable plastic glasses/cups and thin silver plastic silver foils that line light cardboard/paper bowls & plates.
- i) The dustbins were primarily located in the paved /tiled areas adjacent to the Har ki podi and very few in the packaging areas to service the floating population having refreshments in parking area

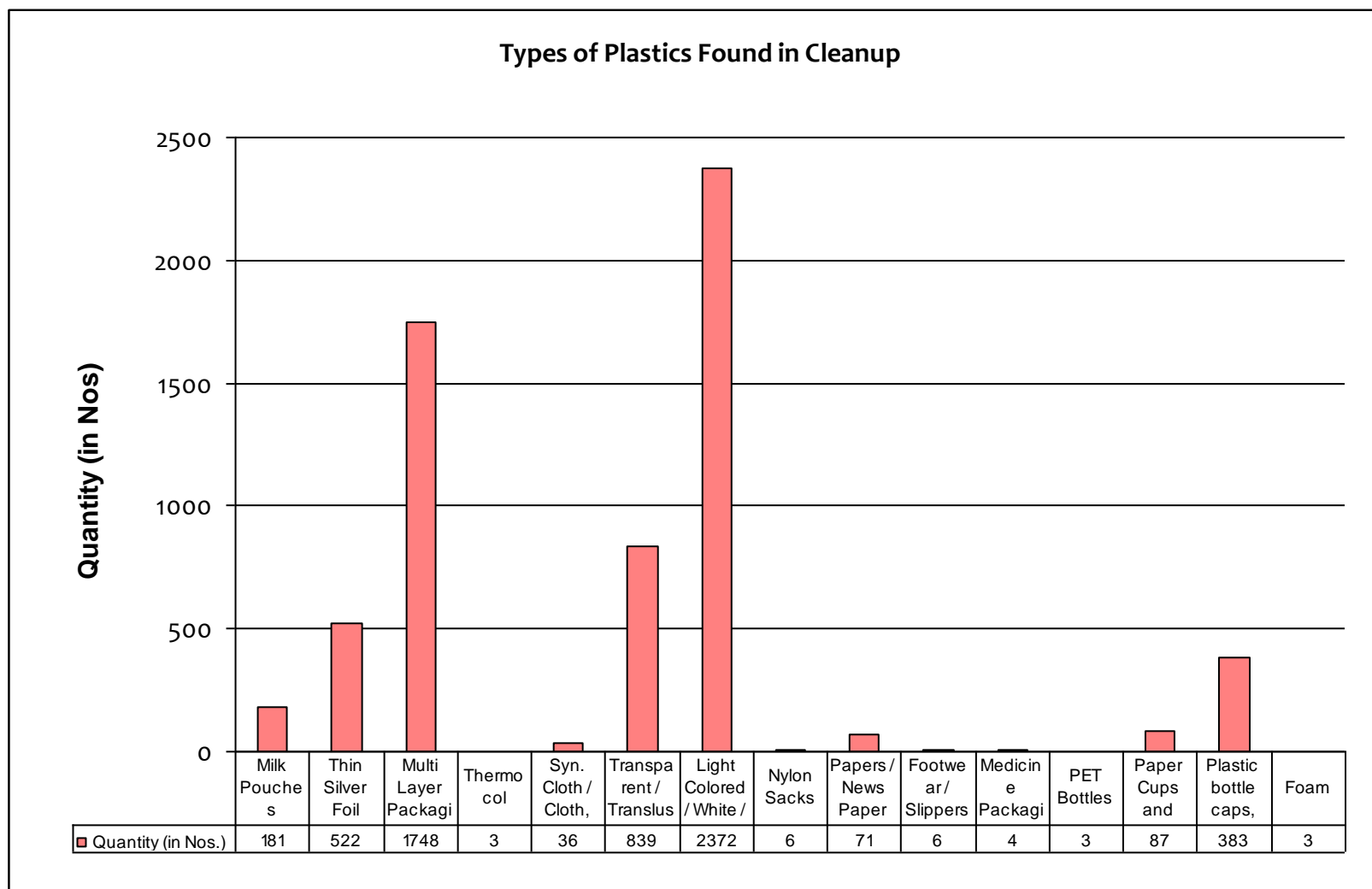
#### 11. Quantitative outcomes of Clean-Up

Data on plastic waste segregated during clean up was recorded as per the adapted trash data sheet format of UNEP as provided in **Annexure III**.

At this site in mass terms about 67% plastics was recovered as part of Clean Up exercise in the area vis vis mixed waste collected area bases.

The density of plastic was collected on 1345.5m<sup>2</sup> found has been  $(32.210/1345.5)\text{kg/m}^2 = 23.93\text{g/m}^2$ . and density of mixed waste collected has been  $(47.47/1345.5) = 35.28\text{gm/m}^2$ .





## Annexure I: Photos Captured during Clean up Activity



**Volunteer Group Photos with Personal Protective Equipments (PPE)**



**Introductory Speech and brief about procedures for Clean Up**





**Photographs captured during collection of mixed waste near Vishnu Ghat Bridge, Haridwar**



**Weighing of trashes**



**First aid Box**

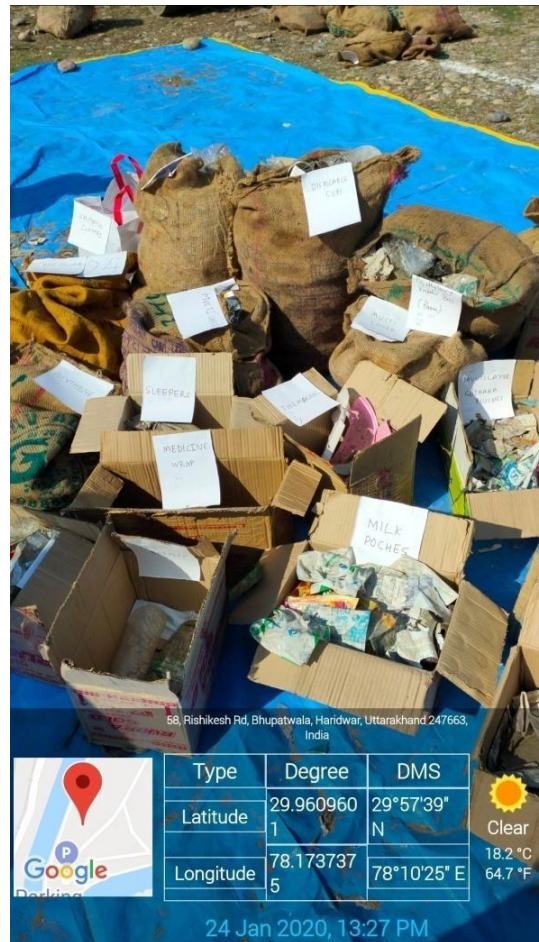




**Segregation of waste**



**All the collected waste handover to ULB for final disposal**



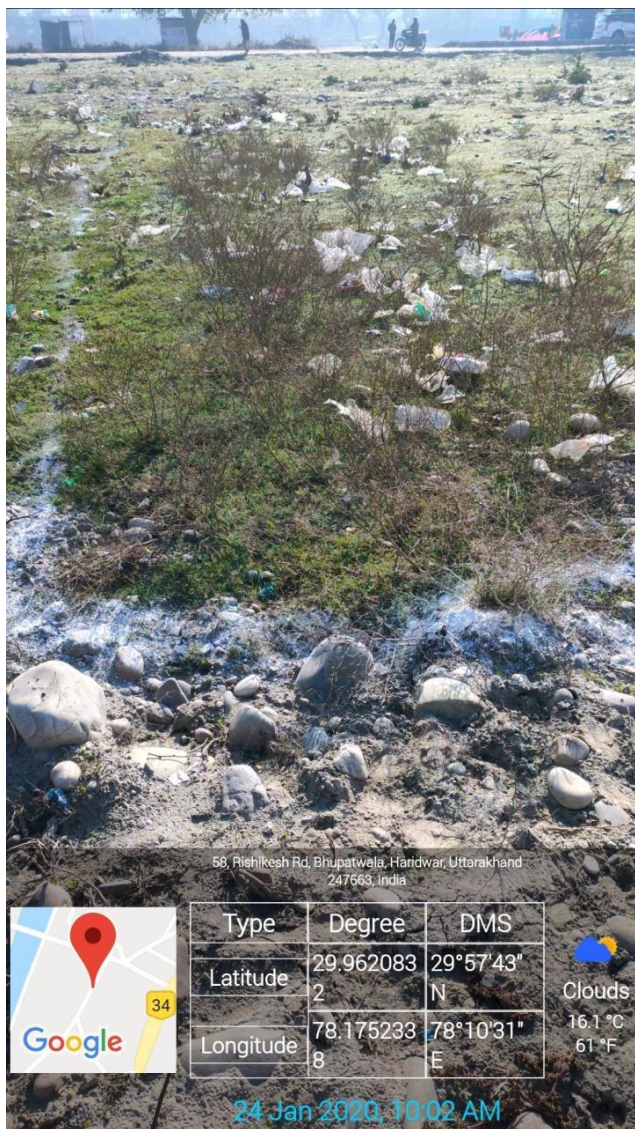
**Being Collected waste in Bags/Cartons**



**Volunteers photographs with Certificates**



## Annexure II: Pre & Post Clean Up Photographs

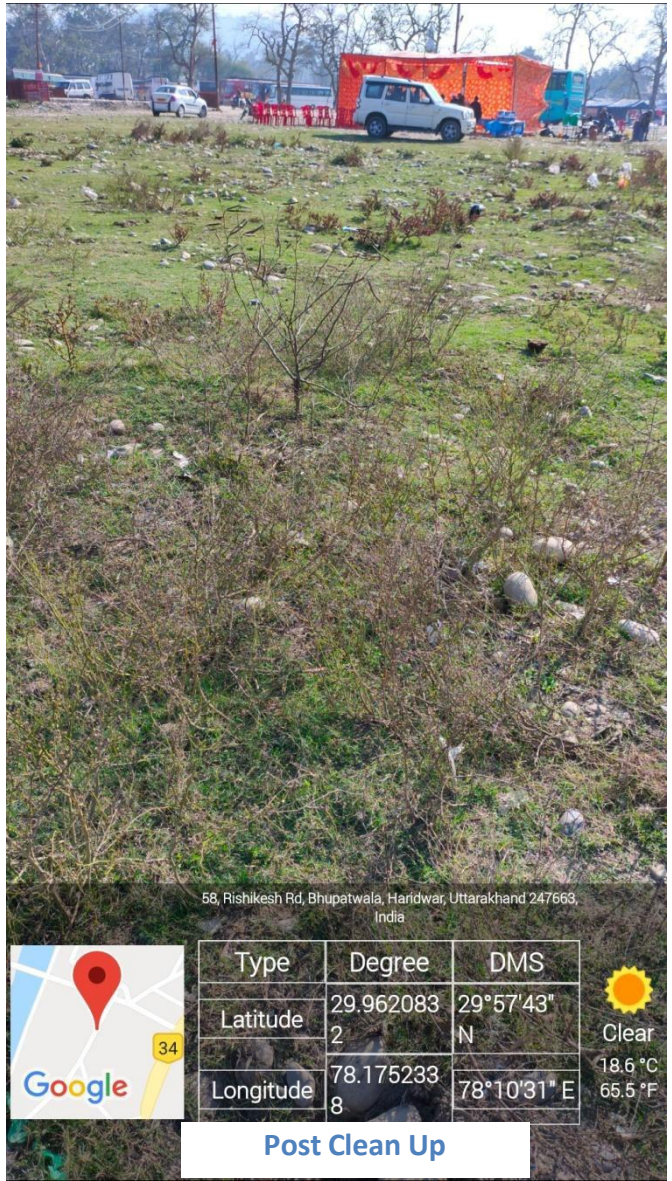


**Pre Clean Up**



**Post Clean Up**





## VOLUNTEER-

### River Bank/Channel Bank Trash Data Form

Ocean, waterways and river bank/channel bank trash rank as serious pollution problems choking our planet. Far more than an eyesore, a rising tide of river and marine debris threatens human health, wildlife, communities and economies around the world. The river and ocean face many challenges, but trash should not be one of them. River and Ocean trash is entirely preventable, and data we collect are part of the solution. The international cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

#### Site Information:

Clean up Site Name: **Pant Deep Parking, Haridwar, Uttarakhand**

State: **Uttarakhand**

Zone or Country: **INDIA**

Country: **INDIA**

Landmark: Near National Highway NH-34 Haridwar to Dehradun, Vishnu Ghat Bridge, Haridwar

#### MOST UNUSUAL ITEM COLLECTED

**Land**



**Under Ground Water**



**Water**



**Adult**

<110

**Children under 12**

Nil

**Date**

24.01.2020



# TRASHCOLLECTED

UNEP Fomat adapted to site scenario adjacent to river/channel

**Citizen scientist:** *Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas*

| S. NO.              | MOST LIKELY TO FIND ITEMS:   | Total No. of categorized plastics from 13 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 13 gunny bags of segregated plastics |
|---------------------|--|---|--|
| 1.                  | Cigarette Butts  | -   | -  |
| 2.                  | Multilayer Large and Medium Size for snacks, chips, namkeen, biscuits etc. | 1748  | 5.585  |
| 3.                  | Multilayer Sachets for Shampoo, Tobacco, tea, coffee, tomato sauce etc.    | -   | -  |
| 4.                  | Multilayer Gift Wrapping Paper   | -   | -  |
| 5.                  | Monolayer Plastic Packaging used for food, detergent etc.                  | -   | -  |
| 6.                  | Synthetic woven bags used for cement packaging etc.                        | 6   | 2.662  |
| 7.                  | Hard Plastic such as HDPE Pipes, HDPE bottles, HDPE tubes, tray, PVC etc.  |   |  |
| 8.                  | Polythene bags (colored white, black)                                      | 2372  | 12.184   |
| 9.                  | Woven Polycloth Bags for Carrying Groceries/Vegetables                     | -   | -  |
| 10.                 | Disposable paper cups coated with plastic film                             | 926   | 1.932  |
| 11.                 | Disposable plastic Cups/Glasses  | -   | -  |
| 12.                 | Packing used for water, milk etc.  | 181   | 0.849  |
| 13.                 | Take Out/ Away containers (Plastic)  | -   | -  |
| 14.                 | Take Out/ Away containers (Food)   | -   | -  |
| 15.                 | Paper bags coated with plastic film  | -   | -  |
| 16.                 | Bottle plastic caps  | 383   | 0.562  |
| 17.                 | Shopping Bags/ Grocery Bags  | -   | -  |
| 18.                 | Plastic tubes (Dant kanti, Facewash cap)                                   | -   | -  |
| 19.                 | Flowers garlands, pooja samagri etc made up of Plastic                     | -   | -  |
| 20.                 | Black X ray film   | -   | -  |
| 21.                 | Plastic strings used for tying   |   |  |
| 22.                 | Plastic Purse (Synthetic Leather)  | -   | -  |
| <b>FISHING GEAR</b> |  |   |  |
| 1.                  | Fishing Buoys pots & traps:  | -   | -  |
| 2.                  | Fishing Net & Pieces:  | -   | -  |
| 3.                  | Fishing Line (1 Yard/ meter)= 1 piece                                      | -   | -  |
| 4.                  | Rope (1 Yard/ meter)= 1 piece  | -   | -  |
| <b>OTHER TRASH</b>  |  |   |  |

| S. NO. | MOST LIKELY TO FIND ITEMS:                                       | Total No. of categorized plastics from 13 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 13 gunny bags of segregated plastics |
|--------|--|---|--|
| 1      | Appliances (refrigeration, washers etc)                          | -   | -  |
| 2.     | Balloons   | -   | -  |
| 3.     | Cigar tips   | -   | -  |
| 4.     | Cigarette Lighters   | -   | -  |
| 5      | Cigaratte Packets  | -   | -  |
| 6      | Construction Materials with plastic component                    | -   | -  |
| 7      | Fireworks(Lamination made of plastic film)                       | -   | -  |
| 8      | Tires & Rubber   | -   | -  |
| 9      | Footwear   | 6   | 0.932  |
| 10     | Beverage Bottle (plastic) including PET Bottle                   | 3   | 0.065  |
| 11     | Foams  | -   | -  |
| 12     | Rubber Ball  | -   | -  |
| 13     | Straws   | -   | -  |
| 14     | Cups & Plates (Thermocol)  | -   | -  |
| 15     | Thermocol & Other Trash  | 3   | 0.077  |
| 16     | Toys, Pens and Toothbrush  | -   | -  |
|        | <b>PACKAGING MATERIALS</b>                                       |   |  |
| 1.     | 6- Packs Holders   | -   | -  |
| 2.     | Other Plastic/Foam Packaging                                     | -   | -  |
| 3.     | Other Plastic Bottle   | -   | -  |
| 4.     | Strapping Bands  | -   | -  |
| 5.     | Medicine Packaging   | 4   | 0.013  |
| 6.     | Garment/Textile Packaging Material                               | -   | -  |
| 7.     | Low density plastic packaging material (Diapers, Sanitary packs) | -   | -  |
|        | <b>PERSONAL HYGIENE</b>  |   |  |
| 1.     | Condoms  | -   | -  |
| 2.     | Diapers  | -   | -  |
| 3.     | Syringes   | -   | -  |
| 4.     | Tampons/Tampon Applicators                                       | -   | -  |
| 5.     | Sanitary napkins/pads  | -   | -  |
|        | <b>TINY TRASH LESS THAN 2.5 CM</b>                               |   |  |
| 1.     | Foam pieces  | 3   | 0.2  |
| 2.     | Glass pieces   | -   | -  |
| 3.     | Plastic pieces   | -   | -  |
|        | <b>ITEMS OF LOCAL CONCERN</b>                                    |   |  |
| 1.     | Glazed Paper having plastic lamination                           | 71  | 0.073  |
| 2.     | Fragmented/ torn/ dusty mixed plastic waste                      | -   | -  |
| 3.     | Synthetic Jackets  | -   | -  |
| 4.     | Synthetic Bags   | -   | -  |
| 5.     | Synthetic Belt pouch   | -   | -  |
| 6.     | Synthetic Clothes/Clothes  | 36  | 3.11   |

| S. NO.              | MOST LIKELY TO FIND ITEMS:  | Total No. of categorized plastics from 13 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 13 gunny bags of segregated plastics |
|---------------------|---|---|--|
| 7.                  | Synthetic flowers   | -   | -  |
| 8.                  | Pan shop synthetic sheet  | -   | -  |
| 9.                  | Ritual Material   | -   | -  |
| 10.                 | God Sculptures having synthetic cloth material & plastic ornaments. | -   | -  |
| 11.                 | Plastic Sheet & other thicker plastic bags. Color-Black & White     | -   | -  |
| 12.                 | Milky white bottles for carrying gangajal                           | -   | -  |
| 13.                 | Tobacco, Pan Masala Sachet/Wrappers                                 | -   | -  |
| 14.                 | Silver foil disposable plates & bowls having plastic lamination     | 522   | 3.966  |
| DEAD/INJURED ANIMAL | STATUS  | ENTANGLED   | TYPE OF ENTANGLEMENT ITEM  |
| -                   | Dead or injured   | Yes or No   |  |

| CLEANUP SUMMARY  |        |      |
|--|--------|------|
| Number of Gunny Bags Filled with mixed trash:  | 13     | nos  |
| Number of Gunny Bags of separated plastic:   | 13     | nos  |
| Number of Gunny Bags opened for segregation of type of plastics:   | 13     | nos  |
| Weight of Mixed Trash Collected from 13 Gunny Bags:  | 47.47  | kg   |
| Weight of Plastic Waste from 13 Gunny Bags:  | 32.21  | kg   |
| Weight of Plastic from 13 Gunny Bags used for segregation of types of Plastic:                             | 32.21  | kg   |
| Area Cleaned:  | 1345.5 | sq m |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 13 number of bags): | 67.85  | %    |

**Annexure IV: List of Volunteers Participated/registered on site****Clean Up  
Team**

| S. No. | Name of Technical Team | Organization                  |
|--------|------------------------|-------------------------------|
| 1      | Dr. Harsh Thukral      | National Productivity Council |
| 2      | Sh. S.K. Jain          | National Productivity Council |
| 3      | Mr. Himendra Singh     | National Productivity Council |
| 4      | Mr. Apoorva Aggarwal   | National Productivity Council |

| S. No. | Name of Voluntarily Support Team | Organization             |
|--------|----------------------------------|--------------------------|
| 1      | Ms. Aakriti Uttam                | Development Alternatives |
| 2      | Sh. Rao Aashkar                  | Development Alternatives |
| 3      | Lakhwinder Singh                 | Adarsh Yuva Samiti       |
| 4      | Mr. Anuj                         | Adarsh Yuva Samiti       |

| Registration Sheet of Volunteer Engrosed in Clean Up At Pant Deep Parking, Haridwar U.K. |                      |     |                     |
|--|----------------------|-----|---------------------|
| 1.   | Shri. Lakhveer Singh | 2.  | Shivani             |
| 3.   | Shri. Dalbeer Singh  | 4.  | Anchal              |
| 5.   | Ritu                 | 6.  | Sakshi              |
| 7.   | Pratima Bhardwaj     | 8.  | Pooja               |
| 9.   | Pooja Dhiman         | 10. | Deepali             |
| 11.  | Rajni Arya           | 12. | Baby                |
| 13.  | Nandani Sharma       | 14. | Ranjita             |
| 15.  | Sunita               | 16. | Rakumari            |
| 17.  | Saurabh              | 18. | Lakshmi             |
| 19.  | Shilpa               | 20. | Manju               |
| 21.  | Reena                | 22. | Vishnu Priya Sharma |
| 23.  | Deepa                | 24. | Poonam              |
| 25.  | Pinki                | 26. | Rekha               |
| 27.  | Renu Lodhi           | 28. | Ekta                |
| 29.  | Beena                | 30. | Babli               |
| 31.  | Suman                | 32. | Neetu Mandal        |
| 33.  | Sangita              | 34. | Abhijeet Kumar      |
| 35.  | Sunita               | 36. | Vishal Chahuhan     |
| 37.  | Akanksha             | 38. | Ajay Sharma         |
| 39.  | Poonam Devi          | 40. | Babli               |
| 41.  | Poonam Devi          | 42. | Rekha               |
| 43.  | Priyanka             | 44. | Sonia               |
| 45.  | Beerbala             | 46. | Poonam Rathore      |
| 47.  | Roopa                | 48. | Bhusan Lata Sharma  |
| 49.  | Rakesh Sharma        | 50. | Nisha               |
| 51.  | Kadambari            | 52. | Nikhil              |
| 53.  | Arun Kumar           | 54. | Pinki               |
| 55.  | Harsh Thukral        | 56. | Rekha               |



| Registration Sheet of Volunteer Engrosed in Clean Up At Pant Deep Parking, Haridwar U.K. |                  |      |               |
|--|------------------|------|---------------|
| 57.  | Hitesh Saini     | 58.  | Neelam        |
| 59.  | Raju verma       | 60.  | Kamlesh       |
| 61.  | Prem             | 62.  | Malti         |
| 63.  | Sandeep          | 64.  | Gaurav        |
| 65.  | Neelam Chahuhan  | 66.  | Meenu         |
| 67.  | Kanika           | 68.  | Ishu          |
| 69.  | Aman Kumar       | 70.  | Rajat         |
| 71.  | Apoorva Aggarwal | 72.  | Harsh         |
| 73.  | Mohd Safi        | 74.  | Shubham       |
| 75.  | Aaskkar Ali      | 76.  | Sachin        |
| 77.  | Himendra Singh   | 78.  | Neha Bhardwaj |
| 79.  | Sunita           | 80.  | Pragya Arora  |
| 81.  | Preeti           | 82.  | Nikita Kaur   |
| 83.  | Poonam           | 84.  | Yash Bhardwaj |
| 85.  | Dolly            | 86.  | Menka Kashyap |
| 87.  | Rajkumari        | 88.  | Nidhi         |
| 89.  | Deepa            | 90.  | Karnaul Singh |
| 91.  | Jyoti            | 92.  | Aakriti       |
| 93.  | Chetan Sharma    | 94.  | Divya         |
| 95.  | Roop Chand       | 96.  | Archana Bhatt |
| 97.  | Rajesh           | 98.  | Deepa         |
| 99.  | Hari Prakash     | 100. | Pinki         |
| 101.   | Om Prakash       | 102. | Puspa         |
| 103.   | Naresh Kumar     | 104. | Geeta         |
| 105.   | Kusum            | 106. | Rupa          |
| 107.   | Pawan kumar      | 108. | Sunita        |

**A report on**  
**"Pilot Clean Up Activity at Haathi Ghat - Agra"**

dated: 6<sup>th</sup> November, 2019



*under*

***Promotion of Counter Measures against marine  
plastic litter in South East Asia and India - UNEP***



***Submitted by:***

**National Productivity Council**

(Under Ministry of Commerce & Industry, Govt. of India)

**Lodi Road, New Delhi**

## **Table of Contents**

|  |           |
|--|-----------|
| <b>Agra, Haathi Ghat, Cleanup Report – 3 .....</b>                               | <b>76</b> |
| 1. Location.....   | 76        |
| 2. Time and Date .....   | 77        |
| 3. Participants/organizations.....   | 77        |
| 4. Activity leader .....   | 77        |
| 5. Rationale for location selection .....  | 77        |
| 6. Area covered, with photos of pre-clean .....                                  | 79        |
| 7. Methodology, in case there are any deviations from approved methodology ..... | 80        |
| 8. Photos during clean-up.....   | 80        |
| 9. Photos post clean-up.....   | 81        |
| 10. Qualitative outcomes of clean-up .....                                       | 81        |
| 11. Quantitative outcomes of clean-up.....                                       | 82        |
| Annexure I: Photos During Cleanup Activity .....                                 | 83        |
| Annexure II: Pre & Post Cleanup Photographs .....                                | 87        |
| Annexure III: Volunteer – Ocean Trash Data Form .....                            | 89        |
| Annexure IV: Cleanup Team .....  | 92        |

## Agra, Haathi Ghat, Cleanup Report – 3

### 1. Location

**Clean Up Site Name:** Haathi Ghat, Behind Red Fort Area, Agra.

**State:** Uttar Pradesh

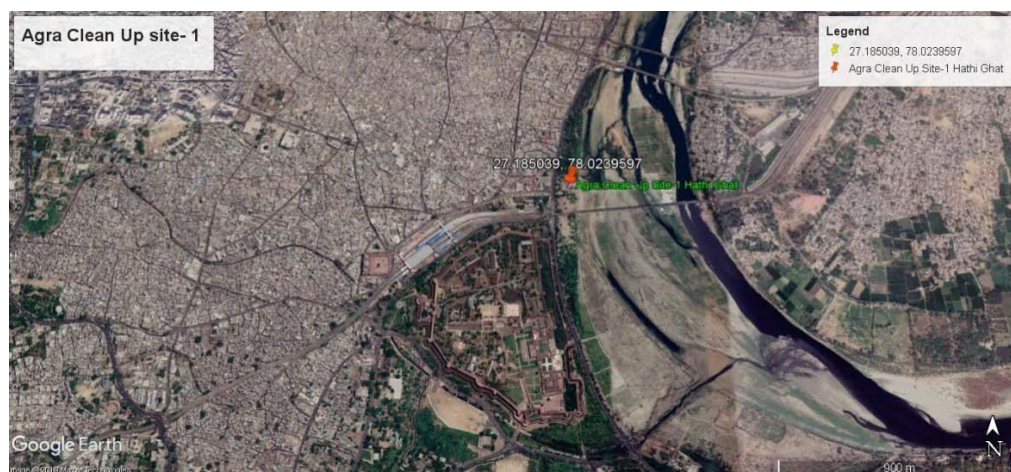
**Country:** India

**Landmark:** Behind Red Fort Area, Agra

**Latitude and Longitude** – 27.185039, 78.0239597



### Agra Clean Up Site - 1 at Haathi Ghat, Agra





## 2. Time and Date

**Time** : 8.00 am – 3.00 pm

**Date** : 6<sup>th</sup> November, 2019

## 3. Participants/organizations

**Participating Organisations:** National Productivity Council, Chintan, CURE (Centre for Urban and Regional Excellence)

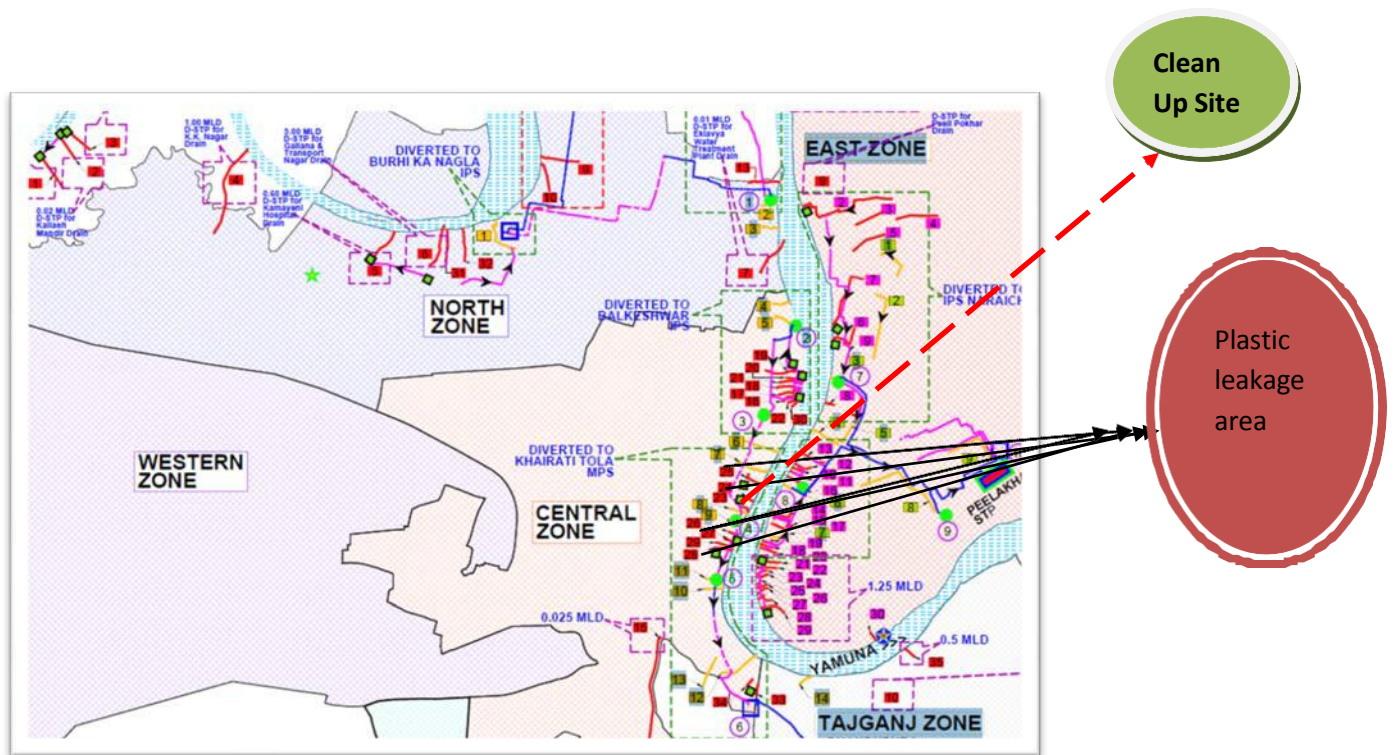
Details of Clean Up team is attached as **Annexure- IV**.

## 4. Activity leader

- Partner Agency Support Leader: Ms. Chitra Mukherjee (Head - Advocacy & Policy), Chintan.
- Technical Team Leader: Dr. Shukla Pal Maitra, Director (Environment), National Productivity Council.

## 5. Rationale for location selection

Site is located on the bank of the River Yamuna and surrounded with the religious places such as Gurudwara Haathi Ghat, temple, and railway station, tourist place such as Red Fort, Agra, Railway Bridge etc. It falls under plastic leakage area due to proximity to untapped drains (open drains flowing through the city and falling to Yamuna river), allowing plastic leakage into the river as can be depicted from the figure below..



The red dots depicts the untapped open drains locations which are plastic leaking sources.

## 6. Area covered, with photos of pre-clean

Approximately an area of 90 x 60 sq.meters was selected for Clean Up and around 410 kg of total waste was collected. Pre Clean Up site photographs are as depicted below:



**Pre Clean Up at Haathi Ghat, Agra**





**Pre Clean Up Photographs**

**7. Methodology, in case there are any deviations from approved methodology**

Methodology adopted was same as per the approved methodology of UNEP.

**8. Photos during clean-up**

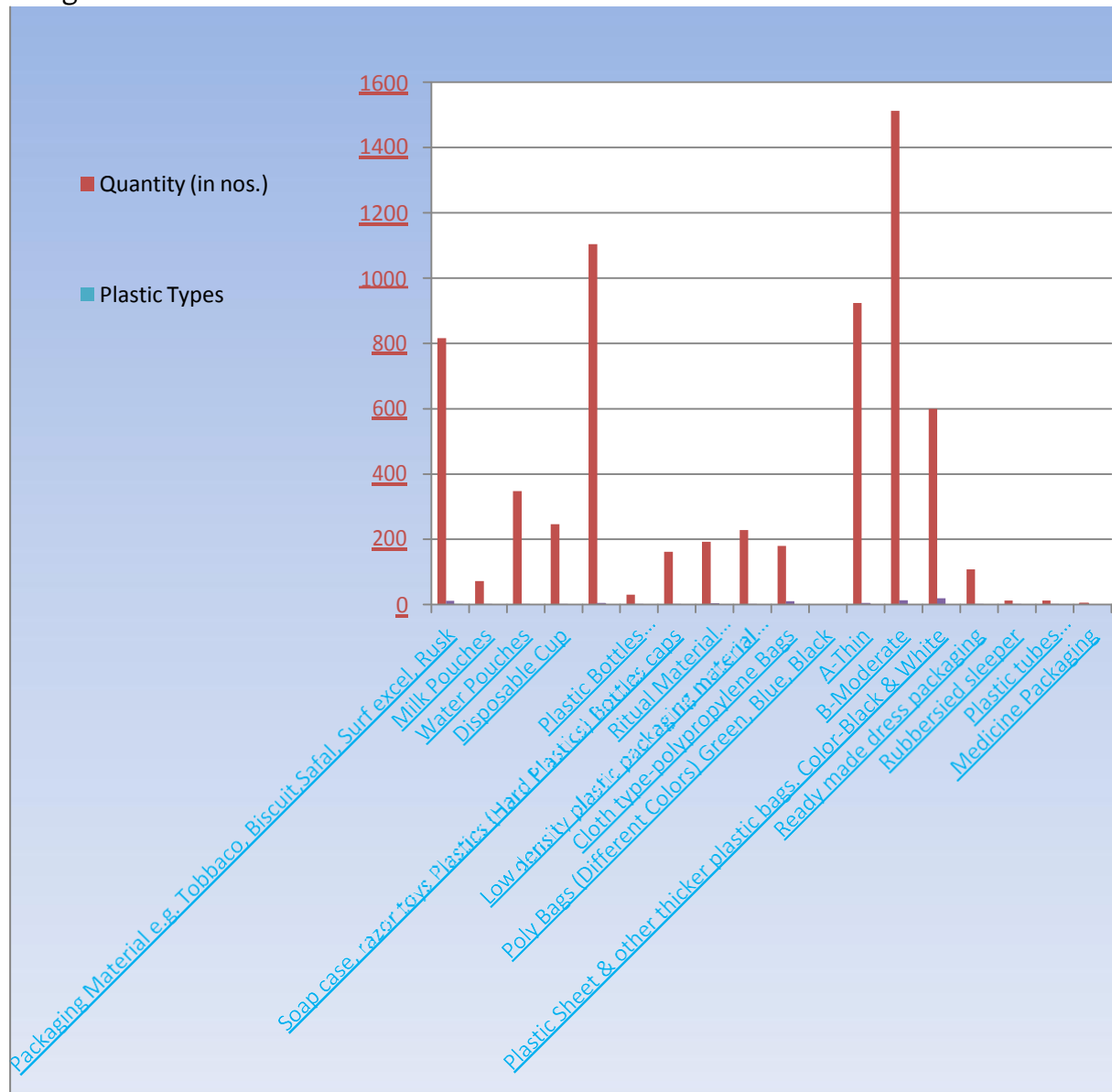
Photographs depicting the clean up study are depicted in **Annexure I**.

## 9. Photos post clean-up.

Photographs depicting the Post Clean Up study are depicted in **Annexure II**.

## 10. Qualitative outcomes of clean-up

16 types of waste categories were found during the Clean Up. Figure 1 below depicts the categories.



Majority of the waste categories found during Clean Up includes Multilayer packaging, Plastic Sheet & other thicker plastic bags in black & white Color, water pouches, Packaging Material e.g. Tobbaco sachets, Biscuit packets, Surf excel, Rusks etc.

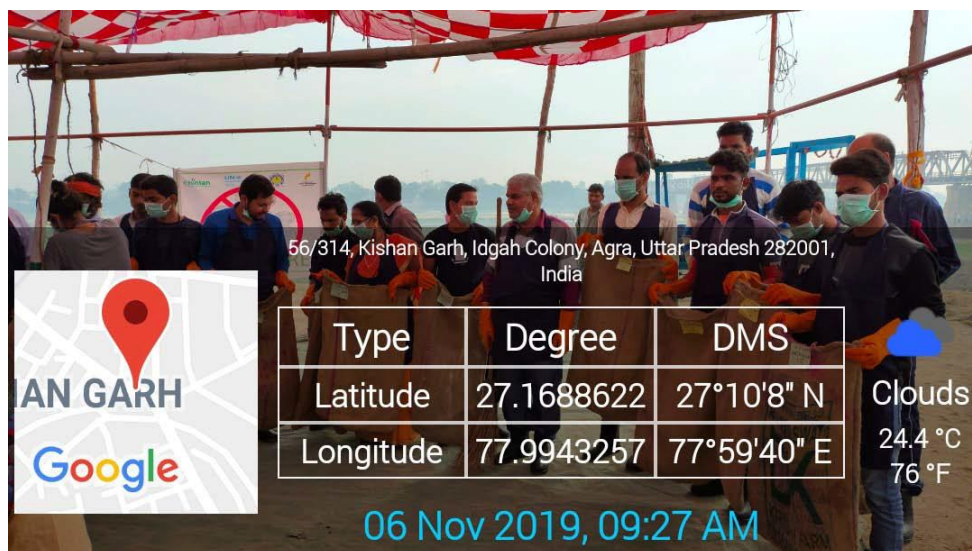
#### **11. Quantitative outcomes of clean-up**

Data on plastic waste segregated during clean up was recorded as per the trash data sheet format of UNEP as provided in **Annexure III**.

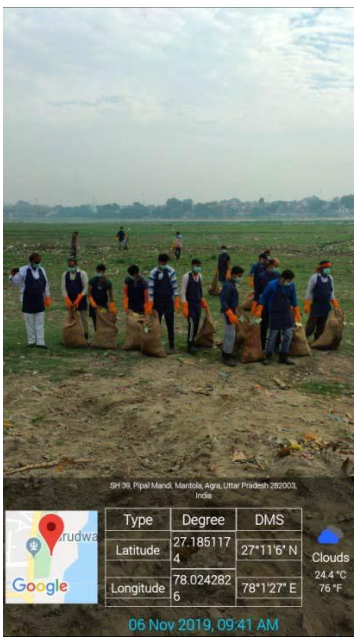


## Annexure I: Photos During Cleanup Activity

### 1. Volunteer Group Photos with Personal Protective Equipments (PPE)



Photographs captured during collection of mixed waste at Haathi Ghat, Agra, India





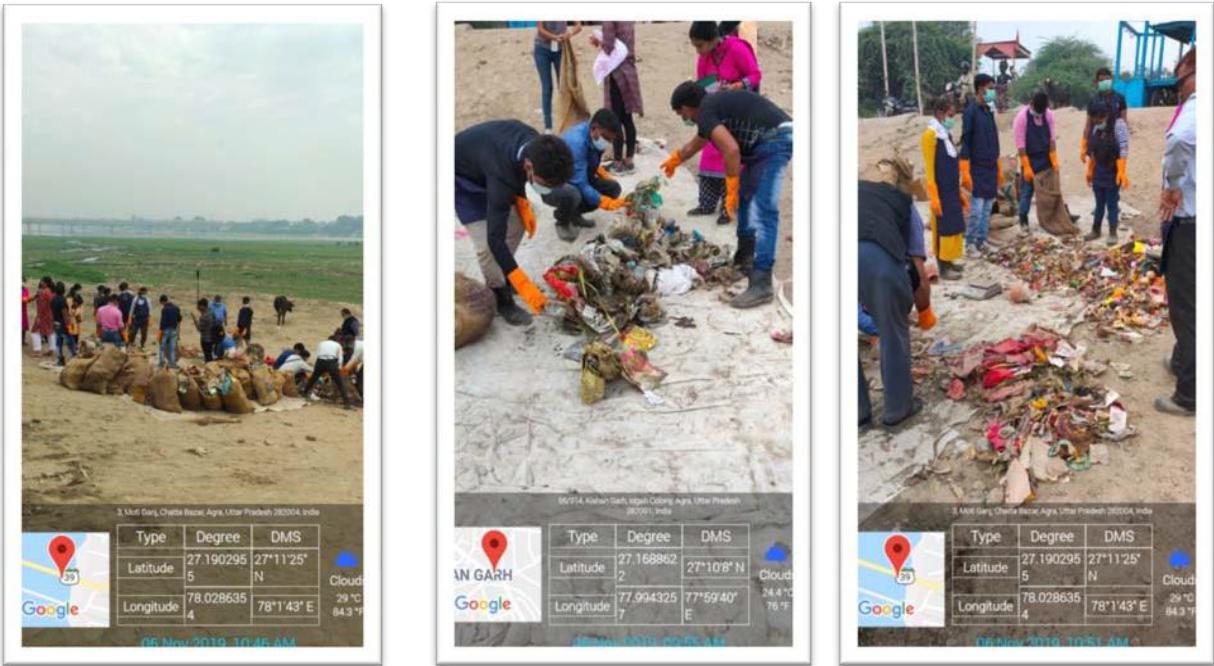


Photographs of labelled collected bags place at sheet for weighing





Photographs captured during segregation of Mixed Waste and plastic waste

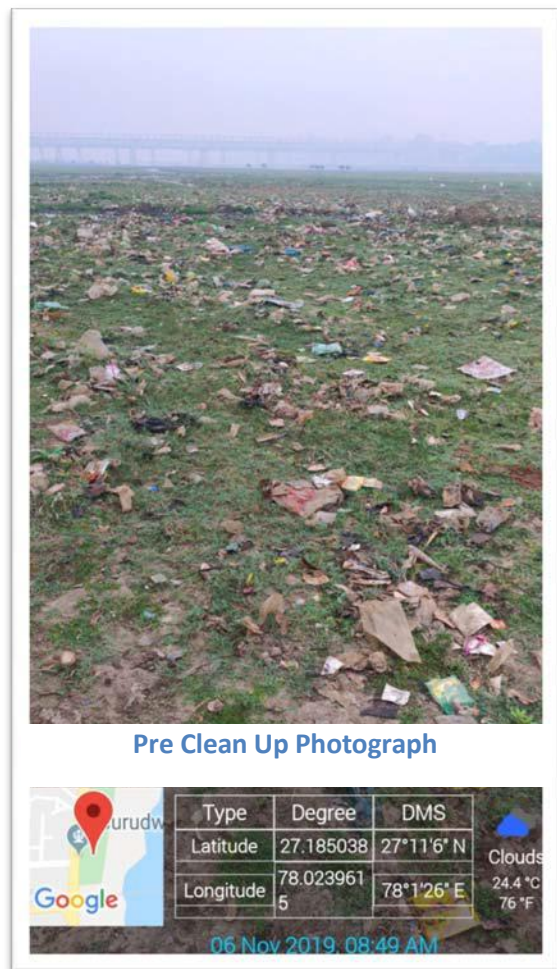


Waste (plastic only) collected bags and their weighing



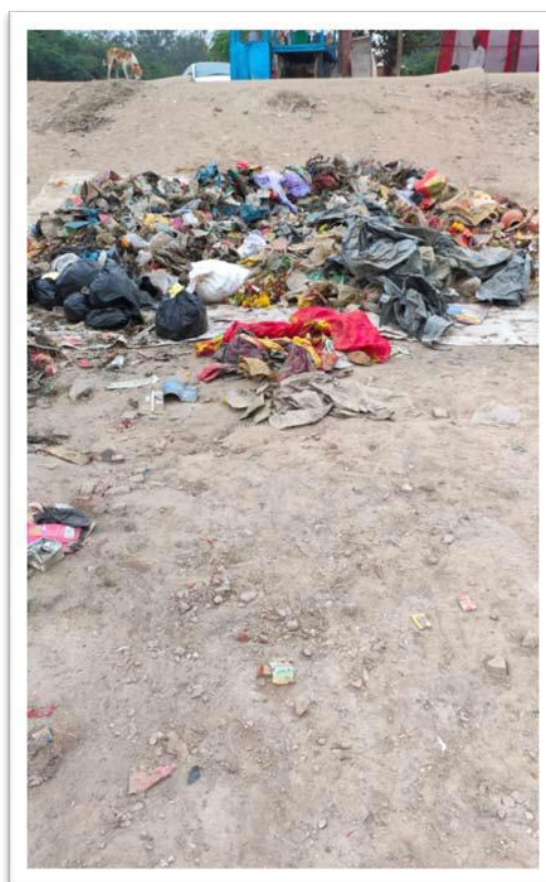
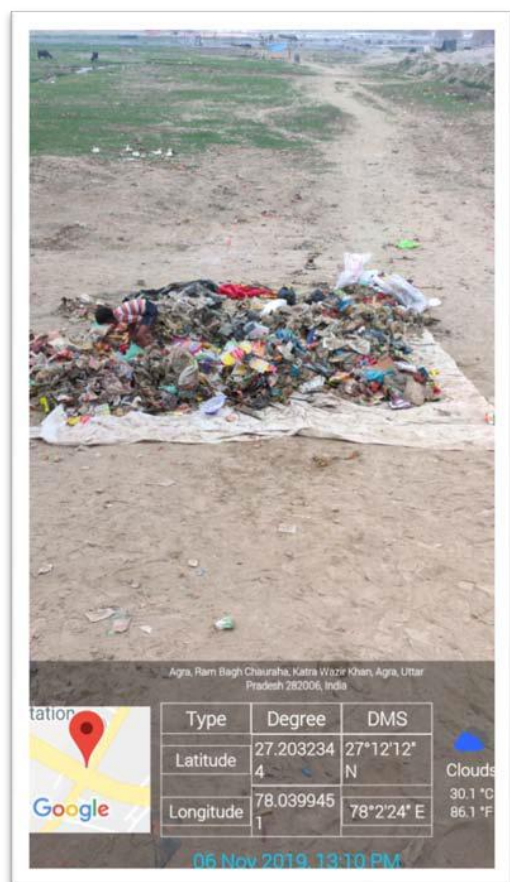
## Annexure II: Pre & Post Cleanup Photographs

### Pre & Post Clean Up Photographs





At the end, all the collected waste is hand over to Agra Nagar Nigam for final disposal





## VOLUNTEER- Ocean Trash Data Form

Ocean and waterways trash rank as one of the most serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris threatens human health, wildlife, communities and economies around the world. The ocean faces many challenges, but trash should not be one of them. Ocean trash is entirely preventable, and data you collect are part of the solution. The international cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

### Site Information:

Clean up Site Name: **Haathi Ghat, Behind Red Fort Agra, U.P., INDIA**

State: **UTTAR PRADESH**

Zone or Country: **INDIA**

Country: **INDIA**

Landmark: **Behind Red Fort Agra**

#### MOST UNUSUAL ITEM COLLECTED

|                           |                          |                          |   |
|---------------------------|--------------------------|--------------------------|---|
| <b>Land</b>               | <input type="checkbox"/> | <b>Adult</b>             | <input type="text" value="&lt;30"/>     |
| <b>Under Ground Water</b> | <input type="checkbox"/> | <b>Children under 12</b> | <input type="text" value="-"/>          |
| <b>Water</b>              | <input type="checkbox"/> | <b>Date</b>              | <input type="text" value="06.11.2019"/> |

# TRASHCOLLECTED

**Citizen scientist:** Pick up all trash and record all items you find below.

**No matter how small the items, the data you collect are important for**

**Trash Free Seas**

| S.NO.               | MOST LIKELY TO FIND ITEMS:                                      | Total No. | Total weight in Kg |
|---------------------|---|-----------|--------------------|
| 1                   | Cigarette Butts   | -         | -                  |
| 2                   | Multilayer Food wrappers (Biscuits, Chips, Namkeen etc)         | 1104      | 4.566              |
| 3                   | Take Out/ Away containers (Plastic)                             | -         | -                  |
| 4                   | Take Out/ Away containers (Food)                                | -         | -                  |
| 5                   | Bottle Caps (Plastic)   | 162       | 1.518              |
| 6                   | Bottle Caps (Food)  | -         | -                  |
| 7                   | Lids (Plastic)  | -         | -                  |
| 8                   | Straws  | -         | -                  |
| 9                   | Beverage Bottle (plastic)                                       | 30        | 0.408              |
| 10                  | Beverage Bottle (glass)   | -         | -                  |
| 11                  | Beverage Cans   | -         | -                  |
| 12                  | Grocery Bags (Plastics)   | -         | -                  |
| 13                  | Other Plastic bags  | 600       | 19.566             |
| 14                  | Paper bags  | -         | -                  |
| 15                  | Cups & Plates (paper)   | 246       | 0.624              |
| 16                  | Cups & Plates (plastics)  | -         | -                  |
| 17                  | Cups & Plates (foams)   | -         | -                  |
| 18                  | Milk Pouches  | 72        | 0.342              |
| 19                  | Water Pouches   | 348       | 0.57               |
| 20                  | Ritual Material<br>(Plastic Chains, Gods frame, Plastic moulds) | 192       | 3.57               |
| 21                  | Cloth type-polypropylene Bags                                   | 180       | 10.212             |
| 22                  | Plastic Sheet & other thicker plastic bags. Color-Black & White | 600       | 19.566             |
| 23                  | Rubbersied sleeper  | 18        | 1.068              |
| 24                  | Plastic tubes<br>(Dant kanti, Facewash cap)                     | 12        | 0.09               |
| <b>FISHING GEAR</b> |   |           |                    |
| 1                   | Fishing Buoys pots & traps:                                     | -         | -                  |
| 2                   | Fishing Net & Pieces:   | -         | -                  |
| 3                   | Fishing Line (1 Yard/ meter)= 1 piece                           | -         | -                  |
| 4                   | Rope (1 Yard/ meter)= 1 piece                                   | -         | -                  |
| <b>OTHER TRASH</b>  |   |           |                    |
| 1                   | Appliances (refrigeration, washers etc)                         | -         | -                  |
| 2                   | Baloons:  | -         | -                  |
| 3                   | Cigar tips  | -         | -                  |
| 4                   | Cigarette Lighters  | -         | -                  |
| 5                   | Construction Materials  | -         | -                  |

| S.NO.                              | MOST LIKELY TO FIND ITEMS:   | Total No.                 | Total weight in Kg               |
|------------------------------------|--|---------------------------|----------------------------------|
| 6                                  | Fireworks  | -                         | -                                |
| 7                                  | Tires  | -                         | -                                |
| <b>PACKAGING MATERIALS</b>         |  |                           |                                  |
| 1                                  | 6- Packs Holders   | -                         | -                                |
| 2                                  | Other Plastic/Foam Packaging                                       | -                         | -                                |
| 3                                  | Other Plastic Bottle   | -                         | -                                |
| 4                                  | Strapping Bands  | -                         | -                                |
| 5                                  | Tobacco Packaging Wrap   | 816                       | 10.8                             |
| 6                                  | Medicine Packaging   | 6                         | -                                |
| 7                                  | Readymade dress packaging  | 108                       | 0.66                             |
| 8                                  | Low density plastic packaging material (Tea packs, Sanitary packs) | 228                       | 0.648                            |
| <b>PERSONAL HYGIENE</b>            |  |                           |                                  |
| 1                                  | Condoms  | -                         | -                                |
| 2                                  | Diapers  | -                         | -                                |
| 3                                  | Syringes   | -                         | -                                |
| 4                                  | Tampons/Tampon Applicators   | -                         | -                                |
| <b>TINY TRASH LESS THAN 2.5 CM</b> |  |                           |                                  |
| 1                                  | Foam pieces  | -                         | -                                |
| 2                                  | Glass pieces   | -                         | -                                |
| 3                                  | Plastic pieces   | -                         | -                                |
| <b>ITEMS OF LOCAL CONCERN</b>      |  |                           |                                  |
| 1.                                 | Clothes  | -                         | -                                |
| 2.                                 | Paper  | -                         | -                                |
| 3.                                 | Non-Segregate mix waste  | -                         | -                                |
|                                    |  |                           |                                  |
| <b>DEAD/INJURED ANIMAL</b>         | <b>STATUS</b>  | <b>ENTANGLED</b>          | <b>TYPE OF ENTANGLEMENT ITEM</b> |
| -                                  | Dead or injured  | Yes or No                 | -                                |
| <b>CLEANUP SUMMARY</b>             |  |                           |                                  |
| Number of Bags Filled              |  | Distance cleaned          |                                  |
| Nos.                               | 36   | Weight of Trash Collected | 90m X 60m                        |
|                                    |  | kg                        |                                  |
|                                    |  | 410.14                    |                                  |



## Annexure IV: Cleanup Team

| S. No. | Name of Technical Team | Organization                  |
|--------|------------------------|-------------------------------|
| 1      | Dr. Shukla Pal Maitra  | National Productivity Council |
| 2      | Dr. Harsh Thukral      | National Productivity Council |
| 3      | Mr. S.K. Jain          | National Productivity Council |
| 4      | Mr. Himendra Singh     | National Productivity Council |
| 5      | Mr. Apoorva Aggarwal   | National Productivity Council |

| S. No. | Name of Voluntarily Support Team | Organization |
|--------|----------------------------------|--------------|
| 1      | Ms. Chitra Mukherjee             | Chintan      |
| 2      | Mr. Rajeev Kumar                 | CURE         |
| 3      | Ms. Kastoori                     | CURE         |
| 4      | Ms. Yogita                       | Chintan      |

| S. No. | Name of Volunteer             | S. No. | Name of Volunteer    |
|--------|-------------------------------|--------|----------------------|
| 1.     | Mr. Ganga Prasad              | 33.    | Dr. Krishna Parshad  |
| 2.     | Mr. Dharamveer Kumar Savediya | 34.    | Dr. Mukesh           |
| 3.     | Mr. Vishal                    | 35.    | Mr. Dev Singh        |
| 4.     | Mr. Ranjeet Kumar Savediya    | 36.    | Mr. Tinchu           |
| 5.     | Mr. Naval Kishor              | 37.    | Mr. Rahul Bharti     |
| 6.     | Mr. Jogendra Singh            | 38.    | Mr. Prince           |
| 7.     | Mr. Sunny                     | 39.    | Mr. Ajay Sharma      |
| 8.     | Mr. Satendra                  | 40.    | Mr. Subhash Sharma   |
| 9.     | Mr. Chandrapal                | 41.    | Mr. Manoj            |
| 10.    | Mr. Hotilal                   | 42.    | Mr. Bhadoriya        |
| 11.    | Mr. Shankarlal                | 43.    | Mr. Jeetu            |
| 12.    | Mr. Deepu                     | 44.    | Mr. Kishor           |
| 13.    | Mr. Lallu                     | 45.    | Mr. Satish           |
| 14.    | Mr. Sanjeev                   | 46.    | Mr. Amar Deep Sharma |
| 15.    | Ms. Kajal                     | 47.    | Mr. Sarju            |
| 16.    | Mr. Kunal                     | 48.    | Mr. Krishnanand      |
| 17.    | Mr. Tushar                    | 49.    | Mr. Abhishek         |
| 18.    | Mr. Manish                    | 50.    | Mr. Rajesh           |
| 19.    | Mr. Sanjay                    | 51.    | Mr. Deepu            |
| 20.    | Mr. G. K.                     | 52.    | Mr. Pushpendra       |
| 21.    | Mr. Manoj                     | 53.    | Mr. Kapil            |
| 22.    | Mr. K.D.                      | 54.    | Mr. Yatendra         |
| 23.    | Dr. Fehzan                    | 55.    | Mr. Gupta Ji         |
| 24.    | Dr. Rajesh                    | 56.    | Mr. Paras Sharma     |
| 25.    | Dr. Shyamveer                 | 57.    | Mr. Mukesh           |
| 26.    | Mr. Prabhat Kumar Jain        | 58.    | Mr. Dambar Singh     |
| 27.    | Mr. Abhay Kumar               | 59.    | Mr. Rajkumar         |
| 28.    | Mr. Raj Kumar                 | 60.    | Mr. Waghel Sahab     |
| 29.    | Mr. Munesh Joshi              | 61.    | Mr. Bachhu Singh     |
| 30.    | Mr. Ashwani                   | 62.    | Mr. Kapil Sharma     |
| 31.    | Mr. Upadhyay                  | 63.    | Mr. Girish           |
| 32.    | Mr. Vishwa Pratap Gautam      | 64.    | Mr. Jagdish          |

**A report on**  
**"Clean Up Activity at Poiya Ghat - Agra"**

dated: 3<sup>rd</sup> January, 2020



*under*

***Promotion of Counter Measures against marine  
plastic litter in South East Asia and India - UNEP***



***Submitted by:***

**National Productivity Council**

(Under Ministry of Commerce & Industry, Govt. of India)

**Lodi Road, New Delhi**

## **Table of Contents**

|   |           |
|---|-----------|
| <b>Agra, Pohniya Ghat, Cleanup Report -4 .....</b>                              | <b>95</b> |
| 1. Location.....  | 95        |
| 2. Time and Date .....  | 96        |
| 3. Participants/organizations.....  | 96        |
| 4. Activity Leaders: .....  | 96        |
| 5. Rationale for location selection .....                                       | 96        |
| 6. Area covered, with photos of pre-clean.....                                  | 97        |
| 7. Methodology, in case there are any deviations from approved methodology..... | 99        |
| 8. Photos during clean-up.....  | 99        |
| 9. Photos post clean-up. ....   | 99        |
| 10. Qualitative outcomes of clean-up .....                                      | 99        |
| 11. Quantitative outcomes of Clean-Up .....                                     | 100       |
| Annexure I: Photographs Captured during Clean Up Activity .....                 | 102       |
| Annexure II: Pre and Post Clean Up Photographs .....                            | 105       |
| Annexure III: Trash data sheet for River Bank/Channel bank.....                 | 107       |
| Annexure IV: List of Volunteers participated/registered on site.....            | 112       |



## Agra, Pohiya Ghat, Cleanup Report -4

### 1. Location

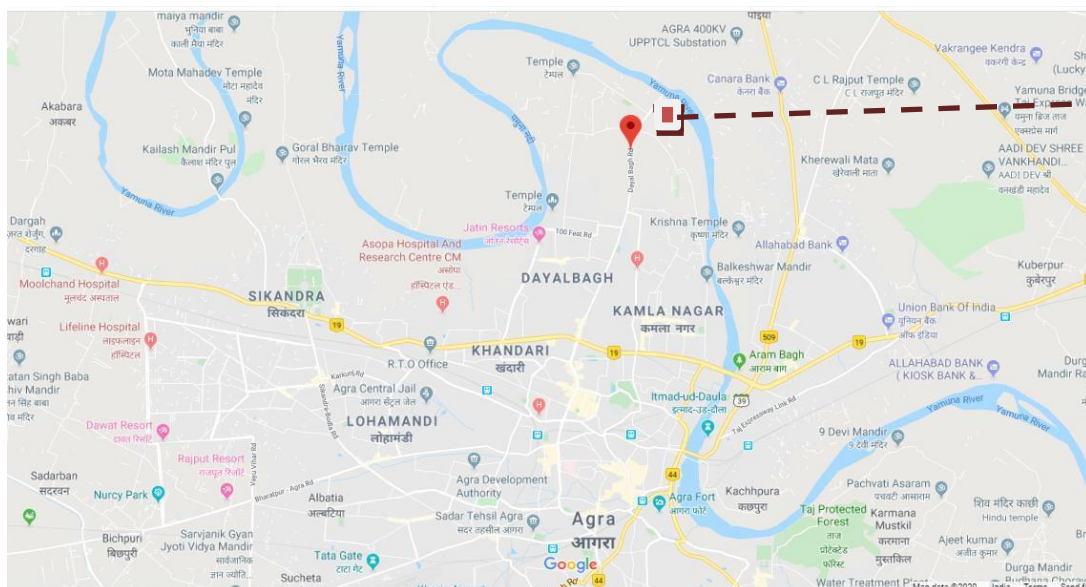
**Clean Up Site Name:** Poiya Ghat, Near Yamuna Bank, Dayalbagh, Agra.

**State:** Uttar Pradesh

**Country:** India

**Landmark:** Poiya Ghat Road, near Yamuna Bank, Dayalbagh, Agra.

**Latitude and Longitude** – 27.2091824, 78.0059908 (as per location site indicated). Shortest displacement distance from water flow: The site is located on the bank of the Yamuna River at an approximate distance of 50 metres



**Plates of Google Map Street View - Agra Clean Up Site 2 Poiya Ghat, Dayalbagh**



**Plates of Google Earth Image - Clean Up Site 2 Poiya Ghat, Dayalbagh, Agra**

## 2. Time and Date

**Time** : 9.00 am – .04:30 pm

**Date** : 3<sup>rd</sup> January, 2020

## 3. Participants/organizations

**Participating Organisations:** National Productivity Council, Chintan, CURE (Centre for Urban and Regional Excellence).

Details of Clean Up team is attached as **Annexure- IV**.

## 4. Activity Leaders:

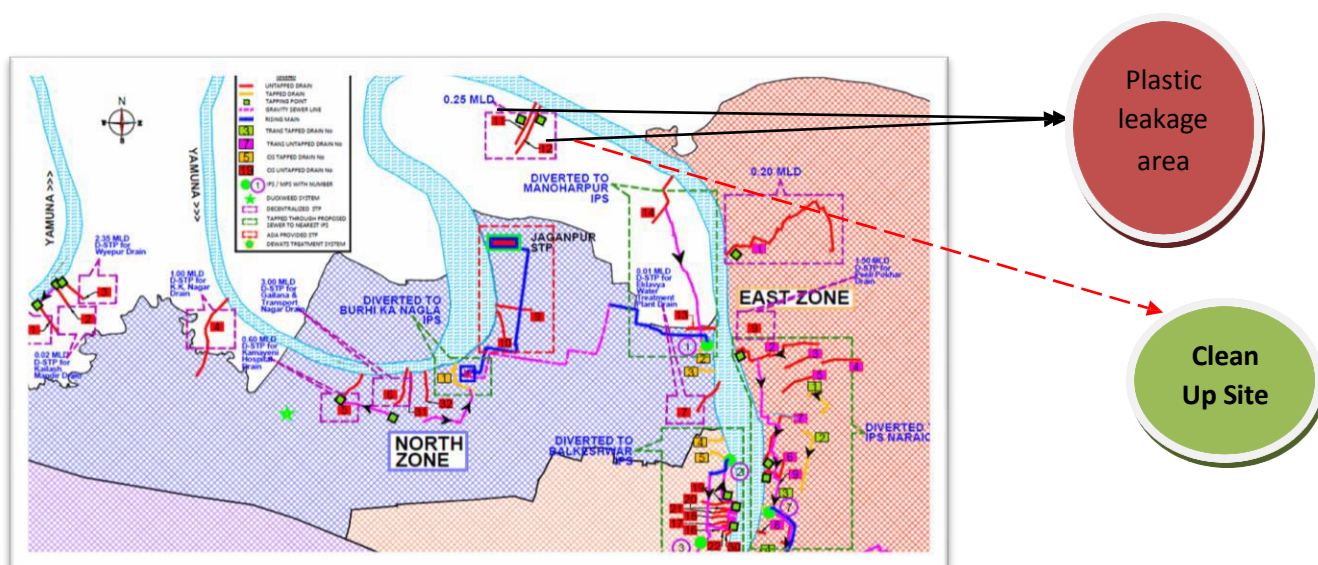
- Technical Team from National Productivity Council (NPC): Dr. Harsh Thukral, (Environment), Mr. Himendra Singh (Environment), Mr. Tanveer Qazi, (Environment).
- Partner Organizations: Dr. Yogita Narang (Chintan) and Mr. Rajeev Kumar, Project Coordinator (CURE).

## 5. Rationale for location selection

Site is located on the bank of the River Yamuna near the cremation ground (site where dead bodies finally lighted to fire as per the Indian rituals). It falls under plastic leakage area due to proximity to untapped drains (open drains flowing through the city and leading to Yamuna river), allowing plastic leakage into the river as can be depicted from the figure below.

Also it was observed by the NPC team during field visit that river water was being pumped out and extracted through the pipes and mechanical arrangement for use in the nearby agriculture purpose.





The red dots in above picture depicts the untapped open drains locations which are plastic leaking sources.

## 6. Area covered, with photos of pre-clean

Approximately two areas of  $((80m \times 50m) + (100 \times 80m)) = 12000$  sq.meters was selected for Clean Up and which was marked on the ground use chalk powder and measuring tape & around 596.5 kg of total mixed waste was collected by volunteer. Pre Clean Up site photographs are as depicted below:



Clean Up Site -1 (100x80m)

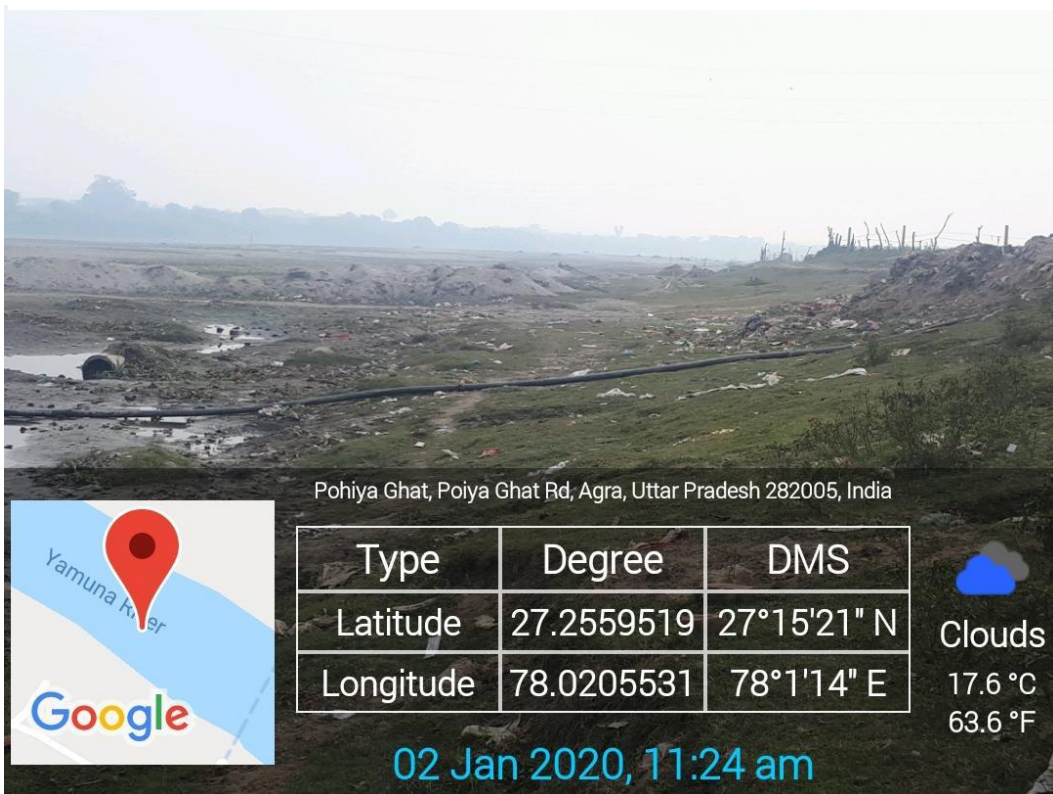


Clean Up Site -2 (80mx50m)





Pre Clean Up Site 1



Pohiya Ghat, Poiya Ghat Rd, Agra, Uttar Pradesh 282005, India



| Type      | Degree     | DMS         |
|-----------|------------|-------------|
| Latitude  | 27.2559519 | 27°15'21" N |
| Longitude | 78.0205531 | 78°1'14" E  |

  
 Clouds  
 17.6 °C  
 63.6 °F

02 Jan 2020, 11:24 am

Pre Clean Up site 2

## **7. Methodology, in case there are any deviations from approved methodology.**

Methodology adopted was same as per the approved methodology of UNEP. However it was adopted as per river bank site scenario requirements

## **8. Photos during clean-up**

A few Photographs depicting the clean up study process are depicted in **Annexure I**. The volunteers utilised the PPE arranged and enthusiastically addressed the task. Gunny bags were used for mixed waste collection that was strewn on the land area. Water flowing at Poiya Ghat is flowing North West to South East direction.

## **9. Photos post clean-up.**

Photographs depicting the Post Clean Up study are depicted in **Annexure II**.

## **10. Qualitative outcomes of clean-up**

- a) 16 types of plastic waste categories identified were found during the Clean Up. Graph below depicts the categories.
- b) A collection of mixed plastic bags such as Tea packagings, Surf Excel packagings etc; light colored thin polythene; multilayer packagings of chips, namkeen etc; and thermocol, foam pieces, medicine packagings, footwear, PET bottles, black X ray film were available but a few.
- c) Multilayer packagings such as packagings of chips, namkeen, snacks etc including torn pieces were approx (48%) vis a vis the total numbers of various plastic collected (1263/2631) = 48% approximately.  
Note: Total Nos. of all the types segregated plastic is 2631.
- d) Highly efficient volunteers elders in counting the varieties of segregated plastics in the time of the study/clean up and macroplastic assessment.
- e) A unique feature at this site is the ritual chunnis (stole) that is used in the sacred activities as per the rituals & the Nylon sacks which are filled with sacred waste such as dried flowers, small and big idols and other devotional materials etc and the waste releases from Home temples which were carried by the nearby territory people and disposed in to the River water as per the Indian rituals.
- f) The site had a significant amount of water pouches and transparent and translucent disposal glasses, cups.

There was a pit filled with sacred waste and waste releases from temples as per the rituals. The photograph of same is mentioned below:



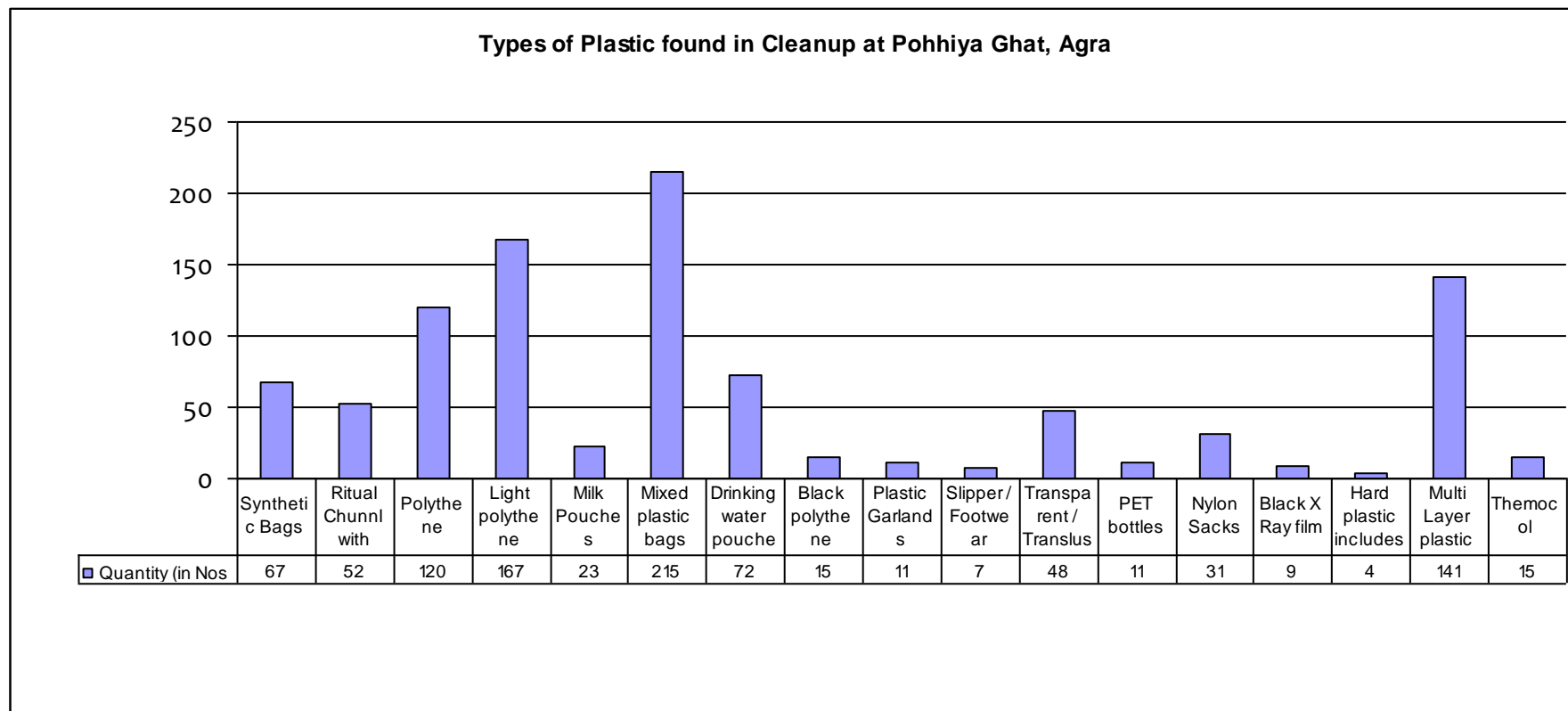
#### **11. Quantitative outcomes of Clean-Up**

Data on plastic waste segregated during clean up was recorded as per the trash data sheet format of UNEP as provided in Annexure III and adapted to the site requirements.

At this site in mass terms about 28% plastics was recovered as part of Clean Up exercise in the area vis a vis mixed waste collected area based.

The area based density of plastic collected was found to be  $(167.5/12000)\text{kg/m}^2 = 13.95\text{gm/m}^2$  and area based density of mixed waste collected  $(596.6/12000) = 49.7\text{gm/m}^2$ .





**Nature of plastic waste segregated at Poiya Ghat in sample gunny bags assessed (08 Nos.)**

## Annexure I: Photographs Captured during Clean Up Activity



**Volunteer (College Students) Group Photos with Personal Protective Equipment (PPE)**



**Volunteer (Primary Students) Group Photos with Personal Protective Equipment (PPE)**





**Photographs captured during collection of mixed waste at Poiya Ghat, Agra, India**



**Photographs captured during Segregation of mixed waste at Poiya Ghat, Agra**



**Photographs captured during weighing of waste at Poiya Ghat, Agra**





**Dayalbagh territory MLC visited the Clean Up site**



**Photographs Segregated plastic waste**



**Photographs of Segregated labelled plastic waste**



**All the collected waste is handed over to the Agra Nagar Nigam for final disposal or recycling purpose**

## Annexure II: Pre and Post Clean Up Photographs



Pre Clean Up Site- 1 Photograph as visited on 02/01/2020



Post Clean Site- 1 Photograph





**Pre Clean Up Site- 1 Photograph**



**Post Clean Up Site-1 Photograph**



**Pre Clean Up Site - 1 Photograph**



**Post Clean Up Site - 2  
Photograph**



### Annexure III: Trash data sheet for River Bank/Channel bank

## VOLUNTEER- and River Bank/Channel Bank Trash Data Form

Ocean, waterways and river bank/channel bank trash rank as serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris and from river basin threatens human health, wildlife, communities and economies around the world. The river and ocean face many challenges, but trash should not be one of them. River and Ocean trash is entirely preventable, and data we collect are part of the solution. The international cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

### Site Information:

Clean up Site Name: **Poiya Ghat, Dayalbagh, Agra, U.P., INDIA**

State: **UTTAR PRADESH**

Zone or Country: **INDIA**

Country: **INDIA**

Landmark: **Near Dayalbagh Educational Institute, Dayalabagh, Agra**

#### MOST UNUSUAL ITEM COLLECTED

**Land**

**Adult**

<70

**Under Ground Water**

**Children between 12-15**

40

**School program directive**

**Water**

**Date**

03.01.2020

# TRASHCOLLECTED

UNEP Format adapted to site scenario adjacent to river/channel

**Citizen scientist:** *Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas.*

**Table: Macroplastic assessment of sample set of bags (08 nos.) with separated plastics from mixed waste**

| S.NO. | MOST LIKELY TO FIND ITEMS:   | Total No. | Total weight in Kg |
|-------|--|-----------|--------------------|
| 1.    | Cigarette Butts  | -         | -                  |
| 2.    | Multilayer Large and Medium Size for snacks, chips, namkeen, biscuits etc. | 141       | 3.081              |
| 3.    | Multilayer Sachets for Shampoo, Tobacco, tea, coffee, tomato sauce etc.    | -         | -                  |
| 4.    | Multilayer Gift Wrapping Paper   | -         | -                  |
| 5.    | Monolayer Plastic Packaging used for food, detergent etc.                  | 215       | 9.8                |
| 6.    | Synthetic woven bags used for cement packaging etc.                        | 98        | 16.824             |
| 7.    | Hard Plastic such as HDPE Pipes, HDPE bottles, HDPE tubes, tray, PVC etc.  | 4         | 0.623              |
| 8.    | Polythene bags (colored white, black)                                      | 302       | 22.554             |
| 9.    | Woven Polycloth Bags for Carrying Groceries/Vegetables                     | -         | -                  |
| 10.   | Disposable paper cups coated with plastic film                             | -         | -                  |
| 11.   | Disposable plastic Cups/Glasses  | 48        | 0.3                |
| 12.   | Packing used for water, milk etc.  | 95        | 0.613              |
| 13.   | Take Out/ Away containers (Plastic)  | -         | -                  |
| 14.   | Take Out/ Away containers (Food)   | -         | -                  |
| 15.   | Paper bags coated with plastic film  | -         | -                  |
| 16.   | Bottle plastic caps  | -         | -                  |
| 17.   | Shopping Bags  | -         | -                  |

| S.NO.                      | MOST LIKELY TO FIND ITEMS:                             | Total No. | Total weight in Kg |
|----------------------------|--|-----------|--------------------|
| 18.                        | Plastic tubes (Dant kanti, Facewash cap)               | -         | -                  |
| 19.                        | Flowers garlands, pooja samagri etc made up of Plastic | -         | -                  |
| 20.                        | Black X ray film                                       | 9         | 3.66               |
| 21.                        | Plastic strings used for tying                         | -         | -                  |
| 22.                        | Plastic Purse (Synthetic Leather)                      | -         | -                  |
| <b>FISHING GEAR</b>        |  |           |                    |
| 1.                         | Fishing Buoys pots & traps:                            | -         | -                  |
| 2.                         | Fishing Net & Pieces:                                  | -         | -                  |
| 3.                         | Fishing Line (1 Yard/ meter)= 1 piece                  | -         | -                  |
| 4.                         | Rope (1 Yard/ meter)= 1 piece                          | -         | -                  |
| <b>OTHER TRASH</b>         |  |           |                    |
| 1                          | Appliances (refrigeration, washers etc)                | -         | -                  |
| 2                          | Balloons   | -         | -                  |
| 3                          | Cigar tips   | -         | -                  |
| 4                          | Cigarette Lighters                                     | -         | -                  |
| 5                          | Cigarette Packets                                      | -         | -                  |
| 6                          | Construction Materials with plastic component          | -         | -                  |
| 7                          | Fireworks(Lamination made of plastic film)             | -         | -                  |
| 8                          | Tires & Rubber   | -         | -                  |
| 9                          | Footwear   | 7         | 0.827              |
| 10                         | Beverage Bottle (plastic)                              | 11        | 0.15               |
| 11                         | Foams  | -         | -                  |
| 12                         | Rubber Ball  | -         | -                  |
| 13                         | Straws   | -         | -                  |
| 14                         | Cups & Plates (thermocool)                             | -         | -                  |
| 15                         | Thermocol & Other Trash                                | 15        | 0.086              |
| 16                         | Toys, Pens and Toothbrush                              |           |                    |
| <b>PACKAGING MATERIALS</b> |  |           |                    |
| 1.                         | 6- Packs Holders                                       | -         | -                  |
| 2.                         | Other Plastic/Foam Packaging                           | -         | -                  |
| 3.                         | Other Plastic Bottle                                   | -         | -                  |
| 4.                         | Strapping Bands  | -         | -                  |
| 5.                         | Medicine Packaging                                     | -         | -                  |
| 6.                         | Garment/Textile Packaging Material                     | -         | -                  |



| S.NO.                              | MOST LIKELY TO FIND ITEMS:  | Total No. | Total weight in Kg |
|------------------------------------|---|-----------|--------------------|
| 7.                                 | Low density plastic packaging material (Diapers, Sanitary packs)    | -         | -                  |
| <b>PERSONAL HYGIENE</b>            |   |           |                    |
| 1.                                 | Condoms   | -         | -                  |
| 2.                                 | Diapers   | -         | -                  |
| 3.                                 | Syringes  | -         | -                  |
| 4.                                 | Tampons/Tampon Applicators  | -         | -                  |
| 5.                                 | Sanitary napkins/pads   | -         | -                  |
| <b>TINY TRASH LESS THAN 2.5 CM</b> |   |           |                    |
| 1.                                 | Foam pieces   | -         | -                  |
| 2.                                 | Glass pieces  | -         | -                  |
| 3.                                 | Plastic pieces  | -         | -                  |
| <b>ITEMS OF LOCAL CONCERN</b>      |   |           |                    |
| 1.                                 | Glazed Paper having plastic lamination                              | -         | -                  |
| 2.                                 | Fragmented/ torn/ dusty mixed plastic waste                         | -         | -                  |
| 3.                                 | Synthetic Jackets   | -         | -                  |
| 4.                                 | Synthetic Bags  | -         | -                  |
| 5.                                 | Synthetic Belt pouch  | -         | -                  |
| 6.                                 | Synthetic Clothes/Clothes   | -         | -                  |
| 7.                                 | Synthetic flowers   | -         | -                  |
| 8.                                 | Pan shop synthetic sheet  | -         | -                  |
| 9.                                 | Ritual Material   | 63        | 10.427             |
| 10.                                | God Sculptures having synthetic cloth material & plastic ornaments. | -         | -                  |
| 11.                                | Plastic Sheet & other thicker plastic bags. Color-Black & White     | -         | -                  |
| 12.                                | Milky white bottles for carrying gangajal                           | -         | -                  |
| 13.                                | Tobacco, Pan Masala Sachet/Wrappers                                 | -         | -                  |
| 14.                                | Silver foil disposable plates & bowls having plastic lamination     | -         | -                  |

| DEAD/INJURED ANIMAL                           | STATUS | ENTANGLED | TYPE OF ENTANGLEMENT ITEM |
|---|--------|-----------|---------------------------|
| 02  | Dead   | No        | -                         |
| <b>CLEANUP SUMMARY</b>                        |        |           |                           |
| Number of Gunny Bags Filled with mixed trash: |        |           | 30 Nos                    |

| DEAD/INJURED ANIMAL   | STATUS | ENTANGLED | TYPE OF ENTANGLEMENT ITEM |       |
|---|--------|-----------|---------------------------|-------|
| Number of Gunny Bags of separated plastic:  |        |           | 19                        | Nos   |
| Number of Gunny Bags opened for segregation of type of plastics:  |        |           | 8                         | Nos   |
| Weight of Mixed Trash Collected:  |        |           | 596.5                     | kg    |
| Weight of Plastic Waste from 19 Gunny Bags:   |        |           | 167.5                     | kg    |
| Weight of Mixed Trash from 19 Gunny Bags weight:  |        |           | 377.45                    | kg    |
| Weight of Plastic from 8 Gunny Bags used for segregation of types of plastic:                             |        |           | 99                        | kg    |
| Area cleaned:   |        |           | 12000                     | Sq. m |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 19 number of bags) |        |           | 44.38                     | %     |

#### Annexure IV: List of Volunteers participated/registered on site

| Details of volunteers (College Students) from DEI, Agra (Chintan) engaged in Clean Up at Poiya Ghat, Agra<br>dt. 03.01.2020 |                      |        |                       |
|---|----------------------|--------|-----------------------|
| S. No.  | Name                 | S. No. | Name                  |
| 1.  | Artee Satsagee       | 29.    | Jyoti Yadav           |
| 2.  | Akansha Verma        | 30.    | Komal                 |
| 3.  | Anisha Singh         | 31.    | Mishika Lakhwani      |
| 4.  | Ankur Verma          | 32.    | Nandini Parmar        |
| 5.  | Anshu Kumari         | 33.    | Navda Tyagi           |
| 6.  | Arshita Dass         | 34.    | Neel Varjani          |
| 7.  | Ashish Kumar         | 35.    | Pavitra Garg          |
| 8.  | Avi Doneria          | 36.    | Pushpendra Kumar      |
| 9.  | Babita Solanki       | 37.    | Rahul Kumar           |
| 10.   | Devansh Thapar       | 38.    | Shipra Verma          |
| 11.   | Dhananjay Singh Soni | 39.    | Shivam Goyal          |
| 12.   | Dipanshu Asiwal      | 40.    | Shivani Malouniya     |
| 13.   | Divyanshi Srivastava | 41.    | Sonal Agarwal         |
| 14.   | Esha Agarwal         | 42.    | Suman                 |
| 15.   | Geetika Sethia       | 43.    | Vrandna Khandelwal    |
| 16.   | Harsh Sharma         | 44.    | Shrey Sinha           |
| 17.   | Himanshu Sakya       | 45.    | Aman Singh            |
| 18.   | Kashish Kapoor       | 46.    | Anushka Agarwal       |
| 19.   | Adisha Varshney      | 47.    | Anushka Paucauri      |
| 20.   | Bhavna Agarwal       | 48.    | Bhawan Dayal          |
| 21.   | Dev Kumar            | 49.    | Devaki                |
| 22.   | Harsh Goyal          | 50.    | Divyanshu Mathhur     |
| 23.   | Gaurav Hotiandani    | 51.    | Pram Hans Ram Krishna |
| 24.   | Kareena Varlani      | 52.    | Pranjal Sharma        |
| 25.   | Bhumika VEDI         | 53.    | Priyanka Singh        |
| 26.   | Komal Bhadoria       | 54.    | Saurabh Gola          |
| 27.   | Kumari Priya         | 55.    | Shashwat Tondon       |
| 28.   | Mahak Agarwal        | 56.    | Vijay Kumar Ojha      |

| Details of volunteers from CURE engaged under Clean Up activity at Poiya Ghat, Agra on dt: 03.01.2020 |                |              |
|---|----------------|--------------|
| Sl.No.  | Names          | Phone number |
| 1   | Vivek Upadhaya | 8630089070   |
| 2   | Ratan Singh    | 7037687501   |



| Details of volunteers from CURE engaged under Clean Up activity at Poiya Ghat, Agra on dt: 03.01.2020 |                  |              |
|---|------------------|--------------|
| Sl.No.  | Names            | Phone number |
| 3   | Sanjay           | 7520956604   |
| 4   | Bhupindra        | 8859234247   |
| 5   | Mukut Singh      | 8433029902   |
| 6   | Mamta            | 9027015927   |
| 7   | Harendra         | 8881168816   |
| 8   | Shailendra       | 8273671783   |
| 9   | Durg Singh       | 9758639100   |
| 10  | Sandeep          | 7037318433   |
| 11  | Triloknath       | 8869052481   |
| 12  | Rajeev Kumar     | 9772924540   |
| 13  | Jahnvi Agarwal   | 9717022892   |
| 14  | Kastury          | 9971329667   |
| 15  | Shweta           | 9870974092   |
| 16  | Pradeep          |              |
| 17  | Rohan            |              |
| 18  | Krati            |              |
| 19  | Tannu            |              |
| 20  | Davendra         |              |
| 21  | Suresh Sharma    |              |
| 22  | Apeksha Upadhaya |              |

**\*In addition to above about 40 primary/secondary school students participated as volunteers**

**A report on**  
**"Clean Up Activity at Haathi Ghat - Agra"**

Dated: 20<sup>th</sup> February, 2020



*under*

***Promotion of Counter Measures against marine  
plastic litter in South East Asia and India - UNEP***



***Submitted by:***

**National Productivity Council**

(Under Ministry of Commerce & Industry, Govt. of India)

**Lodi Road, New Delhi**

## Table of Contents

|   |            |
|---|------------|
| <b>Agra, Haathhi Ghat, Cleanup Report – 5 .....</b>                         | <b>116</b> |
| 1. Location.....  | 116        |
| 2. Time and Date .....  | 117        |
| 3. Participants/organizations.....  | 117        |
| 4. Activity leaders .....   | 117        |
| 5. Rationale for location of selection.....                                 | 118        |
| 6. Area covered and demarcated .....  | 119        |
| 7. Methodology,.....  | 120        |
| 8. Photos during clean-up.....  | 120        |
| 9. Photos of post clean-up .....  | 120        |
| 10. Qualitative features of Clean-Up .....                                  | 120        |
| 11. Quantitative features of Clean-Up .....                                 | 120        |
| Annexure I: Photographs captured during Clean-Up.....                       | 122        |
| Annexure II: Photographs captured for Pre Clean Up & Post Clean Up .....    | 123        |
| Annexure III: Volunteer and River Bank / Channel Bank Trash Data Form ..... | 125        |
| Annexure IV: List of Volunteers participated/registered on site.....        | 129        |



## Agra, Haathhi Ghat, Cleanup Report – 5

### 1. Location

**Clean Up Site Name:** Haathi Ghat, Behind Red Fort Area, Agra.

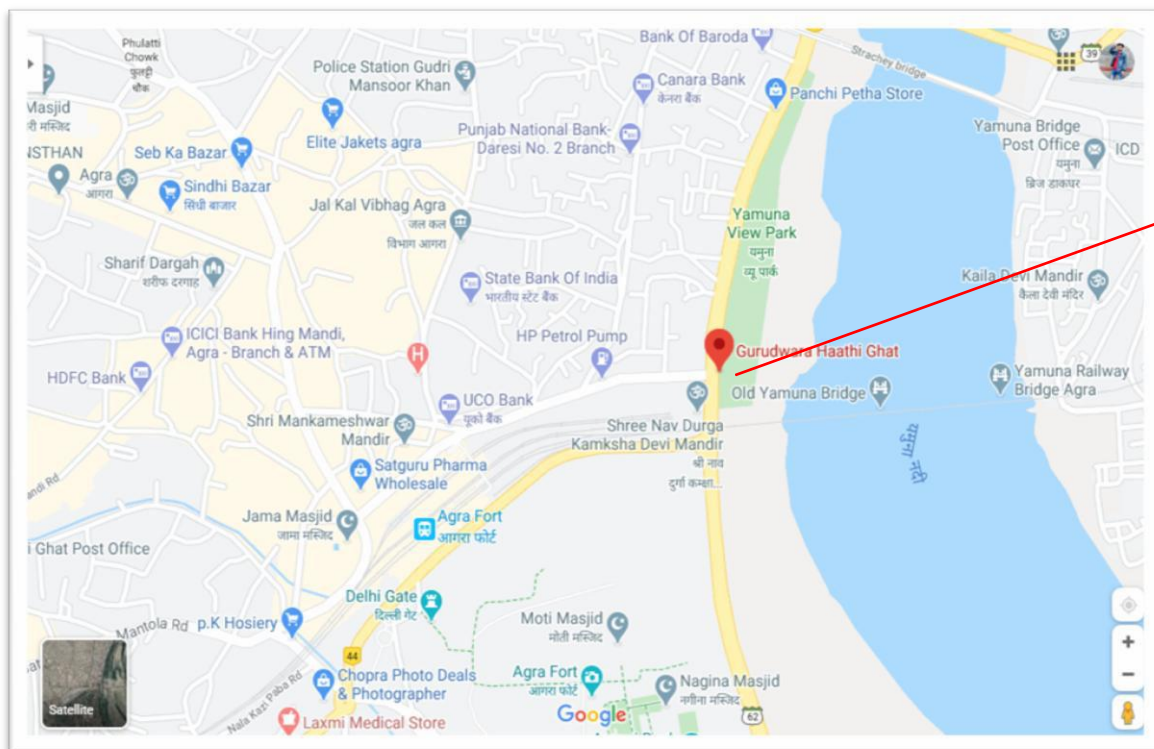
**State:** Uttar Pradesh

**Country:** India

**Landmark:** Behind Red Fort Area, Agra

**Latitude and Longitude** – 27.185039, 78.0239597

**Shortest displacement distance from water flow:** The site is located on the bank of the Yamuna River at an approximate distance of 70-80 metre from present water flow. This site during peak season gets submerged in the river.



Google Map Image – Haathi Ghat Clean Up site in Agra



Google Earth Image – Haathi Ghat Clean Up Sit, Agra

## 2. Time and Date

**Time:** 8.00 am – 3.00 pm

**Date:** 20<sup>th</sup> Feb 2020

## 3. Participants/organizations

National Productivity Council, Centre for Environment Education (CEE) Lucknow & The Tide Turner Plastic challenge (an initiative engaging youth across the country to address the issue of plastic pollution threatening life in oceans, rivers and on land) along with associated educational institutes comprising students and teachers from these institutes. Also presence/guidance of UNEP officials on the occasion.

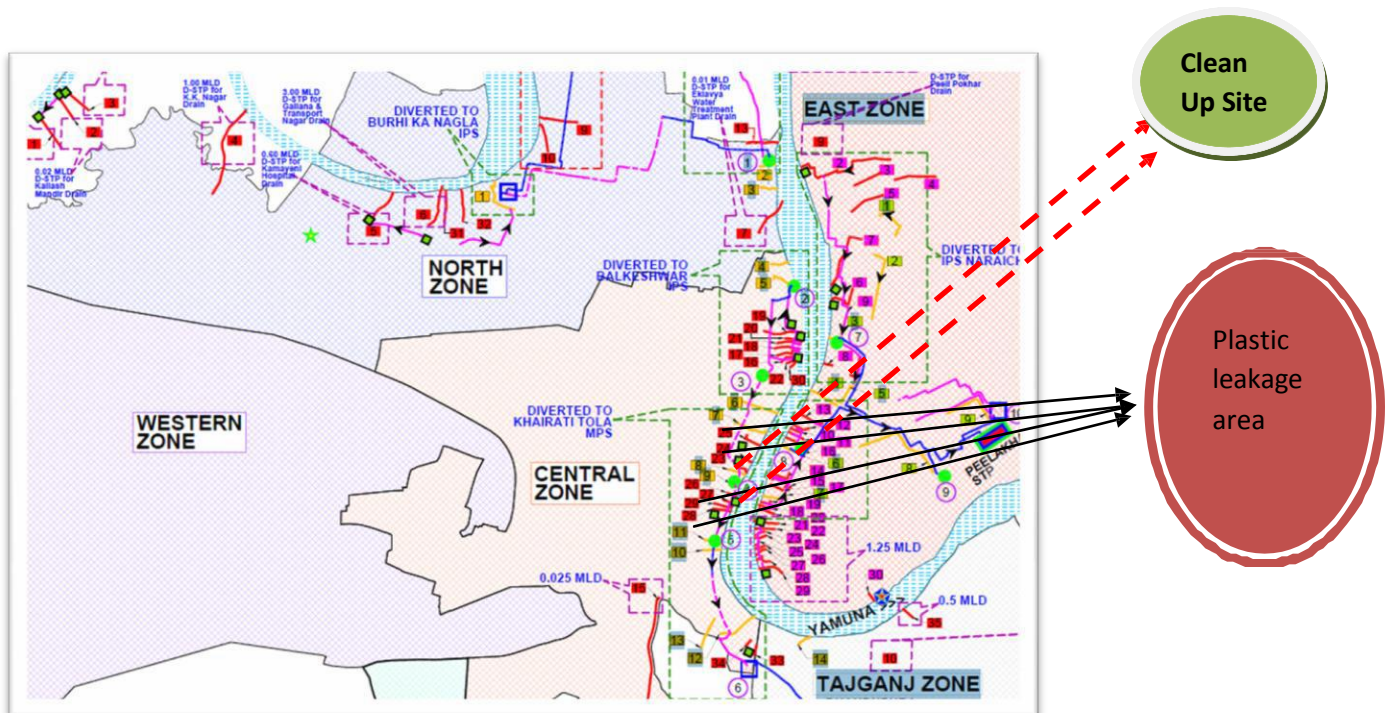
Details of Clean Up team is attached as Annexure- IV.

## 4. Activity leaders

- **Voluntarily Support Leaders:** Ms. Gayatri Raghwa and Mr Jitendra Patel from The Tide Turner Plastic challenge (an initiative engaging youth across the country to address the issue of plastic pollution threatening life in oceans, rivers and on land) CEE Lucknow respectively.
- **Technical Team Leader:** Dr. Shukla Pal Maitra, Director (Environment), National Productivity Council.

## 5. Rationale for location of selection

Site is located on the bank of the River Yamuna and surrounded with the religious places such as Gurudwara Haathi Ghat, temples, and railway station, tourist place such as Red Fort, Agra, Railway Bridge etc. It falls under plastic leakage area due to proximity to untapped drains (open drains flowing through the city and falling to Yamuna river), allowing plastic leakage into the river as can be depicted from the figure below.

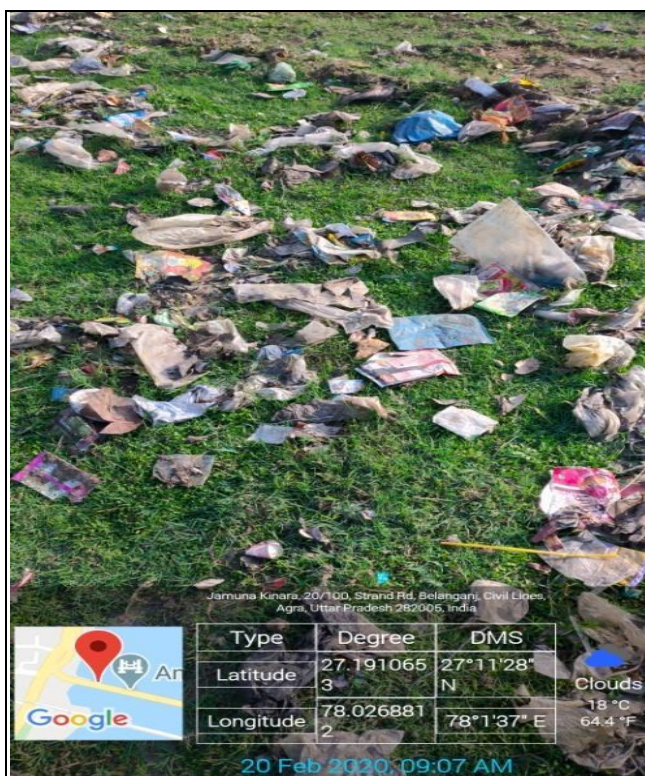


The red dots depicts the untapped open drains locations which are plastic leaking



## 6. Area covered and demarcated

Approximately an area of  $33 \times 22 = 726$  sq. meters was selected for Clean Up which as marked on the ground using chalk powder and measuring tape & around 358 kg of total mixed waste was collected by volunteers. Pre Clean Up site photographs are as depicted below:



Pre Clean Up Plates at Haathi Ghat Agra



Demarcated Pre Clean Up Plates at Haathi Ghat Agra



## **7. Methodology,**

Methodology adopted was same as per the approved methodology of UNEP.

## **8. Photos during clean-up**

Photographs depicting the clean up study are depicted in **Annexure I**.

## **9. Photos of post clean-up**

Photographs depicting the Post Clean Up study are depicted in **Annexure II**.

## **10. Qualitative features of Clean-Up**

- a. 22 types of waste categories were found during the Clean Up. Graph below depicts the categories.
- b. A collection of thin translucent and coloured polythene packaging which are commonly used in carrying vegetables, fruits and other groceries were found in huge quantities; and Black Polythene (mostly torn Pieces), Snacks Packages as Multilayer Plastic, footwear, milk and water pouches, plastic disposal glasses/cups, silver foils were available as well.
- c. Highly efficient volunteer especially elders (from Agra Nagar Nigam) in counting the varieties of segregated plastics in the time of the study/Clean Up and macroplastic assessment.
- d. A unique plastic type that was found at this site is gift wrap material.

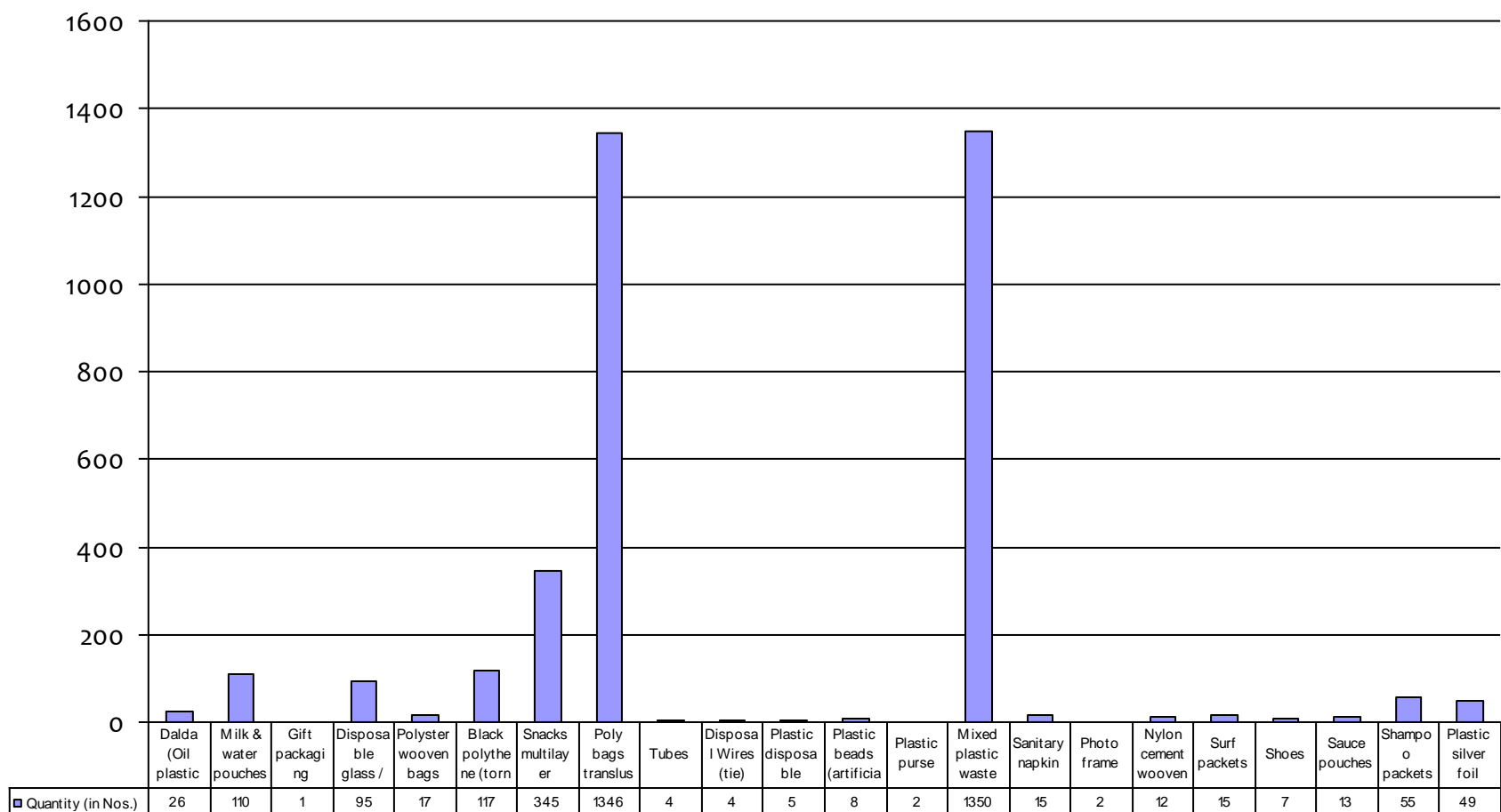
## **11. Quantitative features of Clean-Up**

Data on plastic waste segregated during clean up was recorded as per the trash data sheet format of UNEP as provided in **Annexure III** and adapted to the site requirements. At this site in mass terms about 63% plastic wastes was recovered (based on 10 nos. of bags opened randomly for plastic waste separation) as part of Clean Up exercise in the area vis a vis mixed waste collected.

The approximate area based density of plastic collected was found to be  $(225 \times 1000 / 726) = 310 \text{ gm/m}^2$  and area based density of mixed waste collected  $(358 \times 1000 / 726) \text{ kg/m}^2 = 493 \text{ gm/m}^2$ . It may be noted that plastic waste in 25 bags was calculated as:  $63\% \text{ plastic wastes recovered (based on 10 no. of bags opened randomly for plastic waste separation)} \times \text{area based density of mixed waste} / 100$ .

Polybags (Translucent + Coloured) which are commonly used in carrying vegetables, fruits and other groceries were approx 37% vis a vis the total numbers of various plastic collected  $(1346 \text{ peices} / 3598 \text{ pieces}) = 37\%$  approximately (based on 5 numbers of randomly sampled gunny bags).

Types of plastic categories found in Clean Up at Haathi Ghat, Agra (nature of Plastic Waste segregated in this Clean Up in 5 gunny bags)



## Annexure I: Photographs captured during Clean-Up





Annexure II: Photographs captured for Pre Clean Up & Post Clean Up

Pre Clean Up





## Post Clean Up



### Annexure III: Volunteer and River Bank / Channel Bank Trash Data Form

**VOLUNTEER-**  
**and**  
**River Bank/Channel Bank Trash Data Form**

Ocean, waterways and river bank/channel bank trash rank as serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris and from river basin threatens human health, wildlife, communities and economies around the world. The river and ocean face many challenges, but trash should not be one of them. River and Ocean trash is entirely preventable, and data we collect are part of the solution. The international cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

Clean up Site Name:

State:

Zone or Country: **INDIA**

Country: **INDIA**

Landmark:

| MOST UNUSUAL ITEM COLLECTED-                             |   |
|--|---|
| Recyclable plastics coded as 4 and 5 and black polythene |   |
| Land   | <input type="text"/>                    |
| Under Ground Water                                       | <input type="text"/>                    |
| Water  | <input type="text"/>                    |
| Adult  | <input type="text" value="48"/>         |
| Children under 12  | <input type="text" value="5"/>          |
| Date   | <input type="text" value="20/02/2020"/> |



# TRASHCOLLECTED

**Citizen scientist:** Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas

| S.NO. | MOST LIKELY TO FIND ITEMS:   | Total No. of categorized plastics from 5 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 5 gunny bags of segregated plastics |
|-------|--|--|---|
| 1.    | Cigarette Butts  | -  | -   |
| 2.    | Multilayer Large and Medium Size for snacks, chips, namkeen, biscuits etc. | 345  | 1.97  |
| 3.    | Multilayer Sachets for Shampoo, Tobacco, tea, coffee, tomato sauce etc.    | 68   | 0.512   |
| 4.    | Multilayer Gift Wrapping Paper   | 1  | 0.01  |
| 5.    | Monolayer Plastic Packaging used for food, detergent etc.                  | 41   | 1.05  |
| 6.    | Synthetic woven bags used for cement packaging etc.                        | 12   | 2.96  |
| 7.    | Hard Plastic such as HDPE Pipes, HDPE bottles, HDPE tubes, tray, PVC etc.  | -  | -   |
| 8.    | Polythene bags (colored white, black)                                      | 2813   | 28.07   |
| 9.    | Woven Polycloth Bags for Carrying Groceries/Vegetables                     | 17   | 0.87  |
| 10.   | Disposable paper cups coated with plastic film                             |  |   |
| 11.   | Disposable plastic Cups/Glasses  | 100  | 0.55  |
| 12.   | Packing used for water, milk etc.  | 110  | 0.55  |
| 13.   | Take Out/ Away containers (Plastic)  | -  | -   |
| 14.   | Take Out/ Away containers (Food)   | -  | -   |
| 15.   | Paper bags coated with plastic film  | -  | -   |
| 16.   | Bottle plastic caps  | -  | -   |
| 17.   | Shopping Bags/ Grocery Bags  | -  | -   |
| 18.   | Plastic tubes (Dant kanti, Facewash cap)                                   | 4  | 0.1   |
| 19.   | Flowers garlands, pooja samagri etc made up of Plastic                     | -  | -   |
| 20.   | Black X ray film   | -  | -   |
| 21.   | Plastic strings used for tying   | 4  | 0.16  |
| 22.   | Plastic Purse (Synthetic Leather)  | 2  | 0.22  |
|       | <b>FISHING GEAR</b>  |  |   |
| 1.    | Fishing Buoys pots & traps:  | -  | -   |
| 2.    | Fishing Net & Pieces:  | -  | -   |
| 3.    | Fishing Line (1 Yard/ meter)= 1 piece                                      | -  | -   |
| 4.    | Rope (1 Yard/ meter)= 1 piece  | -  | -   |
|       | <b>OTHER TRASH</b>   |  |   |
| 1.    | Appliances (refrigeration, washers   | -  | -   |

| S.NO. | MOST LIKELY TO FIND ITEMS:                                       | Total No. of categorized plastics from 5 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 5 gunny bags of segregated plastics |
|-------|--|--|---|
|       | etc)   |  |   |
| 2.    | Balloons   | -  | -   |
| 3.    | Cigar tips   | -  | -   |
| 4.    | Cigarette Lighters   | -  | -   |
| 5.    | Cigarette Packets  | -  | -   |
| 6.    | Construction Materials with plastic component                    | -  | -   |
| 7.    | Fireworks(Lamination made of plastic film)                       | -  | -   |
| 8.    | Tires & Rubber   | -  | -   |
| 9.    | Footwear   | 7  | 1.99  |
| 10.   | Beverage Bottle (plastic) including PET Bottle                   | -  | -   |
| 11.   | Foams  | -  | -   |
| 12.   | Rubber Ball  | -  | -   |
| 13.   | Straws   | -  | -   |
| 14.   | Cups & Plates (Thermocol)  | -  | -   |
| 15.   | Thermocol & Other Trash  | -  | -   |
| 16.   | Toys, Pens and Toothbrush  | -  | -   |
| 17.   | <b>PACKAGING MATERIALS</b>                                       |  |   |
| 1.    | Packs Holders  | -  | -   |
| 2.    | Other Plastic/Foam Packaging                                     | -  | -   |
| 3.    | Other Plastic Bottle   | -  | -   |
| 4.    | Strapping Bands  | -  | -   |
| 5.    |  |  |   |
| 6.    | Medicine Packaging   | -  | -   |
| 7.    | Garment/Textile Packaging Material                               | -  | -   |
| 8.    | Low density plastic packaging material (Diapers, Sanitary packs) | -  | -   |
|       | <b>PERSONAL HYGIENE</b>  |  |   |
| 1.    | Condoms  | -  | -   |
| 2.    | Diapers  | -  | -   |
| 3.    | Syringes   | -  | -   |
| 4.    | Tampons/Tampon Applicators                                       | -  | -   |
| 5.    | Sanitary napkins/pads  | 15   | 0.72  |
|       | <b>TINY TRASH LESS THAN 2.5 CM</b>                               |  |   |
| 1.    | Foam pieces  | -  | -   |
| 2.    | Glass pieces   | -  | -   |
| 3.    | Plastic pieces   | -  | -   |
|       | <b>ITEMS OF LOCAL CONCERN</b>                                    |  |   |
| 1.    | Glazed Paper having plastic lamination                           | -  | -   |
| 2.    | Fragmented/ torn/ dusty mixed plastic waste                      | -  | -   |
| 3.    | Synthetic Jackets  | -  | -   |
| 4.    | Synthetic Bags   | -  | -   |
| 5.    | Synthetic Belt pouch   | -  | -   |
| 6.    | Synthetic Clothes/Clothes  | -  | -   |

| S.NO.        | MOST LIKELY TO FIND ITEMS:  | Total No. of categorized plastics from 5 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 5 gunny bags of segregated plastics |
|--------------|---|--|---|
| 7.           | Synthetic flowers   | -  | -   |
| 8.           | Pan shop synthetic sheet  | -  | -   |
| 9.           | Ritual Material   | 10   | 0.371   |
| 10.          | God Sculptures having synthetic cloth material & plastic ornaments. | -  | -   |
| 11.          | Plastic Sheet & other thicker plastic bags. Color-Black & White     | -  | -   |
| 12.          | Milky white bottles for carrying gangajal                           | -  | -   |
| 13.          | Tobacco, Pan Masala Sachet/Wrappers                                 | -  | -   |
| 14.          | Silver foil disposable plates & bowls having plastic lamination     | 49   | 0.23  |
| DEAD/INJURED | ANIMAL STATUS   | ENTANGLED  | TYPE OF ENTANGLEMENT ITEM   |
| -            | Dead or injured   | Yes or No  | -   |

| CLEANUP SUMMARY  |          |      |
|--|----------|------|
| Number of Gunny Bags Filled with mixed trash:  | 25       | nos  |
| Number of Gunny Bags of separated plastic:   | 10       | nos  |
| Number of Gunny Bags opened for segregation of type of plastics:   | 5        | nos  |
| Weight of Mixed Trash Collected:   | 357.857  | kg   |
| Weight of Plastic Waste from 10 Gunny Bags:  | 100.233  | kg   |
| Weight of Mixed Trash from 10 Gunny Bags weight:   | 159.163  | kg   |
| Weight of Plastic from 5 Gunny Bags used for segregation of types of Plastic:                              | 42.583   | kg   |
| Area Cleaned:  | 726      | sq m |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 10 number of bags): | 62.97506 | %    |



#### Annexure IV: List of Volunteers participated/registered on site

| S. No. | Name of Technical Team    | Organization                  |
|--------|---------------------------|-------------------------------|
| 1      | Dr. Mrs Shukla Pal Maitra | National Productivity Council |
| 2      | Dr. Harsh Thukral         | National Productivity Council |
| 3      | Mr. S.K. Jain             | National Productivity Council |
| 4      | Mr. Himendra Singh        | National Productivity Council |
| 5      | Mr. Jayant                | National Productivity Council |
| 6      | Mr Hemant Kumar           | National Productivity Council |

| S. No. | Name of Voluntarily Support Team | Organization   |
|--------|----------------------------------|--|
| 1      | Mrs Gayatri Raghwa               | The Tide Turner Plastic challenge (an initiative engaging youth across the country to address the issue of plastic pollution threatening life in oceans, rivers and on land) |
| 2      | Mr Jitendra Patel                | Centre for Environment Education, Lucknow  |

| S. No. | Name                            | Contact No. | Occupation | Email  |
|--------|---------------------------------|-------------|------------|--|
| 1.     | Akrati                          | 7906286929  | Trainee    | <a href="mailto:Akratiyadav05@gmail.com">Akratiyadav05@gmail.com</a>             |
| 2.     | Anjali Kumari                   | 9084302332  | Trainee    | <a href="mailto:Ak274538@gmail.com">Ak274538@gmail.com</a>                       |
| 3.     | Arati Sharma                    | 8923117869  | Trainee    | <a href="mailto:Arati2831sharma@gmail.com">Arati2831sharma@gmail.com</a>         |
| 4.     | Awadhesh Kumar                  | 7906149570  | Trainee    | <a href="mailto:Er.awadesh2@gmail.com">Er.awadesh2@gmail.com</a>                 |
| 5.     | Deepshikha Yadav                | 8081283884  | Trainee    | <a href="mailto:Yadavgudiya998@gmail.com">Yadavgudiya998@gmail.com</a>           |
| 6.     | Deepti Shakya                   | 8077419194  | Trainee    | <a href="mailto:Shakyadeepti007@gmail.com">Shakyadeepti007@gmail.com</a>         |
| 7.     | Dharmendra Kumar                | 8954435767  | Trainee    | <a href="mailto:Dharmendra2205@gmail.com">Dharmendra2205@gmail.com</a>           |
| 8.     | Diksha Sharma                   | 8630930482  | Trainee    | <a href="mailto:Dikshaonline4you@gmail.com">Dikshaonline4you@gmail.com</a>       |
| 9.     | Garima Gautam                   | 9548002828  | Trainee    | <a href="mailto:Garimamishra6306@gmail.com">Garimamishra6306@gmail.com</a>       |
| 10.    | Garima Mishra                   | 9336037991  | Trainee    | <a href="mailto:Garimamishra6306@gmail.com">Garimamishra6306@gmail.com</a>       |
| 11.    | Gudiya Pandey                   | 7983971021  | Trainee    | <a href="mailto:Gudiyapandey16@gmail.com">Gudiyapandey16@gmail.com</a>           |
| 12.    | Komal                           | 7017401865  | Trainee    | <a href="mailto:Kittu8799@gmail.com">Kittu8799@gmail.com</a>                     |
| 13.    | Madhu Kumari                    | 9650441138  | Trainee    | <a href="mailto:Mk3811445096@gmail.com">Mk3811445096@gmail.com</a>               |
| 14.    | Neetu Yadav                     | 8303580495  | Trainee    | <a href="mailto:Ny4661582@gmail.com">Ny4661582@gmail.com</a>                     |
| 15.    | Pooja Kumari                    | 7895197790  | Trainee    | <a href="mailto:Deipoojakumari@gmail.com">Deipoojakumari@gmail.com</a>           |
| 16.    | Priya Kushwa                    | 9119795948  | Trainee    | <a href="mailto:Priyathakur8534@gmail.com">Priyathakur8534@gmail.com</a>         |
| 17.    | Ranu Upadhyay                   | 9088511545  | Trainee    | <a href="mailto:Manuupadhyay406@gmail.com">Manuupadhyay406@gmail.com</a>         |
| 18.    | Sarita Singh                    | 9149319231  | Trainee    | <a href="mailto:mpssarita@gmail.com">mpssarita@gmail.com</a>                     |
| 19.    | Shaifali                        | 8077580981  | Trainee    | <a href="mailto:Shaifalisingh5959@gmail.com">Shaifalisingh5959@gmail.com</a>     |
| 20.    | Shivane Bajpayee                | 7589609543  | Trainee    | <a href="mailto:Shivaneebahpayee25@gmail.com">Shivaneebahpayee25@gmail.com</a>   |
| 21.    | Shweta Saraswat                 | 7817955253  | Trainee    | <a href="mailto:Saraswat.shweta1534@gmail.com">Saraswat.shweta1534@gmail.com</a> |
| 22.    | Sunita Kumari                   | 6398307659  | Trainee    | <a href="mailto:Dikshaonline4you@gmail.com">Dikshaonline4you@gmail.com</a>       |
| 23.    | Sushma Singh                    | 6306778334  | Trainee    | <a href="mailto:Sushma08199@gmail.com">Sushma08199@gmail.com</a>                 |
| 24.    | Vikas Verma                     | 8755000655  | Trainee    | <a href="mailto:vikasrayyanshverma@gmail.com">vikasrayyanshverma@gmail.com</a>   |
| 25.    | Vishvendra Pratap Singh Chauhan | 8533813758  | Trainee    | <a href="mailto:Vikashchauhan503@gmail.com">Vikashchauhan503@gmail.com</a>       |
| 26.    | Yashu Yadav                     | 8909905003  | Trainee    | <a href="mailto:Yadavanshu4818@gmail.com">Yadavanshu4818@gmail.com</a>           |
| 27.    | Ankita                          | 8430996902  | Trainee    | -  |

| S. No. | Name                    | Contact No. | Occupation                      | Email                         |
|--------|-------------------------|-------------|---------------------------------|-------------------------------|
| 28.    | Gudiya Kumari           | 7452875103  | Trainee                         | Gudiyakumari975940@gmail.c om |
| 29.    | Mohini Joorail          | 9643294986  | Trainee                         | mohinijurel@gmail.com         |
| 30.    | Monika Dixit            | 8217915729  | Trainee                         | Psa283125@gmail.com           |
| 31.    | Neha Sharma             | 8445681643  | Trainee                         | Ps267169@gmail.com            |
| 32.    | Pallavi Pandey          | 7042746028  | Trainee                         | Pandeypallavi1812@gmail.com   |
| 33.    | Rashmi Sharma           | 9758912884  | Trainee                         | o1011998@gmail.com            |
| 34.    | Mr. Anil Kumar          |             | Sweeper,<br>Agra Nagar<br>Nigam |                               |
| 35.    | Mr. Sunil Kumar         |             | Sweeper,<br>Agra Nagar<br>Nigam |                               |
| 36.    | Mr. Manoj Kumar         |             | Sweeper,<br>Agra Nagar<br>Nigam |                               |
| 37.    | Mr. Sunny               |             | Sweeper,<br>Agra Nagar<br>Nigam |                               |
| 38.    | Mr. Manoj Kumar         |             | Sweeper,<br>Agra Nagar<br>Nigam |                               |
| 39.    | Mr. Sagal Kumar         |             | Sweeper,<br>Agra Nagar<br>Nigam |                               |
| 40.    | Mr. Kapil Kumar         |             | Sweeper,<br>Agra Nagar<br>Nigam |                               |
| 41.    | Mr. Ajeet Kumar         |             | Sweeper,<br>Agra Nagar<br>Nigam |                               |
| 42.    | Mr. Rupesh<br>Kumar     |             | Sweeper,<br>Agra Nagar<br>Nigam |                               |
| 43.    | Mr. Kavi Kumar          |             | Sweeper,<br>Agra Nagar<br>Nigam |                               |
| 44.    | Dr. Anil Vasistha       | 9412500727  | Scout<br>Commissione r          | Ronj1064@gmail.com            |
| 45.    | Mr. Lakhan Singh        | 9720077814  | Distt. Scout<br>Master          | israjscout@gmail.com          |
| 46.    | Ms. Bhavna<br>Singh     | 8218534119  | Unit Leader                     | Sbhavna15rajat@gmail.com      |
| 47.    | Ms. Renu<br>Bhardwaj    | 9897762401  | Unit Leader                     | Brenu0085@gmail.com           |
| 48.    | Ms. Sarita Singh        | 9098699223  | Unit Leader                     |                               |
| 49.    | Dr. Manoj<br>Varshney   | 9319910520  | Diet Lecturer                   |                               |
| 50.    | Mr. Ajay<br>Kulshrestha | 9319489668  | Diet Lecturer                   |                               |
| 51.    | Ms. Anjali Gupta        | 9457004303  | Teacher                         |                               |
| 52.    | Dr. Pragya<br>Sharma    | 8532918012  | Diet Lecturer                   |                               |
| 53.    | Mrs. Sabah              | 8791014329  | Asst.<br>Teacher                | Sabahather1234@gmail.com      |

**A report on**  
**"Clean Up Activity at Ram Ghat- Prayagraj"**

dated: 2<sup>nd</sup> November, 2019



*under*

***Promotion of Counter Measures against marine  
plastic litter in South East Asia and India - UNEP***



***Submitted by:***

**National Productivity Council**

(Under Ministry of Commerce & Industry, govt. of India)

**Lodi Road, New Delhi**



## Table of Contents

|  |            |
|--|------------|
| <b>Prayagraj, Ram Ghat, Cleanup Report – 6 .....</b>                             | <b>133</b> |
| 1. Location.....   | 133        |
| 2. Time and Date .....   | 134        |
| 3. Participants/organizations.....   | 134        |
| 4. Clean Up Team .....   | 134        |
| 5. Activity leader.....  | 134        |
| 6. Rationale for location selection .....  | 134        |
| 7. Area covered, with photos of pre-clean .....                                  | 135        |
| 8. Methodology, in case there are any deviations from approved methodology. .... | 135        |
| 9. Photos during clean-up.....   | 135        |
| 10. Photos post clean-up.....  | 136        |
| 11. Qualitative outcomes of clean-up .....                                       | 136        |
| 12. Quantitative outcomes of clean-up .....                                      | 136        |
| Annexure I: Photos During Cleanup Activity .....                                 | 137        |
| Annexure II: Comparison of Pre-Clean up and Post Clean up .....                  | 147        |
| Annexure III: Volunteer Ocean Trash Data Form .....                              | 149        |

## Prayagraj, Ram Ghat, Cleanup Report – 6

### 1. Location

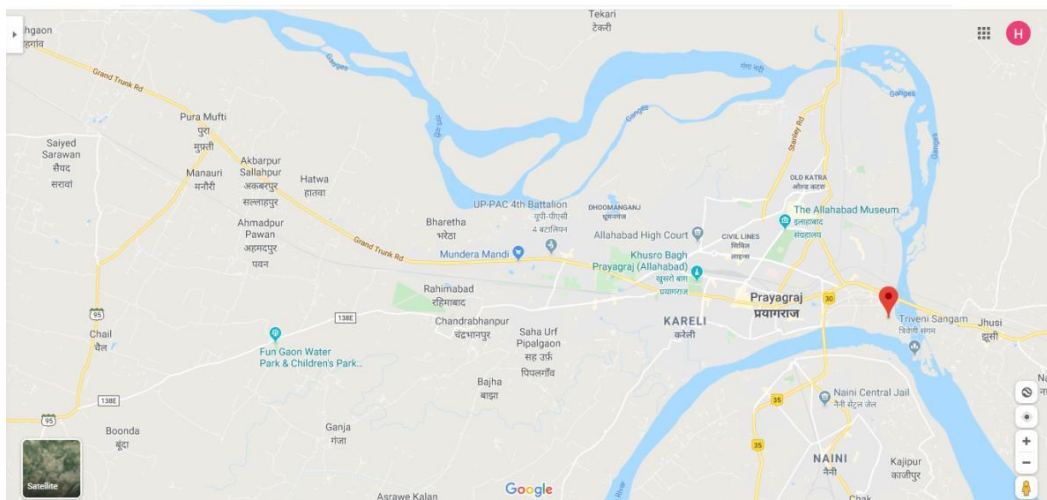
**Clean Up Site Name:** Ram Ghat, Near Sangam Area, Allahabad.

**State:** Uttar Pradesh

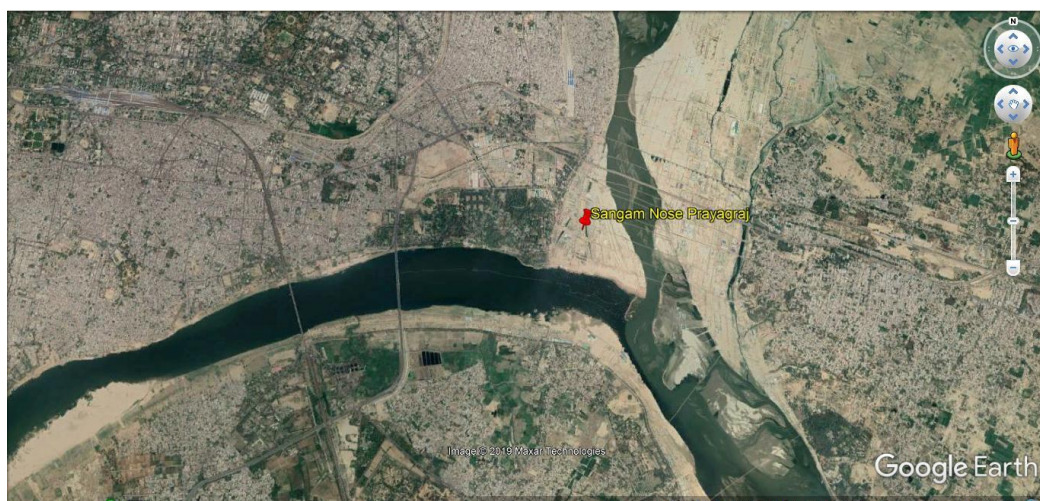
**Country:** India

**Landmark:** Sangam Nose (Where Ganga and Yamuna River Meets), River Bank

**Latitude and Longitude –** N25°25.921', E081°52.902'



**Ram Ghat, Near Sangam Area, Allahabad**



## 2. Time and Date

**Time** : 8.00 am – 1.00 pm

**Date** : 2<sup>nd</sup> November, 2019

## 3. Participants/organizations

Participating Organisation: National Productivity Council

## 4. Clean Up Team

| S.No. | Collection Team<br>(Clean Up) | Survey Team<br>(Segregation) | Photo Team         | Visual<br>Inspection Team |
|-------|-------------------------------|------------------------------|--------------------|---------------------------|
| 1     | Pramod Kumar                  | Pramod Kumar                 | Saurabh Srivastava | Apoorva Agrawal           |
| 2     | Tribuhan Kumar                | Tribuhan Kumar               | Ankit Mishra       |                           |
| 3     | Balwant Kumar                 | Balwant Kumar                |                    |                           |
| 4     | Pamod Yadav                   | Pamod Yadav                  |                    |                           |

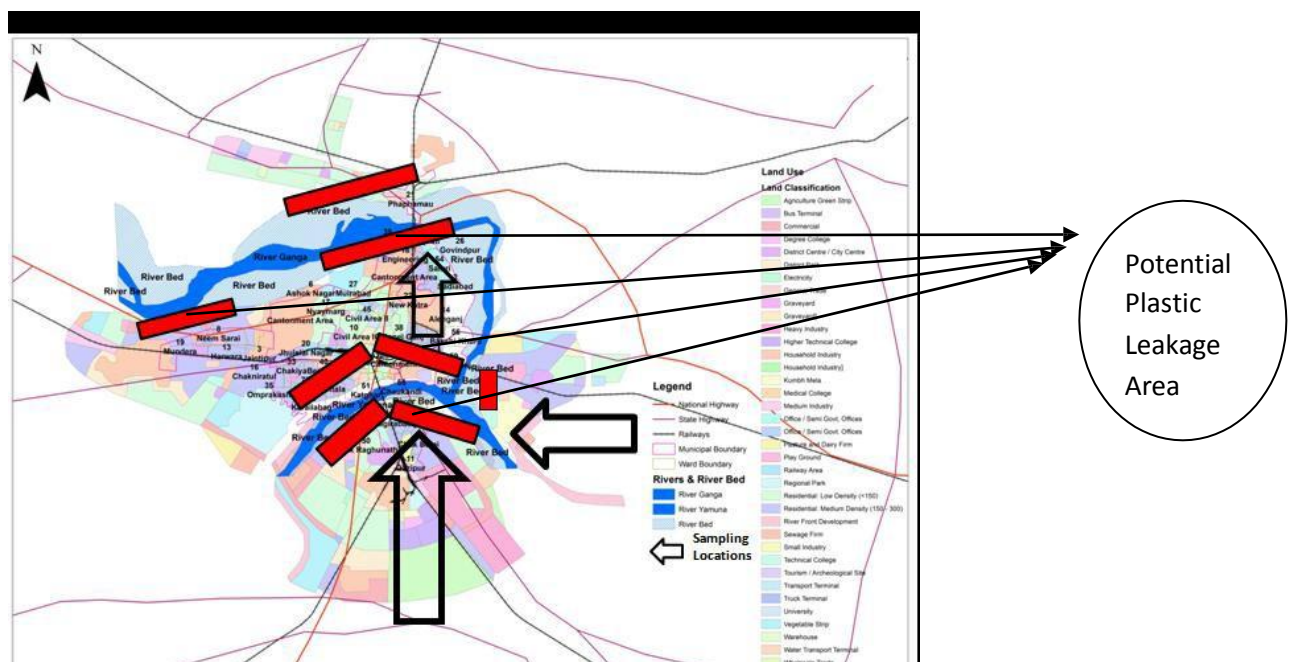
## 5. Activity leader

Activity Leader: Mr. Amit Jain, Expert Advisor, National Productivity Council

## 6. Rationale for location selection

Site falling under plastic leakage zone near Sangam as indicated in figure below and was easily accessible.

Sangam (a place where two major rivers Ganga and Yamuna meets) is a Holy place at Allahabad, India, where daily lakhs of pilgrims come.





**7. Area covered, with photos of pre-clean**

Approximately an area of 100 X 100 Sq.meters was selected and around 15 kg of total waste was collected. Pre Clean Up site photographs are as depicted below:



**8. Methodology, in case there are any deviations from approved methodology.**

Methodology adopted was same as per the approved methodology of UNEP.

**9. Photos during clean-up**

Photographs depicting the clean up study are depicted in Annexure I.

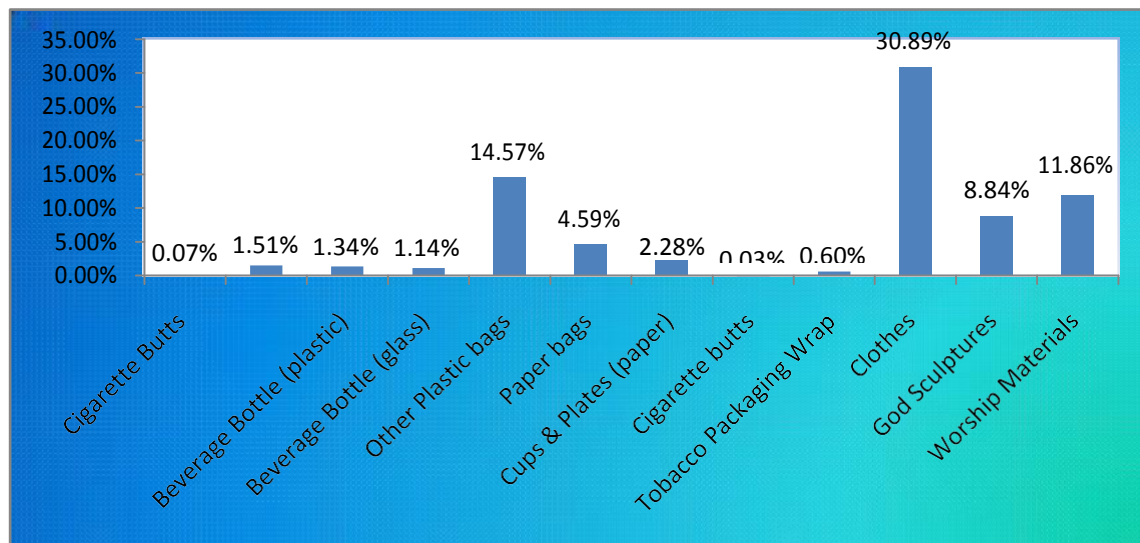


## 10. Photos post clean-up.

Photographs depicting the clean up study are depicted in Annexure II.

## 11. Qualitative outcomes of clean-up

12 types of waste categories were found during the Clean Up. Figure 1 below depicts the categories



Majority of the waste categories found during Clean Up include Clothes, plastic bags, worship materials, God sculptures etc.

## 12. Quantitative outcomes of clean-up

Data on plastic waste segregated during clean up was recorded as per the trash sheet format of UNEP as provided in Annexure III.

## Annexure I: Photos During Cleanup Activity

### 1. Volunteer Group Photos with Personal Protective Equipments (PPE)



2. Waste Collection Bags Photos (Numbered)



Labeled and Numbered waste collection bags at Sangam Location

3. Photographs captured during collection of mixed waste at Sangam Area, Allahabad, India











**4. Photographs captured during Weighing of mixed Waste Bags**





5. Participants photos with collection bags filled with mixed waste at Sangam Area, Allahabad, India







6. Waste Collection bags before segregation



Photos while documenting and entering data into data sheet





7. Waste Segregation of Each Bags (One bag at a time)





## 8. Waste Segregated in Different Categories





9. Photographs showing Mixed Waste Segregated as per categories





## Annexure II: Comparison of Pre-Clean up and Post Clean up

Photograph of Pre Clean Up



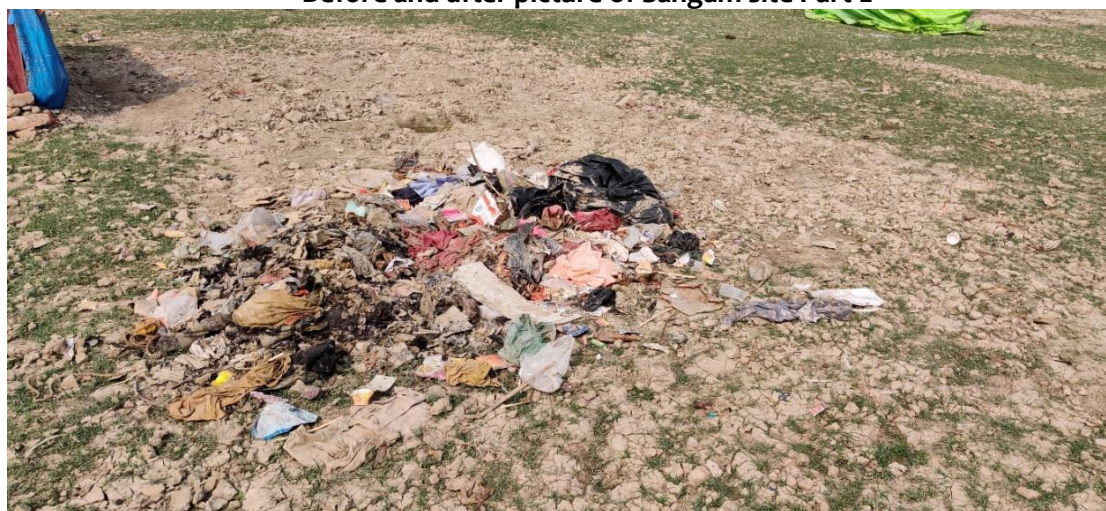
Photograph of post Clean Up







**Before and after picture of Sangam site Part-2**



**Before and after picture of Sangam site Part-3**

**Note: At some locations, due to site conditions only accessible areas were covered for cleanup. Otherwise, a large amount of waste can be collected (that can be around 50-60 kg).**



## VOLUNTEER- Ocean Trash Data Form

**Ocean** and waterways trash rank as one of the most serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris threatens human health, wildlife, communities and economies around the world. The ocean faces many challenges, but trash should not be one of them. Ocean trash is entirely preventable, and data you collect are part of the solution. The international cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

### SITE INFORMATION:

Clean up Site **RAM GHAT (NEAR SANGAM AREA), PRAYAGRAJ,**

State: **UTTAR PRADESH**

Zone or Country: **INDIA**

Country: **INDIA**

Landmark: **SANGAM**

| MOST UNUSUAL ITEM COLLECTED   |   |
|---|---|
| <div style="text-align: center;">Type of Clean up</div> <div style="display: flex; justify-content: space-between; padding: 5px 0;"> <div style="width: 45%;"> <p>Land</p> <p>Under water</p> <p>Water</p> </div> <div style="width: 50%;"> <div style="border: 1px solid black; width: 40px; height: 15px; margin: 2px 0;"></div> <div style="border: 1px solid black; width: 40px; height: 15px; margin: 2px 0;"></div> </div> </div> | <div style="text-align: center;">Number of Volunteers Working on this card</div> <div style="display: flex; justify-content: space-between; padding: 5px 0;"> <div style="width: 45%;"> <p>children (under 12)</p> <p>adults</p> <p>Date:</p> </div> <div style="width: 50%;"> <p style="text-align: center;">-</p> <div style="border: 1px solid black; width: 60px; height: 25px; margin: 2px 0;"></div> <p style="text-align: center;">07</p> <div style="border: 1px solid black; width: 60px; height: 25px; margin: 2px 0;"></div> <p style="text-align: center;">02.11.2019</p> <div style="border: 1px solid black; width: 100px; height: 25px; margin: 2px 0;"></div> </div> </div> |

# TRASHCOLLECTED

**Citizen scientist:** Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas

| S. No.              | MOST LIKELY TO FIND ITEMS:   | Total No. of categorized plastics from 4 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 5 gunny bags of segregated plastics |
|---------------------|--|--|---|
| 1.                  | Cigarette Butts  | 31   | 0.01  |
| 2.                  | Multilayer Large and Medium Size for snacks, chips, namkeen, biscuits etc. | 37   | 0.225   |
| 3.                  | Multilayer Sachets for Shampoo, Tobacco, tea, coffee, tomato sauce etc.    | -  | -   |
| 4.                  | Multilayer Gift Wrapping Paper   | -  | -   |
| 5.                  | Monolayer Plastic Packaging used for food, detergent etc.                  | -  | -   |
| 6.                  | Synthetic woven bags used for cement packaging etc.                        | -  | -   |
| 7.                  | Hard Plastic such as HDPE Pipes, HDPE bottles, HDPE tubes, tray, PVC etc.  | -  | -   |
| 8.                  | Polythene bags (colored white, black)                                      | -  | -   |
| 9.                  | Woven Polycloth Bags for Carrying Groceries/Vegetables                     | -  | -   |
| 10.                 | Disposable paper cups coated with plastic film                             | 149  | 0.34  |
| 11.                 | Disposable plastic Cups/Glasses  | -  | -   |
| 12.                 | Packing used for water, milk etc.  | -  | -   |
| 13.                 | Take Out/ Away containers (Plastic)  | -  | -   |
| 14.                 | Take Out/ Away containers (Food)   | -  | -   |
| 15.                 | Paper bags coated with plastic film  | 69   | 0.685   |
| 16.                 | Bottle plastic caps  | -  | -   |
| 17.                 | Shopping Bags/ Grocery Bags  | 115  | 2.175   |
| 18.                 | Plastic tubes (Dant kanti, Facewash cap)                                   | -  | -   |
| 19.                 | Flowers garlands, pooja samagri etc  | -  | -   |
| 20.                 | Black X ray film   | -  | -   |
| 21.                 | Plastic strings used for tying   | -  | -   |
| 22.                 | Plastic Purse (Synthetic Leather)  | -  | -   |
| <b>FISHING GEAR</b> |  |  |   |
| 1.                  | Fishing Buoys pots & - traps:  | -  | -   |
| 2.                  | Fishing Net & Pieces:  | -  | -   |
| 3.                  | Fishing Line (1 Yard/ - meter)= 1 piece                                    | -  | -   |
| 4.                  | Rope (1 Yard/ - meter)= 1 piece  | -  | -   |
| <b>OTHER TRASH</b>  |  |  |   |
| 1                   | Appliances - (refrigeration, washers etc)                                  | -  | -   |
| 2.                  | Balloons   | -  | -   |
| 3.                  | Cigar tips   | -  | -   |
| 4.                  | Cigarette Lighters   | 1  | 0.005   |
| 5                   | Cigarette Packets  | -  | -   |
| 6                   | Construction Materials with plastic component                              | -  | 3.325   |

| S. No.                             | MOST LIKELY TO FIND ITEMS:  | Total No. of categorized plastics from 4 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 5 gunny bags of segregated plastics |
|------------------------------------|---|--|---|
| 7                                  | Fireworks(Lamination made of plastic film)                          | -  | -   |
| 8                                  | Tires & Rubber  | -  | -   |
| 9                                  | Footwear  | -  | -   |
| 10                                 | Beverage Bottle (plastic) including PET Bottle                      | 9  | 0.2   |
| 11                                 | Foams   | -  | -   |
| 12                                 | Rubber Ball   | -  | -   |
| 13                                 | Straws  | -  | -   |
| 14                                 | Cups & Plates (Thermocol)   | -  | -   |
| 15                                 | Thermocol & Other Trash   | -  | -   |
| 16                                 | Toys, Pens and Toothbrush   | -  | -   |
| <b>PACKAGING MATERIALS</b>         |   |  |   |
| 1.                                 | 6- Packs Holders  | -  | -   |
| 2.                                 | Other Plastic/Foam Packaging  | -  | -   |
| 3.                                 | Other Plastic Bottle  | -  | -   |
| 4.                                 | Strapping Bands   | -  | -   |
| 5.                                 | Medicine Packaging  | -  | -   |
| 6.                                 | Garment/Textile Packaging Material                                  | -  | -   |
| 7.                                 | Low density plastic packaging material (Diapers, Sanitary packs)    | -  | -   |
| <b>PERSONAL HYGIENE</b>            |   |  |   |
| 1.                                 | Condoms   | -  | -   |
| 2.                                 | Diapers   | -  | -   |
| 3.                                 | Syringes  | -  | -   |
| 4.                                 | Tampons/Tampon Applicators  | -  | -   |
| 5.                                 | Sanitary napkins/pads   | -  | -   |
| <b>TINY TRASH LESS THAN 2.5 CM</b> |   |  |   |
| 1.                                 | Foam pieces   | -  | -   |
| 2.                                 | Glass pieces  | -  | -   |
| 3.                                 | Plastic pieces  | -  | -   |
| <b>ITEMS OF LOCAL CONCERN</b>      |   |  |   |
| 1.                                 | Glazed Paper having plastic lamination                              | -  | -   |
| 2.                                 | Fragmented/ torn/ dusty mixed plastic waste                         | -  | -   |
| 3.                                 | Synthetic Jackets   | -  | -   |
| 4.                                 | Synthetic Bags  | -  | -   |
| 5.                                 | Synthetic Belt pouch  | -  | -   |
| 6.                                 | Synthetic Clothes/Clothes   | 117  | 4.61  |
| 7.                                 | Synthetic flowers   | -  | -   |
| 8.                                 | Pan shop synthetic sheet  | -  | -   |
| 9.                                 | Ritual Material   | -  | 1.77  |
| 10.                                | God Sculptures having synthetic cloth material & plastic ornaments. | 5  | 1.32  |
| 11.                                | Plastic Sheet & other thicker plastic bags. Color-Black & White     | -  | -   |
| 12.                                | Milky white bottles for carrying gangajal                           | -  | -   |



| S. No.                             | MOST LIKELY TO FIND ITEMS:                                      | Total No. of categorized plastics from 4 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 5 gunny bags of segregated plastics |
|------------------------------------|---|--|---|
| 13.                                | Tobacco, Pan Masala Sachet/Wrappers                             | 108  | 0.09  |
| 14.                                | Silver foil disposable plates & bowls having plastic lamination | -  | -   |
| DEAD/INJURED ANIMAL                | STATUS  | ENTANGLED  | TYPE OF ENTANGLEMENT ITEM   |
| -                                  | Dead or injured   | Yes or No  | -   |
| 2                                  | Balloons:   | -  | -   |
| 3                                  | Cigar tips  | -  | -   |
| 4                                  | Cigarette Lighters  | 1  | 0.005   |
| 5                                  | Construction Materials  | -  | 3.325   |
| 6                                  | Fireworks   | -  | -   |
| 7                                  | Tires   | -  | -   |
| <b>PACKAGING MATERIALS</b>         |   |  |   |
| 1                                  | 6- Packs Holders  | -  | -   |
| 2                                  | Other Plastic/Foam Packaging                                    | -  | -   |
| 3                                  | Other Plastic Bottle  | -  | -   |
| 4                                  | Strapping Bands   | -  | -   |
| 5                                  | Tobacco Packaging Wrap  | 108  | 0.090   |
| <b>PERSONAL HYGIENE</b>            |   |  |   |
| 1                                  | Condoms   | -  | -   |
| 2                                  | Diapers   | -  | -   |
| 3                                  | Syringes  | -  | -   |
| 4                                  | Tampons/Tampon Applicators                                      | -  | -   |
| <b>TINY TRASH LESS THAN 2.5 CM</b> |   |  |   |
| 1                                  | Foam pieces   | -  | -   |
| 2                                  | Glass pieces  | -  | -   |
| 3                                  | Plastic pieces  | -  | -   |
| <b>ITEMS OF LOCAL CONCERN</b>      |   |  |   |
| 1.                                 | Clothes   | 117  | 4.610   |
| 2.                                 | God Sculptures  | 5  | 1.320   |
| 3.                                 | Worship Materials   | -  | 1.770   |
| DEAD/INJURED ANIMAL                | STATUS  | ENTANGLED  | TYPE OF ENTANGLEMENT ITEM   |
| -                                  | Dead or injured   | Yes or No  | -   |
| <b>CLEANUP SUMMARY</b>             |   |  |   |
| Number of Bags Filled              |   | Weight of Trash Collected  | Distance cleaned  |
| 4 Nos.                             |   | 14.925 kg  | 100 m X 100 m   |

| CLEANUP SUMMARY   |        |      |
|---|--------|------|
| Number of Gunny Bags Filled with mixed trash:   | 4      | nos  |
| Number of Gunny Bags of separed plastic:  | 4      | nos  |
| Number of Gunny Bags opened for segregation of type of plastics:  | 4      | nos  |
| Weight of Mixed Trash Collected:  | 14.585 | kg   |
| Weight of Plastic Waste from 4 Bags:  | 14.585 | kg   |
| Weight of Plastic from 4 Gunny Bags used for segregation of types of Plastic:                             | 14.585 | kg   |
| Area Cleaned:   | 10000  | sq m |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 4 number of bags): | 100    | %    |

**A report on**  
**"Clean Up Activity at Katghar Basti, Katghar Slum**  
**Area, Prayagraj "**  
dated: 3<sup>rd</sup> November, 2019



*under*

***Promotion of Counter Measures against marine  
plastic litter in South East Asia and India - UNEP***



***Submitted by:***

**National Productivity Council**

(Under Ministry of Commerce & Industry, govt. of India)

**Lodi Road, New Delhi**



## Table of Contents

|  |            |
|--|------------|
| <b>Prayagraj, Katghar Basti, Katghar Slum Area, Cleanup Report – 7 .....</b>     | <b>156</b> |
| 1. Location.....   | 156        |
| 2. Time and Date:.....   | 157        |
| 3. Participants/organizations.....   | 157        |
| 4. Clean Up Team .....   | 157        |
| 5. Activity leader.....  | 157        |
| 6. Rationale for location selection .....  | 157        |
| 7. Area covered, with photos of pre-clean .....                                  | 158        |
| 8. Methodology, in case there are any deviations from approved methodology. .... | 159        |
| 9. Photos during clean-up.....   | 159        |
| 10. Photos post clean-up .....   | 159        |
| 11. Qualitative Outcomes of Cleanup .....  | 159        |
| 12. Quantitative outcomes of clean-up .....                                      | 160        |
| Annexure I: Photographs Captured during Clean Up Activity .....                  | 161        |
| Annexure II: Pre and Post Clean Up Photographs.....                              | 173        |
| Annexure III: Trash data sheet for River Bank/Channel bank.....                  | 176        |

## Prayagraj, Katghar Basti, Katghar Slum Area, Cleanup Report – 7

### 1. Location

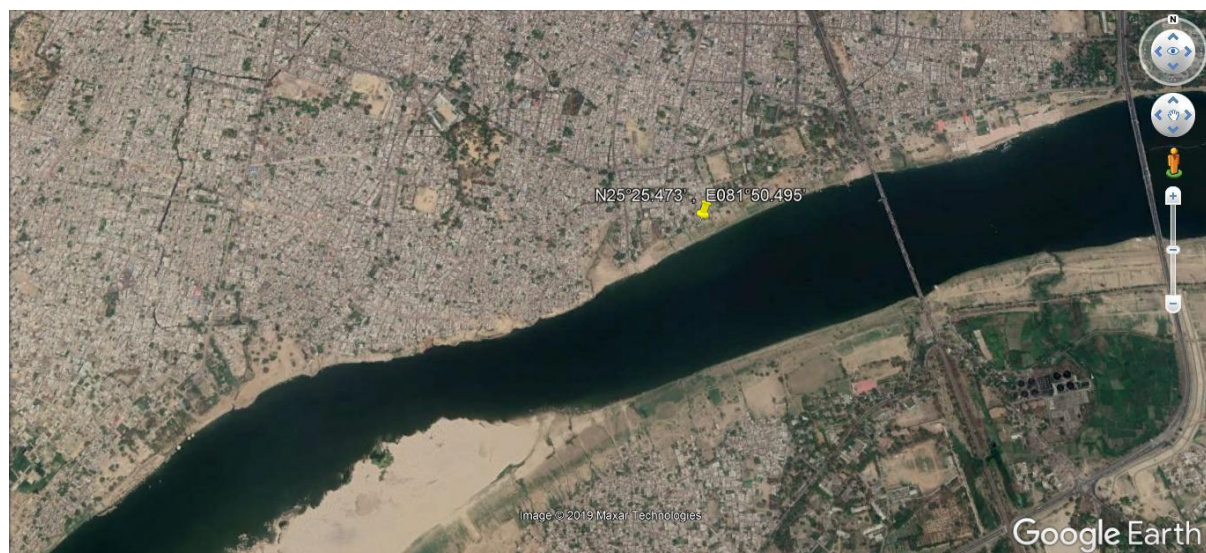
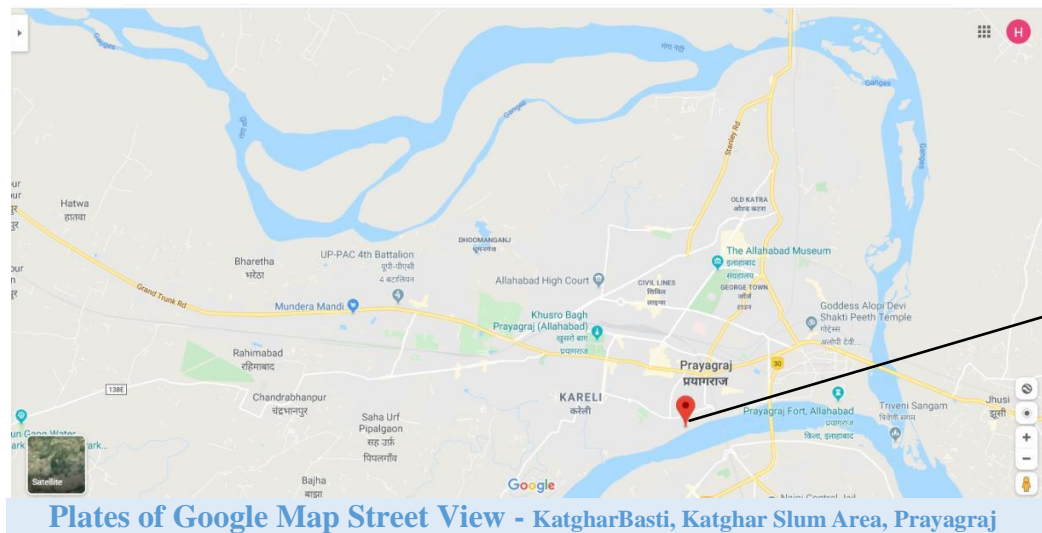
**Clean Up Site Name:** KatgharBasti, Katghar Slum Area, Prayagraj

**State:** Uttar Pradesh

**Country:** India

**Landmark:** Yamuna River Bank near Ewing Christian College, Prayagraj, India

**Latitude and Longitude** – N25°25.473', E081°50.495'



## 2. Time and Date:

**Time** : 8.00 AM - 01:00 PM

**Date** : 3<sup>rd</sup> November, 2019

## 3. Participants/organizations

Participating Organisation: National Productivity Council, Vishal Protection Force (Under Namami Gange), Prayagraj

## 4. Clean Up Team

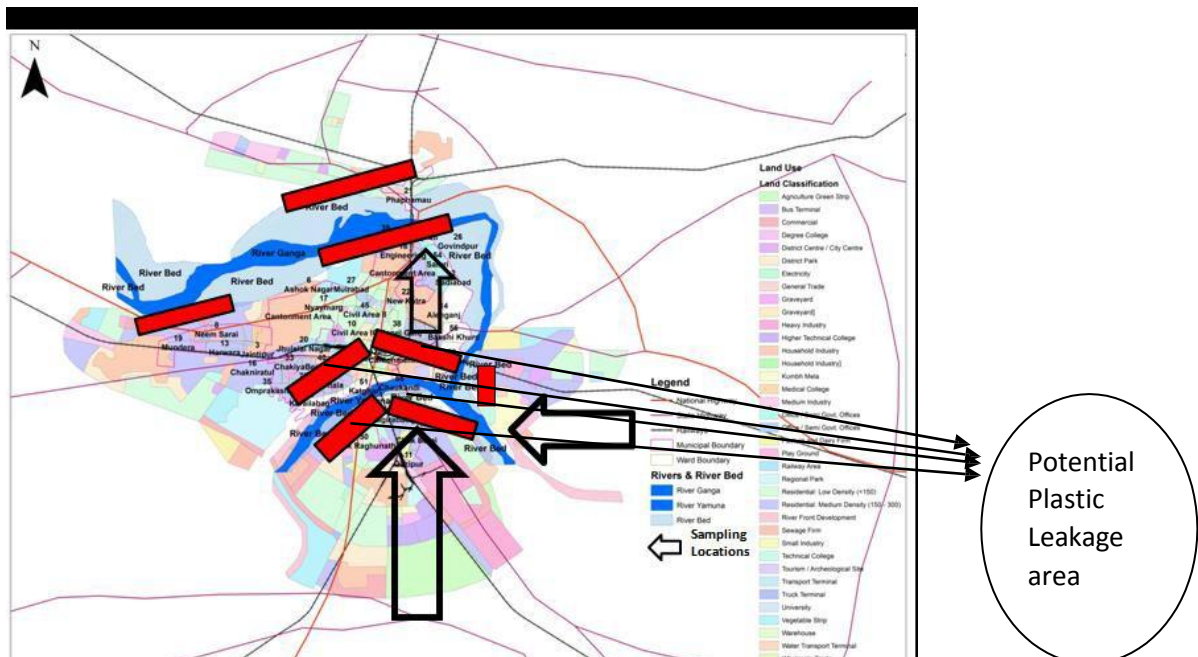
| S. No. | Collection Team<br>(Clean Up) | Survey Team<br>(Segregation) | Photo Team         | Visual<br>Inspection Team |
|--------|-------------------------------|------------------------------|--------------------|---------------------------|
| 1      | Satya Prakash                 | Satya Prakash                | Saurabh Srivastava | Apoorva Agrawal           |
| 2      | Avdesh Singh                  | Avdesh Singh                 |                    |                           |
| 3      | Jaikush                       | Jaikush                      |                    |                           |
| 4      | Amit Kumar                    | Amit Kumar                   |                    |                           |

## 5. Activity leader

Activity Leader: Mr. Amit Jain, Expert Advisor, National Productivity Council

## 6. Rationale for location selection

Site falling under plastic leakage zone near KatgharBasti, Katghar Slum Area, Prayagraj and it was observed that most of the waste generated from the nearby slum area on the river banks is in huge amount as the local peoples living in this slum area also dump their daily waste nearby the river bank.





**7. Area covered, with photos of pre-clean**

Approximately an area of 100 X 100 Sq.meters was selected and around 12 kg of total waste was collected. Pre Clean Up site photographs are as depicted below:



**Pre Clean Up Photographs**



**Pre Clean Up Photographs**

## 8. Methodology, in case there are any deviations from approved methodology.

Methodology adopted was as per the approved methodology of UNEP. However it was adopted as per river bank site scenario requirements

## 9. Photos during clean-up

A few Photographs depicting the clean up study are presented in **Annexure I**. The volunteer utilized the PPE arranged and enthusiastically addressed the task . Gunny bags were used for mixed waste collection that was strewn on the land area.

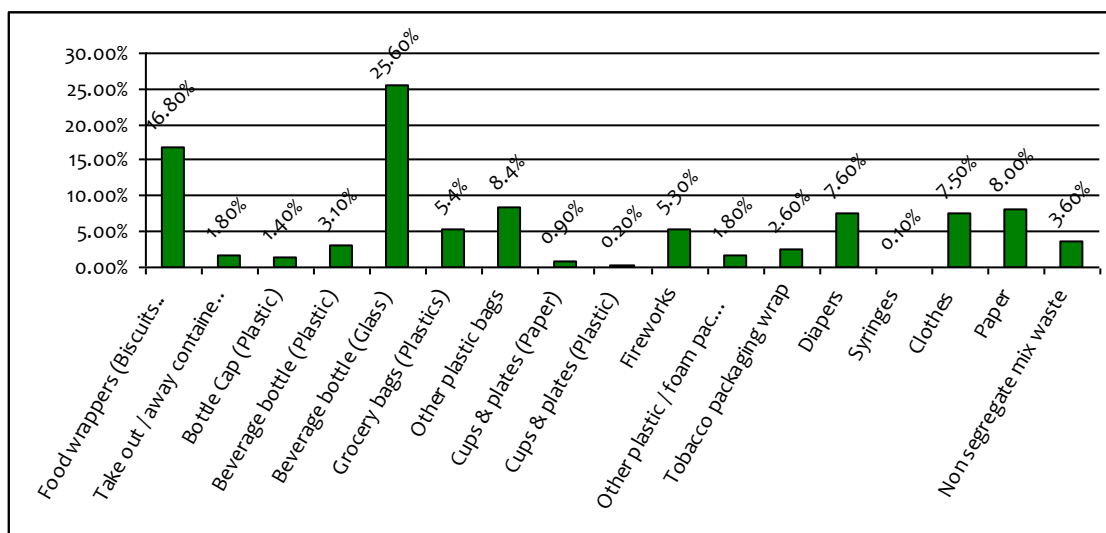
## 10. Photos post clean-up

Photographs depicting the clean up study are depicted in Annexure II.

## 11. Qualitative Outcomes of Cleanup

- 17 types of plastic waste categories identified were found during the Clean Up. Graph below depicts the categories.
- The site had a significant amount of multilayer packaging's such as packagings of biscuits, chips, namkeen; grocery bags (plastic); tobacco packagings; paper cups and plates.
- Highly efficient volunteers elders in counting the varieties of segregated plastics in the time of the study/clean up and macroplastic assessment.
- The very unusual trash found here are used crackers and their torn parts.

Graph below depicts the percentage of types of plastic w.r.t to total waste



17 types of waste categories were found during the Clean Up. Figure above depicts the categories

Majority of the waste categories found during Clean Up include Clothes, plastic bags, worship

materials, God sculptures etc

**12. Quantitative outcomes of clean-up**

Data on plastic waste segregated during clean up was recorded as per the trash sheet format of UNEP as provided in Annexure III.



## Annexure I: Photographs Captured during Clean Up Activity

### 1. Volunteer Group Photos with Personal Protective Equipments (PPE)



### 2. Waste Collection Bags Photos (Numbered)





### Volunteer Group Photo with Personal Protective Equipments



### Labeled and Numbered waste collection bags at Katghar Basti Location

#### Photos while waste collection at Yamuna River Bank at KatgharBasti, Prayagraj, India











**Mixed waste collection at KatgharBasti Area by Volunteers**



**Photos of Weighing Waste Bags**



**Weighing of Mixed Waste Collection Bags**



**Group Photos with bags full of waste (before Segregation)**



**Participants photos with collection bags filled with mixed waste at Yamuna River Bank,  
KatgharBasti Area, Prayagraj, India**





**Waste Collection bags before segregation**



**Photos while documenting and entering data into data sheet**



**Data recording and entry into data sheet**



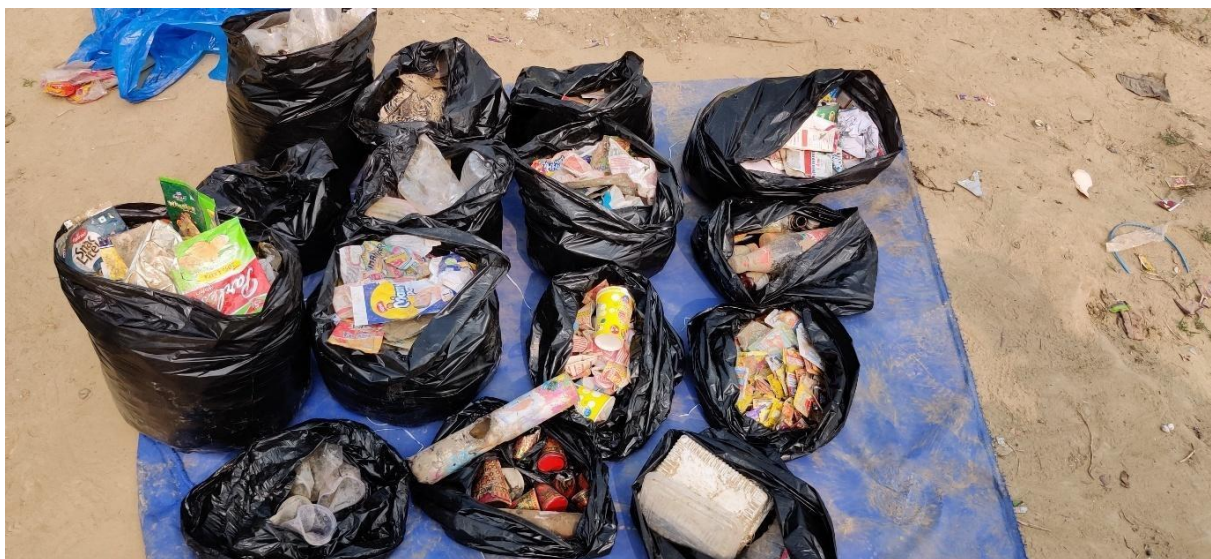
**Waste Segregation of Each Bags (One bag at a time)**



**Participants segregating waste on Blue Sheet as per UNEP Guidelines**



### Waste Segregated in Different Categories











Mixed Waste Segregated as per categories



## Annexure II: Pre and Post Clean Up Photographs

### Comparison of Pre-Clean up and Post Clean up

#### Photograph of Pre Clean Up



#### Photograph of post Clean Up





**Before and after picture of Yamuna River Bank near KatgharBasti site Part-1**



**Before and after picture of Yamuna River Bank near KatgharBasti site Part-2**







**Picture 13: Before and after picture of Yamuna River Bank near Katghar Basti site Part-3**

**Note: At some locations, due to site conditions only accessible areas were covered for cleanup. Otherwise, a large amount of waste can be collected (that can be around 60-70 kg).**



Annexure III: Trash data sheet for River Bank/Channel bank

## VOLUNTEER- and River Bank/Channel Bank Trash Data Form

Ocean, waterways and river bank/channel bank trash rank as serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris and from river basin threatens human health, wildlife, communities and economies around the world. The river and ocean face many challenges, but trash should not be one of them. River and Ocean trash is entirely preventable, and data we collect are part of the solution. The international cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

### SITE INFORMATION:

Clean up Site Name: **KatgharBasti, Katghar Slum Area, Prayagraj**

State: **UTTAR PRADESH**

Zone or Country: **INDIA**

Country: **INDIA**

Landmark: Yamuna River Bank near Ewing Christian College, Prayagraj, India.

| MOST UNUSUAL ITEM COLLECTED |  |
|-----------------------------|--|
| <b>Type of Clean up</b>     | <b>Number of Volunteers Working on this card</b>                                     |
| Land                        |  |
| Under water                 | children (under 12) <input type="text" value="-"/>                                   |
| Water                       | adults <input type="text" value="06"/> Date: <input type="text" value="03.11.2019"/> |
|                             |  |
|                             |  |

# TRASHCOLLECTED

UNEP Format adapted to site scenario adjacent to river/channel

**Citizen scientist:** *Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas*

| S.NO. | MOST LIKELY TO FIND ITEMS:   | Total No. of categorized plastics from 4 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 4 gunny bags of segregated plastics |
|-------|--|--|---|
| 1.    | Cigarette Butts  | -  | -   |
| 2.    | Multilayer Large and Medium Size for snacks, chips, namkeen, biscuits etc. | 403  | 1.9   |
| 3.    | Multilayer Sachets for Shampoo, Tobacco, tea, coffee, tomato sauce etc.    | -  | -   |
| 4.    | Multilayer Gift Wrapping Paper   | -  | -   |
| 5.    | Monolayer Plastic Packaging used for food, detergent etc.                  | -  | -   |
| 6.    | Synthetic woven bags used for cement packaging etc.                        | -  | -   |
| 7.    | Hard Plastic such as HDPE Pipes, HDPE bottles, HDPE tubes, tray, PVC etc.  | -  | -   |
| 8.    | Polythene bags (colored white, black)                                      | -  | -   |
| 9.    | Woven Polycloth Bags for Carrying Groceries/Vegetables                     | -  | -   |
| 10.   | Disposable paper cups coated with plastic film                             | 52   | 0.13  |
| 11.   | Disposable plastic Cups/Glasses  | -  | -   |
| 12.   | Packing used for water, milk etc.  | -  | -   |
| 13.   | Take Out/ Away containers (Plastic)  | 4  | 0.2   |
| 14.   | Take Out/ Away containers (Food)   | -  | -   |
| 15.   | Paper bags coated with plastic film  | -  | -   |
| 16.   | Bottle plastic caps  | 5  | 0.155   |
| 17.   | Grocery/Shopping Bags  | 179  | 1.565   |
| 18.   | Plastic tubes (Dant kanti,   | -  | -   |

| S.NO.                      | MOST LIKELY TO FIND ITEMS:                             | Total No. of categorized plastics from 4 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 4 gunny bags of segregated plastics |
|----------------------------|--|--|---|
|                            | Facewash cap)  |  |   |
| 19.                        | Flowers garlands, pooja samagri etc made up of Plastic | -  | -   |
| 20.                        | Black X ray film                                       | -  | -   |
| 21.                        | Plastic strings used for tying                         | -  | -   |
| 22.                        | Plastic Purse (Synthetic Leather)                      | -  | -   |
| <b>FISHING GEAR</b>        |  |  |   |
| 1.                         | Fishing Buoys pots & traps:                            | -  | -   |
| 2.                         | Fishing Net & Pieces:                                  | -  | -   |
| 3.                         | Fishing Line (1 Yard/ meter)= 1 piece                  | -  | -   |
| 4.                         | Rope (1 Yard/ meter)= 1 piece                          | -  | -   |
| <b>OTHER TRASH</b>         |  |  |   |
| 1                          | Appliances (refrigeration, washers etc)                | -  | -   |
| 2                          | Balloons   | -  | -   |
| 3                          | Cigar tips   | -  | -   |
| 4                          | Cigarette Lighters                                     | -  | -   |
| 5                          | Cigarette Packets                                      |  |   |
| 6                          | Construction Materials with plastic component          | -  | -   |
| 7                          | Fireworks(Lamination made of plastic film)             | 11   | 0.6   |
| 8                          | Tires & Rubber   | -  | -   |
| 9                          | Footwear   | -  | -   |
| 10                         | Beverage Bottle (plastic) including PET Bottles        | 20   | 0.35  |
| 11                         | Foams  | -  | -   |
| 12                         | Rubber Ball  | -  | -   |
| 13                         | Straws   | -  | -   |
| 14                         | Cups & Plates (thermocol)                              | -  | -   |
| 15                         | Thermocol & Other Trash                                | -  | -   |
| 16                         | Toys, Pens and Toothbrush                              |  |   |
| <b>PACKAGING MATERIALS</b> |  |  |   |
| 1.                         | 6- Packs Holders                                       | -  | -   |
| 2.                         | Other Plastic/Foam Packaging                           | 1  | 0.2   |
| 3.                         | Other Plastic Bottle                                   | -  | -   |
| 4.                         | Strapping Bands  | -  | -   |
| 5.                         | Medicine Packaging                                     | -  | -   |



| S.NO.                              | MOST LIKELY TO FIND ITEMS:  | Total No. of categorized plastics from 4 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 4 gunny bags of segregated plastics |
|------------------------------------|---|--|---|
| 6.                                 | Garment/Textile<br>Packaging Material                               | -  | -   |
| 7.                                 | Low density plastic packaging material (Diapers, Sanitary packs)    | -  | -   |
| <b>PERSONAL HYGIENE</b>            |   |  |   |
| 1.                                 | Condoms   | -  | -   |
| 2.                                 | Diapers   | 16   | 0.86  |
| 3.                                 | Syringes  | 2  | 0.01  |
| 4.                                 | Tampons/Tampon Applicators  | -  | -   |
| 5.                                 | Sanitary napkins/pads   | -  | -   |
| <b>TINY TRASH LESS THAN 2.5 cm</b> |   |  |   |
| 1.                                 | Foam pieces   | -  | -   |
| 2.                                 | Glass pieces  | -  | -   |
| 3.                                 | Plastic pieces  | -  | -   |
| <b>ITEMS OF LOCAL CONCERN</b>      |   |  |   |
| 1.                                 | Glazed Paper having plastic lamination                              | -  | -   |
| 2.                                 | Fragmented/ torn/ dusty mixed plastic waste                         | -  | -   |
| 3.                                 | Synthetic Jackets   | -  | -   |
| 4.                                 | Synthetic Bags  | -  | -   |
| 5.                                 | Synthetic Belt pouch  | -  | -   |
| 6.                                 | Synthetic   | 10   | 0.855   |
|                                    | Clothes/Clothes   |  |   |
| 7.                                 | Synthetic flowers   | -  | -   |
| 8.                                 | Pan shop synthetic sheet  | -  | -   |
| 9.                                 | Ritual Material   | -  | 0.405   |
| 10.                                | God Sculptures having synthetic cloth material & plastic ornaments. | 126  | 0.905   |
| 11.                                | Plastic Sheet & other thicker plastic bags. Color-Black & White     | -  | -   |
| 12.                                | Milky white bottles for carrying gangajal                           | -  | -   |
| 13.                                | Tobacco, Pan Masala Sachet/Wrappers                                 | 357  | 0.297   |
| 14.                                | Silver foil disposable plates & bowls having plastic lamination     | -  | -   |
| <b>DEAD/INJURED ANIMAL</b>         |   | <b>STATUS</b>  | <b>ENTANGLED</b>  |
|                                    |   |  | <b>TYPE OF ENTANGLEMENT ITEM</b>  |

| S.NO. | MOST LIKELY TO FIND ITEMS: | Total No. of categorized plastics from 4 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 4 gunny bags of segregated plastics |
|-------|----------------------------|--|---|
| -     | Dead or injured            | Yes or No  | -   |

| CLEANUP SUMMARY  |       |       |
|--|-------|-------|
| Number of Gunny Bags Filled with mixed trash:  | 4     | Nos   |
| Number of Gunny Bags of separated plastic:   | 4     | Nos   |
| Number of Gunny Bags opened for segregation of type of plastics:   | 4     | Nos   |
| Weight of Collected:   | 8.432 | kg    |
| Weight of Plastic Waste from 4 Gunny Bags:   | 8.432 | kg    |
| Weight of Mixed Trash from 4 Gunny Bags:   | 8.432 | kg    |
| Weight of Plastic from 4 Gunny Bags used for segregation of types of plastic:                            | 8.432 | kg    |
| Area cleaned:  | 10000 | Sq. m |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 4 number of bags) | 100   | %     |

**A report on**  
**"Clean Up Activity" near Amitabh Bachchan Puliya**  
**Salori Village - Prayagraj"**

dated: 07<sup>th</sup> January, 2020



*under*

***Promotion of Counter Measures against marine  
plastic litter in South East Asia and India - UNEP***



***Submitted by:***

**National Productivity Council**

(Under Ministry of Commerce & Industry, Govt. of India)

**Lodi Road, New Delhi**



## Table of Contents

|   |            |
|---|------------|
| <b>Prayagraj, Near Amitabh Bachchan Puliya, Salori Village, Cleanup Report – 8.....</b> | <b>183</b> |
| 1. Location.....  | 183        |
| 2. Time and Date .....  | 184        |
| 3. Participants/organizations.....  | 184        |
| 4. Activity leader.....   | 184        |
| 5. Rationale for location selection .....   | 184        |
| 6. Area demarcated for Clean Up, with photos of Pre-Clean Up .....                      | 184        |
| 7. Methodology.....   | 186        |
| 8. Photographs during clean-up.....   | 186        |
| 9. Photographs of post Clean-Up.....  | 186        |
| 10. Qualitative aspects of clean-up .....   | 186        |
| 11. Quantitative features of clean-up .....   | 188        |
| Annexure I: Photographs During Cleanup Activity .....                                   | 189        |
| Annexure II: Pre & Post Cleanup Photographs .....                                       | 190        |
| Annexure III: Volunteer River Bank Trash Data Form .....                                | 191        |
| Annexure IV: Cleanup Team .....   | 195        |

## Prayagraj, Near Amitabh Bachchan Puliya, Salori Village, Cleanup Report – 8

### 1. Location

**Clean Up Site Name:** Near Amitabh Bachchan puliya, Salori Village, Govindpur Prayagraj.

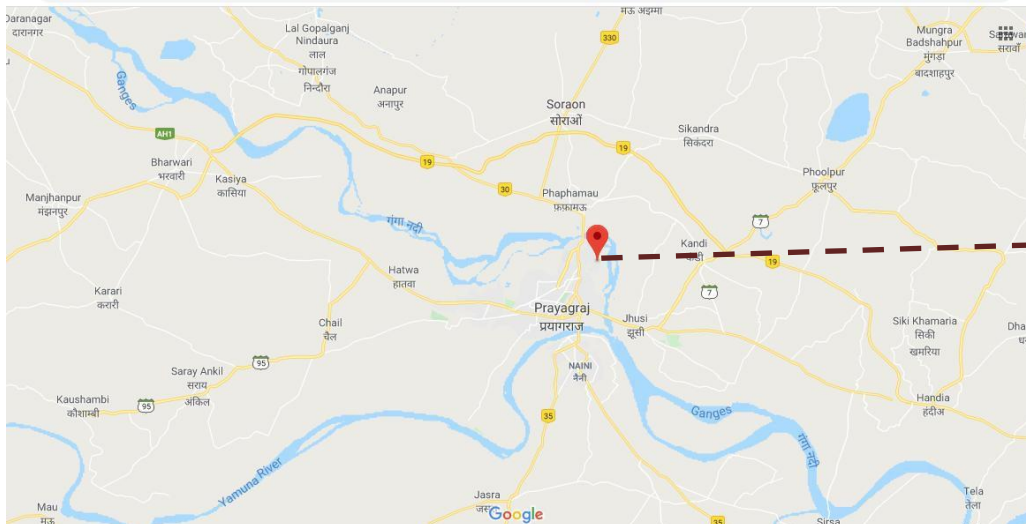
**State:** Uttar Pradesh

**Country:** India

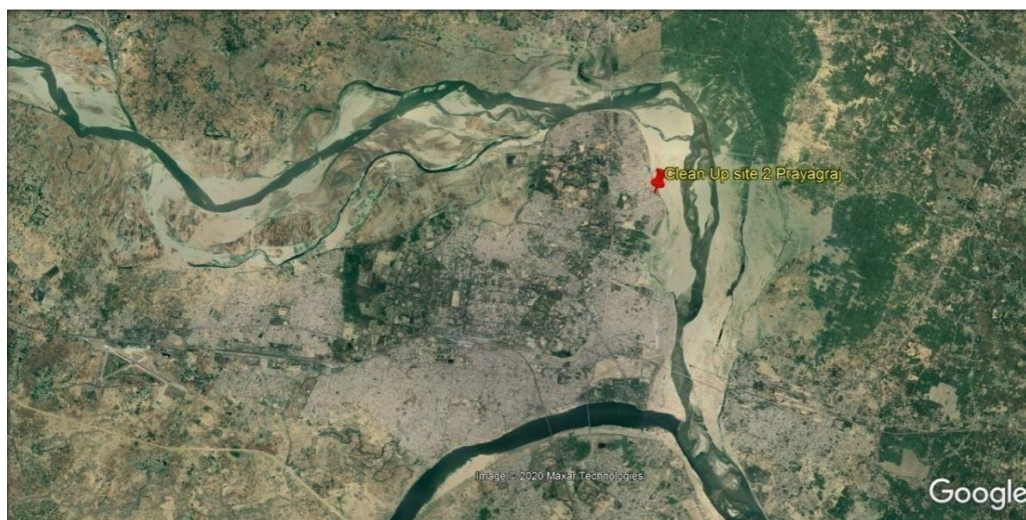
**Landmark:** Near Amitabh Bachchan puliya, Salori Village, Govindpur, Prayagraj

**Latitude and Longitude** – 25.483110,81.8795041

**Shortest displacement distance from water flow:** The site is adjacent to Salori Nala around 20 meters away from nala water stream and at approximate distance 800 meters from Ganga river's current water flow. Salori nala is untapped and wastewater leads to the river.



Clean Up Site 2 Prayagraj



## 2. Time and Date

**Time** : 09:00 am – 3:00 pm

**Date** : 7<sup>th</sup> January 2020

## 3. Participants/organizations

**Participating Organisations:** National Productivity Council, Development Alternatives (DA), Society for Welfare and Advancement of Rural Generations (SWARG), Allahabad  
Details of Clean Up team is attached as **Annexure- IV**.

## 4. Activity leader

- Technical Team from National Productivity Council (NPC): Dr. Harsh Thukral (Environment), Ujjwal Narain (Environment), S.K. Jain (Environment), Mr. Himendra Singh (Environment)
- Partner Organizations: Ms. Aakriti, Ms. Suhani Gupta and Mr. Ashutosh from Developmental Alternatives (DA), Shri Anil Yadav, Mr. Neeraj Pandey and Mr. Yogendra from SWARG, Prayagraj, and respective team.

## 5. Rationale for location selection

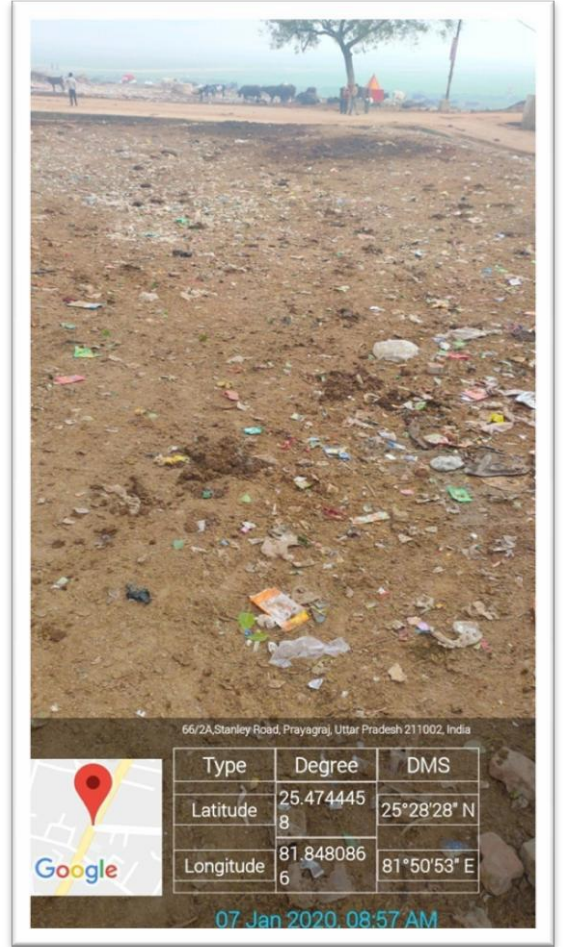
Clean Up Site is located near the Salori nala which passes under Amitabh Bachchan culvert and joins River Ganga finally. Clean Up site is surrounded with religious places such as temple and a residential colony etc.

Also it has been informed by the local residents that during monsoon season Ganga river water reaches beyond the demarked area within the Clean Up site and waste trash in this area gets washed off and carried to the Ganga river.

## 6. Area demarcated for Clean Up, with photos of Pre-Clean Up

An area of approximately 1380sq.meters (46m x 30m) was selected for Clean Up which was marked on the ground using chalk powder and measuring tape & around 358 kg of total mixed waste was collected by volunteers. The Pre Clean Up site photographs are depicted below:





Pre Clean Up Photographs

## **7. Methodology**

Methodology adopted was as per the approved methodology of UNEP. However it was adapted as per river bank site requirements.

## **8. Photographs during clean-up**

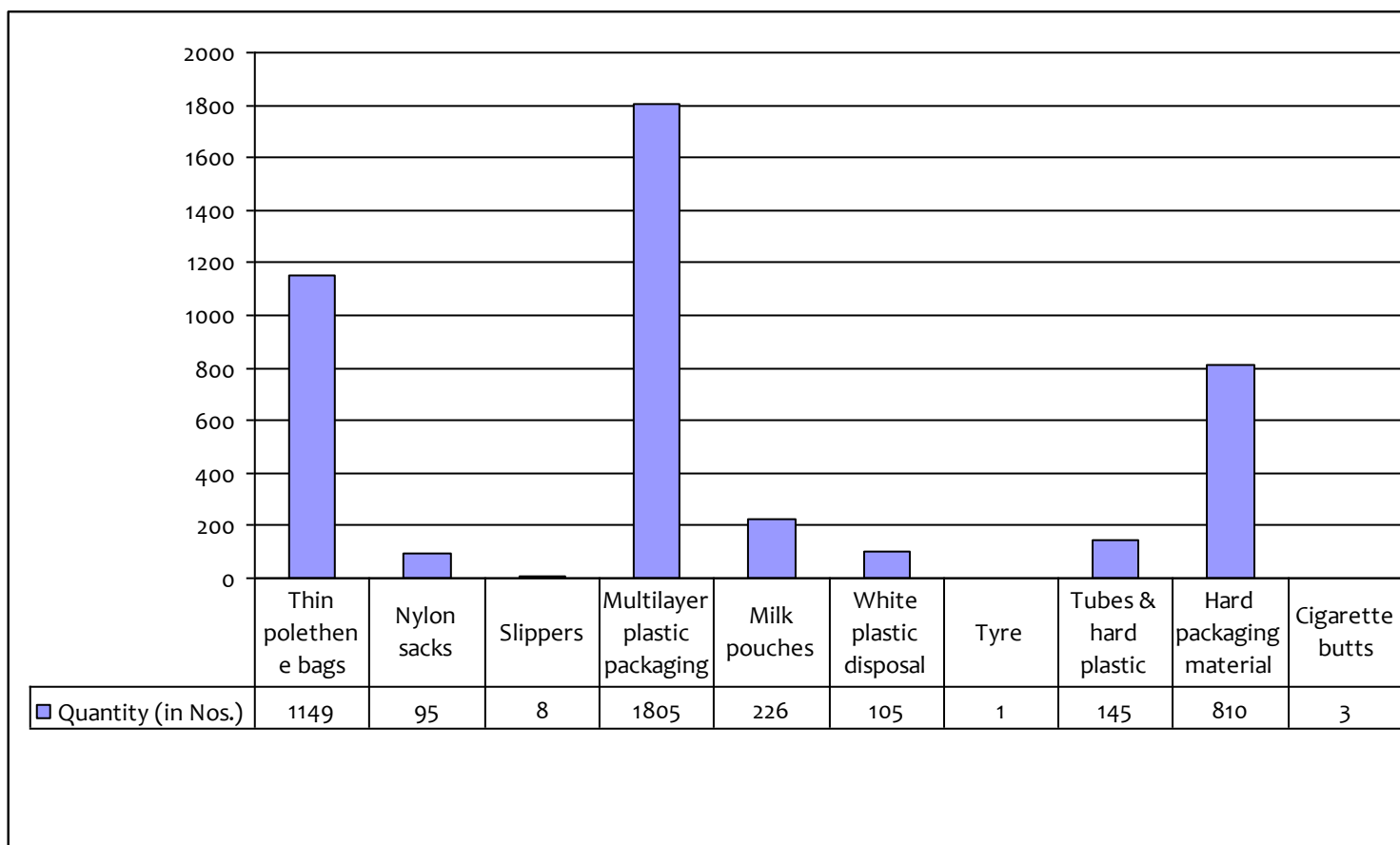
A few photographs depicting the clean up study are presented in **Annexure I**. The volunteers utilized the PPE arranged and enthusiastically addressed the task. Gunny bags were used for mixed waste collection that was strewn on the land area. Water flowing in Ganga river near Clean Up area is from North to South direction. The Salori nala reaches the Ganga river.

## **9. Photographs of post Clean-Up.**

Post Clean Up Photographs are depicted in **Annexure II**.

## **10. Qualitative aspects of clean-up**

- a) 10 types of plastic waste categories were found during the Clean Up. Figure- 1 below depicts the categories.
- b) Majority of the plastic waste types found during Clean Up includes thin polythene bags, Multilayer packaging, hard packaging, milk pouches etc.
- c) The special feature at this site is the high percentage of trash and plastic collected per unit square meter of the area, and a significant amount of polybags/polythene bags are torn pieces/portions.
- d) Much of the trash has been found engraved in the top soil layer. As per the people from nearby locality, during flooding the Ganga water level reaches above to Clean Up area level. The receding flood water leaves behind plastic waste (brought along with flood water) and some of it sets in the top soil layer of Clean Up area. Accordingly That is why % Plastic Waste vis a vis Mixed Waste is relatively low.



**Figure 1: Types of Plastics found in Cleannup – 1 Near Salori Village, Prayagraj, U.P.**



## 11. Quantitative features of clean-up

Data on plastic waste segregated during clean up was recorded as per the adapted trash data sheet format of UNEP as provided in **Annexure III**.

At this site in mass terms about 37% was plastics was from mixed waste that was recovered as part of Clean Up exercise. In the area based density plastic that was collected on 1380m<sup>2</sup> was found to be 97gm/sqm. and density of mixed waste collected was 260gm/sqm.

Annexure I: Photographs During Cleanup Activity

Photographs Captured during Clean Up Activity



Volunteer Group photographs with Personal Protective Equipment (PPE)



Temporary Shed for storing logistics materials



Collection of mixed waste



Segregation of plastic waste

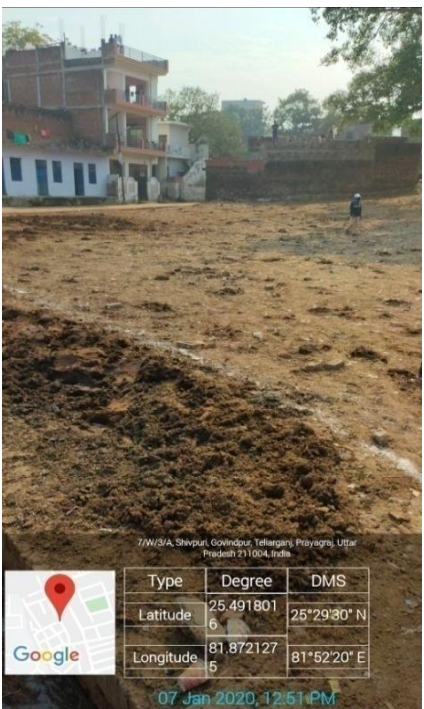


**Annexure II: Pre & Post Cleanup Photographs**

**Pre & Post Clean Up Photographs**



**Pre Clean Up**



**Post Clean Up**



**Pre Clean Up**



**Post Clean Up**

At the end, all the collected waste is handed over to Prayagraj Nagar Nigam for final disposal.



### Annexure III: Volunteer River Bank Trash Data Form

## VOLUNTEER- River Bank Trash Data Form

Ocean and waterways including river trash rank as one of the most serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris threatens human health, wildlife, communities and economies around the world. The ocean faces many challenges, but trash should not be one of them. Ocean trash is entirely preventable, and data you collect are part of the solution. The international cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

### Site Information:

Clean up Site Name: **near Amitabh Bachchan Puliya, Govindpur, Salori Village Prayagraj, U.P., INDIA**

State: **UTTAR PRADESH**

Zone or Country: **INDIA**

Country: **INDIA**

Landmark: **near Amitabh Bachchan Puliya, Govindpur, Salori Village, Prayagraj**

**MOST UNUSUAL ITEM COLLECTED: Plastic tubes and hard plastic materials such as bottle caps**

**Land**



**Under Ground Water**

**Water**

**Adult**

**>60**

**Children under 12**

**Date**

**07.01.2020**

# TRASHCOLLECTED

**Citizen scientist:** Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas

| S. No.       | MOST LIKELY TO FIND ITEMS:   | Total No. of categorized plastics from 08 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 08 gunny bags of segregated plastics |
|--------------|--|---|--|
| 1.           | Cigarette Butts  | 3   | 0.1  |
| 2.           | Multilayer Large and Medium Size for snacks, chips, namkeen, biscuits etc. | 7220  | 26.928   |
| 3.           | Multilayer Sachets for Shampoo, Tobacco, tea, coffee, tomato sauce etc.    | 3240  | 8.176  |
| 4.           | Multilayer Gift Wrapping Paper   | -   | -  |
| 5.           | Monolayer Plastic Packaging used for food, detergent etc.                  | -   | -  |
| 6.           | Synthetic woven bags used for cement packaging etc.                        | 380   | 49.328   |
| 7.           | Hard Plastic such as HDPE Pipes, HDPE bottles, HDPE tubes, tray, PVC etc.  | 580   | 4.8  |
| 8.           | Polythene bags (colored white, black)                                      | 4596  | 26.928   |
| 9.           | Woven Polycloth Bags for Carrying Groceries/Vegetables                     | -   | -  |
| 10.          | Disposable paper cups coated with plastic film                             | 420   | 1.8  |
| 11.          | Disposable plastic Cups/Glasses  | -   | -  |
| 12.          | Packing used for water, milk etc.  | 904   | 6.6  |
| 13.          | Take Out/ Away containers (Plastic)  | -   | -  |
| 14.          | Take Out/ Away containers (Food)   | -   | -  |
| 15.          | Paper bags coated with plastic film  | -   | -  |
| 16.          | Bottle plastic caps  | -   | -  |
| 17.          | Grocery/Shopping Bags  | -   | -  |
| 18.          | Plastic tubes (Dant kanti, Facewash cap)                                   | -   | -  |
| 19.          | Flowers garlands, pooja samagri etc made up of Plastic                     | -   | -  |
| 20.          | Black X ray film   | -   | -  |
| 21.          | Plastic strings used for tying   | -   | -  |
| 22.          | Plastic Purse (Synthetic Leather)  | -   | -  |
| FISHING GEAR |  |   |  |
| 1.           | Fishing Buoys pots & traps:  | -   | -  |
| 2.           | Fishing Net & Pieces:  | -   | -  |
| 3.           | Fishing Line (1 Yard/ meter)= 1 piece                                      | -   | -  |
| 4.           | Rope (1 Yard/ meter)= 1 piece  | -   | -  |

| S. No.                      | MOST LIKELY TO FIND ITEMS:                                       | Total No. of categorized plastics from o8 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from o8 gunny bags of segregated plastics |
|-----------------------------|--|---|--|
| OTHER TRASH                 |  |   |  |
| 1                           | Appliances (refrigeration, washers etc)                          | -   | -  |
| 2                           | Balloons   | -   | -  |
| 3                           | Cigar tips   | 3   | 0.1  |
| 4                           | Cigarette Lighters   | -   | -  |
| 5                           | Cigarette Packets  |   |  |
| 6                           | Construction Materials with plastic component                    | -   | -  |
| 7                           | Fireworks(Lamination made of plastic film)                       | -   | -  |
| 8                           | Tyres & Rubber   | 1   | 1  |
| 9                           | Footwear   | 32  | 4  |
| 10                          | Beverage Bottle (plastic) including PET Bottles                  | -   | -  |
| 11                          | Foams  | -   | -  |
| 12                          | Rubber Ball  | -   | -  |
| 13                          | Straws   | -   | -  |
| 14                          | Cups & Plates (thermocol)  | -   | -  |
| 15                          | Thermocol & Other Trash  | -   | -  |
| 16                          | Toys, Pens and Toothbrush  |   |  |
| PACKAGING MATERIALS         |  |   |  |
| 1.                          | 6- Packs Holders   | -   | -  |
| 2.                          | Other Plastic/Foam Packaging                                     | -   | -  |
| 3.                          | Other Plastic Bottle   | -   | -  |
| 4.                          | Strapping Bands  | -   | -  |
| 5.                          | Medicine Packaging   | -   | -  |
| 6.                          | Garment/Textile Packaging Material                               | -   | -  |
| 7.                          | Low density plastic packaging material (Diapers, Sanitary packs) | -   | -  |
| PERSONAL HYGIENE            |  |   |  |
| 1.                          | Condoms  | -   | -  |
| 2.                          | Diapers  | -   | -  |
| 3.                          | Syringes   | -   | -  |
| 4.                          | Tampons/Tampon Applicators                                       | -   | -  |
| 5.                          | Sanitary napkins/pads  | -   | -  |
| TINY TRASH LESS THAN 2.5 cm |  |   |  |
| 1.                          | Foam pieces  | -   | -  |
| 2.                          | Glass pieces   | -   | -  |
| 3.                          | Plastic pieces   | -   | -  |
| ITEMS OF LOCAL CONCERN      |  |   |  |
| 1.                          | Glazed Paper having plastic lamination                           | -   | -  |
| 2.                          | Fragmented/ torn/ dusty mixed plastic waste                      | -   | -  |
| 3.                          | Synthetic Jackets  | -   | -  |
| 4.                          | Synthetic Bags   | -   | -  |
| 5.                          | Synthetic Belt pouch   | -   | -  |
| 6.                          | Synthetic Clothes/Clothes  | -   | -  |



| S. No.              | MOST LIKELY TO FIND ITEMS:  | Total No. of categorized plastics from 08 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 08 gunny bags of segregated plastics |                           |
|---------------------|---|---|--|---------------------------|
| 7.                  | Synthetic flowers   | -   | -  |                           |
| 8.                  | Pan shop synthetic sheet  | -   | -  |                           |
| 9.                  | Ritual Material   | -   | -  |                           |
| 10.                 | God Sculptures having synthetic cloth material & plastic ornaments. | -   | -  |                           |
| 11.                 | Plastic Sheet & other thicker plastic bags. Color-Black & White     | -   | -  |                           |
| 12.                 | Milky white bottles for carrying gangajal                           | -   | -  |                           |
| 13.                 | Tobacco, Pan Masala Sachet/Wrappers                                 | -   | -  |                           |
| 14.                 | Silver foil disposable plates & bowls having plastic lamination     | -   | -  |                           |
| DEAD/INJURED ANIMAL |   | STATUS  | ENTANGLED  | TYPE OF ENTANGLEMENT ITEM |
| -                   |   | Dead or injured   | Yes or No  | -                         |

| CLEANUP SUMMARY   |         |       |
|---|---------|-------|
| Number of Gunny Bags Filled with mixed trash:   | 32      | Nos   |
| Number of Gunny Bags of separated plastic:  | 32      | Nos   |
| Number of Gunny Bags opened for segregation of type of plastics:  | 8       | Nos   |
| Weight of Mixed Trash Collected:  | 358.958 | kg    |
| Weight of Plastic Waste from 32 Gunny Bags:   | 133.698 | kg    |
| Weight of Mixed Trash from 32 Gunny Bags:   | 358.958 | kg    |
| Weight of Plastic from 8 Gunny Bags used for segregation of types of plastic:                             | 43.402  | kg    |
| Area cleaned:   | 1380    | Sq. m |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 32 number of bags) | 37.25   | %     |

#### Annexure IV: Cleanup Team

| S. No. | Name of Technical Team | Organization                  |
|--------|------------------------|-------------------------------|
| 1      | Dr. Harsh Thukral      | National Productivity Council |
| 2      | Mr. S.K. Jain          | National Productivity Council |
| 3      | Mr. Ujjwal Narayana    | National Productivity Council |
| 4      | Mr. Himendra Singh     | National Productivity Council |
| 5      | Mr. Apoorva Aggarwal   | National Productivity Council |

| S. No. | Name of Development Alternative Team | Organization            |
|--------|--------------------------------------|-------------------------|
| 1      | Ms. Aakriti Uttam                    | Development Alternative |
| 2      | Ms. Suhani Gupta                     | Development Alternative |

| Registration sheet of Volunteers for Clean Up Activity at Amitabh Bachhan Drain, Allahabad on<br>08.01.2020 |                             |                           |  |
|---|-----------------------------|---------------------------|--|
| S. No.  | Name of Volunteer           | Contact No.               | Email ID   |
| 1   | Mr. Ankit Tripathi          | 8115602220                | -  |
| 2   | Mr. Anshu Tripathi          | 8423637762                | -  |
| 3   | Mr. Ankit Tripathi          | 8840994552                | <a href="mailto:ankittri@gmail.com">ankittri@gmail.com</a>               |
| 4   | Mr. Rahul Kumar Pandey      | 7654818033                | -  |
| 5   | Mr. Vipul Kumar Yadav       | 9170609032                | -  |
| 6   | Mr. Rohit Kumar Pandey      | 6203445895                | -  |
| 7   | Mr. Ajay Kumar Pandey Baagi | 9919610821                | -  |
| 8   | Mr. Vinay Kharwar           | 9140332502                | -  |
| 9   | Mr. Arpit Kesharwani        | 9793832380                | -  |
| 10  | Ms. Nidhi Pandey            | 8318757244                | -  |
| 11  | Ms. Archana Kumari          | 7398684043                | -  |
| 12  | Ms. Bindiya Verma           | 9140024423                | <a href="mailto:bindiyarashmit@gmail.com">bindiyarashmit@gmail.com</a>   |
| 13  | Ms. Shradha Mishra          | 6306321164                | -  |
| 14  | Mr. Gyan Choudhari          | 9721325386                | -  |
| 15  | Mr. Ashish Singh            | 9415668432                | <a href="mailto:Ramesvaram32801@gmail.com">Ramesvaram32801@gmail.com</a> |
| 16  | Mr. Mayank Pandey           | 8423642245                | <a href="mailto:Pandeysippu71@gmail.com">Pandeysippu71@gmail.com</a>     |
| 17  | Mr. Surendra Kumar Pandey   | 9936731136,<br>6392663817 | <a href="mailto:surendrapandey@gmail.com">surendrapandey@gmail.com</a>   |
| 18  | Mr. Pankaj Kumar Pandey     | 9795529055                | <a href="mailto:Pspandey74@gmail.com">Pspandey74@gmail.com</a>           |
| 19  | Mr. Gayatri Nandan Pandey   | 9935313448                | <a href="mailto:Gnpandey2109@gmail.com">Gnpandey2109@gmail.com</a>       |
| 20  | Ms. Shusila                 | -                         | -  |
| 21  | Ms. Ram Kali                | -                         | -  |

| Registration sheet of Volunteers for Clean Up Activity at Amitabh Bachhan Drain, Allahabad on<br>08.01.2020 |                          |             |  |
|---|--------------------------|-------------|--|
| S. No.  | Name of Volunteer        | Contact No. | Email ID   |
| 22  | Mr. Dhananjay Tripathi   | 9260935075  | <a href="mailto:ghananjaykumartripathi@gmail.com">dhananjaykumartripathi@gmail.com</a> |
| 23  | Mr. Amar Singh           | 9956762939  | -  |
| 24  | Mr. Shiv Prasad Tripathi | 8115602220  | <a href="mailto:Shivtripathi1973@gmail.com">Shivtripathi1973@gmail.com</a>             |
| 25  | Mr. Himanshu Tripathi    | 9415584824  | <a href="mailto:Himanshutripathi840@gmail.com">Himanshutripathi840@gmail.com</a>       |
| 26  | Mr. Vishal Pandav        | 8546051161  | <a href="mailto:Vishnufrend4@gmail.com">Vishnufrend4@gmail.com</a>                     |
| 27  | Mr. Ravi Kumar Vanshkar  | -           | -  |
| 28  | Mr. Dashrath             | 767883289   | -  |
| 29  | Mr. Chotelal             | -           | -  |
| 30  | Mr. Suraj Vanshkar       | 7052589811  | -  |
| 31  | Mr. Deepu Vanshkar       | -           | -  |
| 32  | Mr. Sudesh Kumar         | 8004349267  | -  |
| 33  | Ms. Lalli                | -           | -  |
| 34  | Mr. Mallu                | -           | -  |
| 35  | Mr. Ramlal               | -           | -  |
| 36  | Mr. Guddu                | -           | -  |
| 37  | Mr. Vimla                | -           | -  |
| 38  | Mr. Naresh               | -           | -  |
| 39  | Mr. Raju                 | -           | -  |
| 40  | Ms. Choti                | -           | -  |
| 41  | Ms. Roopa                | -           | -  |
| 42  | Ms. Seema                | -           | -  |
| 43  | Mr. Anand                | 9889159770  | <a href="mailto:Panand.049@mail.com">Panand.049@mail.com</a>                           |
| 44  | Mr. Prince               | 9670737113  | -  |
| 45  | Mr. Radheyshyam          | -           | -  |
| 46  | Mr. Murli dhar           | 7905161536  | -  |
| 47  | Mr. Nanak Vanshkara      | -           | -  |
| 48  | Ms. Lakshmi              | -           | -  |
| 49  | Mr. Chorkiya             | -           | -  |
| 50  | Mr. Mithai Lal           | -           | -  |
| 51  | Mr. Sohan Lal            | 9450604159  | <a href="mailto:sohanlalchai@gmail.com">sohanlalchai@gmail.com</a>                     |
| 52  | Mr. Kunwar Bahadur       | 9993405094  | -  |
| 53  | Mr. Sunil Kumar          | 9936449376  | -  |



| Registration sheet of Volunteers for Clean Up Activity at Amitabh Bachhan Drain, Allahabad on<br>08.01.2020 |                         |             |  |
|---|-------------------------|-------------|--|
| S. No.  | Name of Volunteer       | Contact No. | Email ID   |
| 54  | Mr. Shyam Brishq        | 9838268943  | -  |
| 55  | Mr. Sunil Pal           | 9451173379  | -  |
| 56  | Mr. Pawan Kumar Dwivedi | 8887892360  | <a href="mailto:Dwivedipawan.008@gmail.com">Dwivedipawan.008@gmail.com</a> |
| 57  | Mr. Anil Kumar Shukla   | 6387590698  | -  |
| 58  | Mr. Niraj Kumar Pandey  | 8840658592  | <a href="mailto:Saikripa0532@gmail.com">Saikripa0532@gmail.com</a>         |
| 59  | Mr. Sanju               | 8601972031  | -  |
| 60  | Mr. Raj bahadur Yadav   | -           | -  |
| 61  | Mr. Y. K. Pandey        | 8318757244  | <a href="mailto:pandeyyk@gmail.com">pandeyyk@gmail.com</a>                 |

**A report on**  
**"Clean Up Activity at Vashi Mumbai"**

dated: 2<sup>nd</sup> November, 2019



*under*

***Promotion of Counter Measures against marine  
plastic litter in South East Asia and India - UNEP***



***Submitted by:***

**National Productivity Council**

(Under Ministry of Commerce & Industry, Govt. of India)

**Lodi Road, New Delhi**

## Table of Contents

|  |            |
|--|------------|
| <b>Mumbai, Vashi, Cleanup Report – 9 .....</b>                                   | <b>200</b> |
| <br>   |            |
| 1. Location.....   | 200        |
| 2. Time and Date .....   | 201        |
| 3. Participants/organizations.....   | 201        |
| 4. Clean Up Team .....   | 201        |
| 5. Activity leaders .....  | 201        |
| 6. Rationale for location selection .....  | 202        |
| 7. Area covered, with photos of pre-clean .....                                  | 202        |
| 8. Methodology, in case there are any deviations from approved methodology. .... | 202        |
| 9. Photos during clean-up.....   | 202        |
| 10. Photos of post clean-up.....   | 202        |
| 11. Qualitative outcomes of clean-up .....                                       | 203        |
| 12. Quantitative outcomes of clean-up .....                                      | 203        |
| Annexure I: Photographs captured during Clean-Up .....                           | 204        |
| Annexure II: Pre and Post Clean Up sites.....                                    | 208        |
| Annexure III: Volunteer Ocean Trash Data Form .....                              | 209        |



## Mumbai, Vashi, Cleanup Report – 9

### 1. Location

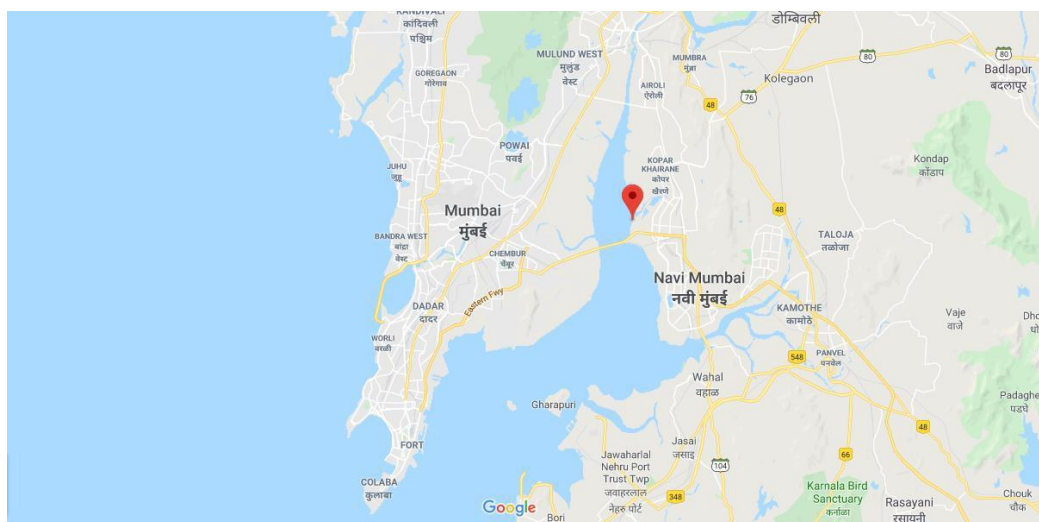
**Clean Up Site Name:** Vashi, Mumbai.

**State:** Maharashtra

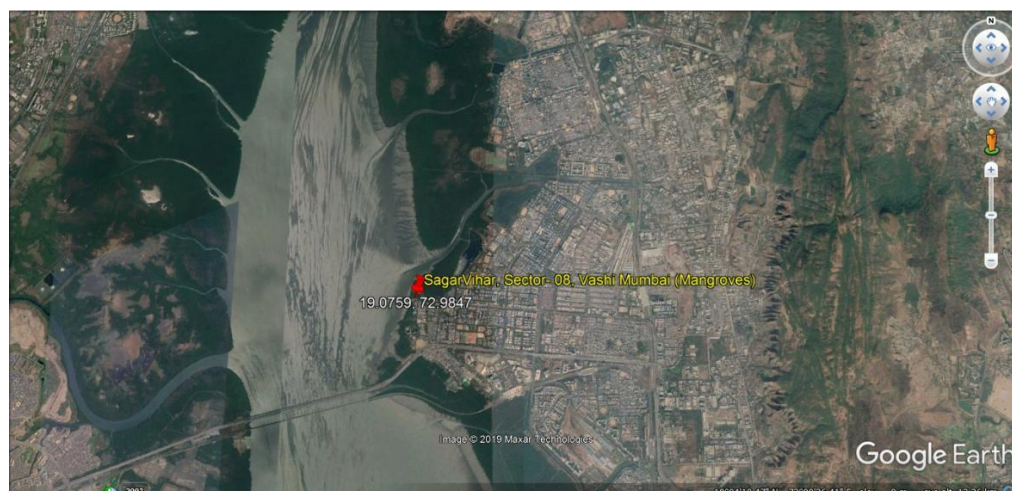
**Country:** India

**Landmarks and Latitude and Longitude:**

| S. No. | Location  | Latitude | Longitude |
|--------|---|----------|-----------|
| 01     | Sagar Vihar, Sector 08, Vashi, Mumbai (Mangroves) | 19.0759  | 72.9847   |



### Clean Up Site, Vashi, Mumbai



## 2. Time and Date

**Time** : 08.30 am – 01.00 pm

**Date** : 2<sup>nd</sup> November, 2019

## 3. Participants/organizations

Participating Organisation: National Productivity Council and TERI

## 4. Clean Up Team

| Location / Team Detail                               | Team A: Sagar Vihar, Sector 08, Vashi, Mumbai |
|--|---|
|  | Type of Clean up: <b>Land (Mangroves)</b>     |
| <b>Team Leader</b>                                   | Ms. Anjali Parasnis, TERI                     |
| <b>Collection Team (Clean up)</b>                    | Mrs. Verma, Volunteer                         |
|  | Ms. Pranali Chavan, TERI                      |
|  | Mr. Prakash, Volunteer                        |
|  | Mr. Verma, Volunteer                          |
|  | Mr. Chaitanya, Volunteer                      |
|  | Mr. Ronak, Volunteer                          |
|  | Ms. Anushka, Volunteer                        |
|  | Ms. Arunima, Volunteer                        |
|  | Mr. Bhupesh, Volunteer                        |
|  | Mr. Ninad, Volunteer                          |
| <b>Survey Team (Segregation and Data Collection)</b> | Mr. Manish Asadekar, TERI                     |
|  | Ms. Vaishnavi, TERI                           |
|  |   |
|  | Mr. Avinash, Volunteer                        |
| <b>Photo Team</b>                                    | Sh. Lalit Joshi, TERI, Sh.                    |
|  | Pranay, Volunteer                             |

## 5. Activity leaders

Voluntarily Supported Leader: Ms. Anjali Parasnis, TERI

Technical Guide Leader : Mr. Lalit Kamde, National Productivity Council

## 6. Rationale for location selection

Clean Up Site is falls near the sea shore.

## 7. Area covered, with photos of pre-clean

Approximately an area of 10 X 10 Sq.meters was selected and around 131 kg of total waste was collected. Pre Clean Up site photographs are as depicted below:



**Sagar Vihar, Sector 08, Vashi, Mumbai (Mangroves)**

## 8. Methodology, in case there are any deviations from approved methodology.

Methodology adopted was same as per the approved methodology of UNEP.

## 9. Photos during clean-up

Photographs depicting the clean up study are depicted in **Annexure I**.

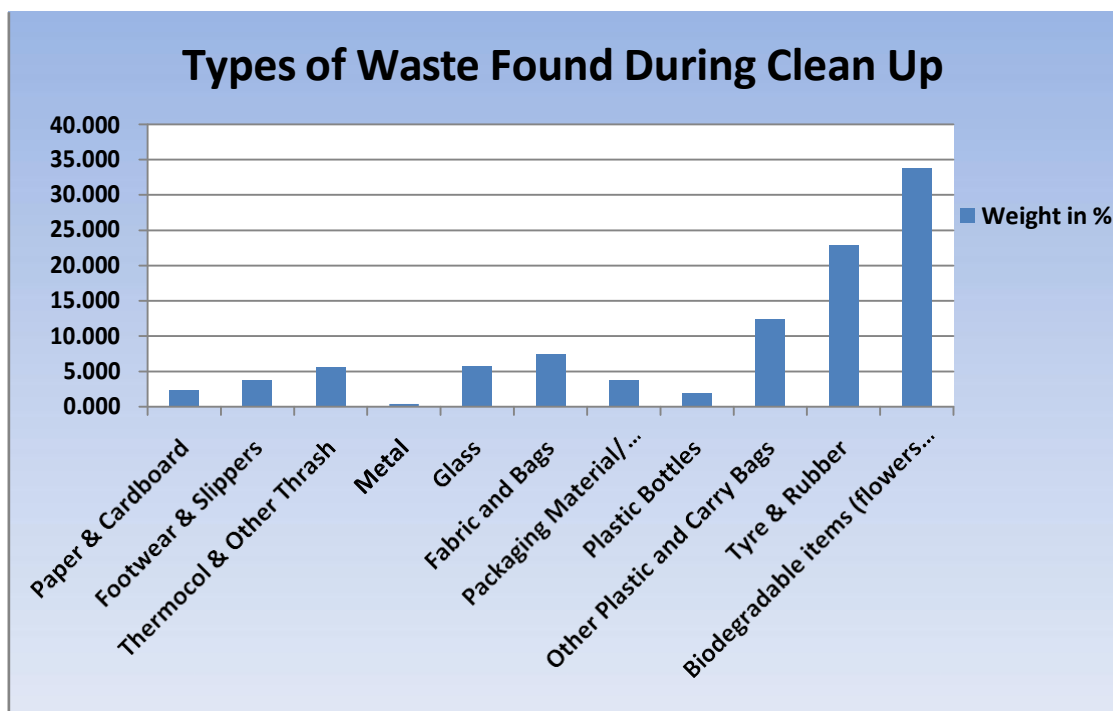
## 10. Photos of post clean-up

Photographs depicting the post clean up study are depicted in **Annexure II**.



## 11. Qualitative outcomes of clean-up

11 types of waste categories were found during the Clean Up. Figure below depicts the categories



Majority of the waste categories found during Clean Up include Flowers garlands, sacred waste (waste related to worships), tyre and rubber, other plastic and carry bags etc.

## 12. Quantitative outcomes of clean-up

Data on plastic waste segregated during clean up was recorded as per the trash sheet format of UNEP as provided in **Annexure III**.

## Annexure I: Photographs captured during Clean-Up



Photograph captured during Opening Speech



A Group photograph was captured before Clean Up





**Photograph captured during collection of waste**



**Photograph captured during weighing of collected waste bags**



**A group photograph was captured after collection of mixed waste**





**A group photograph was captured during segregation of mixed waste**



**Photograph captured after segregation of waste**



**Photographs captured during  
Documenting**



**Photograph showing interaction with  
Vashi Municipal Official**



## **Annexure II: Pre and Post Clean Up sites**



**Pre Clean Up photograph**



**Post Clean Up Photograph**



### Annexure III: Volunteer Ocean Trash Data Form

## VOLUNTEER- Ocean Trash Data Form

Ocean and waterways trash rank as one of the most serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris threatens human health, wildlife, communities and economies around the world. The ocean faces many challenges, but trash should not be one of them. Ocean trash is entirely preventable, and data you collect are part of the solution. The international cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

### Site Information:

Clean up Site Name: **Sagar Vihar, Sector 08, Vashi, Mumbai (Mangroves), INDIA**

State: **Maharashtra**

Zone or Country: **INDIA**

Country: **INDIA**

Landmark: **Sagar Vihar, Sector 08, Vashi, Mumbai**

| MOST UNUSUAL ITEM COLLECTED |   |
|-----------------------------|---|
| Land                        | <input type="checkbox"/>                |
| Under Ground Water          | <input type="checkbox"/>                |
| Water                       | <input type="checkbox"/>                |
| Adult                       | <input type="text" value="&lt;15"/>     |
| Children under 12           | <input type="text"/>                    |
| Date                        | <input type="text" value="02.11.2019"/> |

# TRASHCOLLECTED

**Citizen scientist:** Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas

| S.NO. | MOST LIKELY TO FIND ITEMS:   | Total No. of categorized plastics from 9 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 9 gunny bags of segregated plastics |
|-------|--|--|---|
| 1.    | Cigarette Butts  | -  | -   |
| 2.    | Multilayer Large and Medium Size for snacks, chips, namkeen, biscuits etc. | 1153   | 4.88  |
| 3.    | Multilayer Sachets for Shampoo, Tobacco, tea, coffee, tomato sauce etc.    | -  | -   |
| 4.    | Multilayer Gift Wrapping Paper   | -  | -   |
| 5.    | Monolayer Plastic Packaging used for food, detergent etc.                  | -  | -   |
| 6.    | Synthetic woven bags used for cement packaging etc.                        | -  | -   |
| 7.    | Hard Plastic such as HDPE Pipes, HDPE bottles, HDPE tubes, tray, PVC etc.  | -  | -   |
| 8.    | Polythene bags (colored white, black)                                      | -  | -   |
| 9.    | Woven Polycloth Bags for Carrying Groceries/Vegetables                     | -  | -   |
| 10.   | Disposable paper cups coated with plastic film                             | -  | -   |
| 11.   | Disposable plastic Cups/Glasses  | -  | -   |
| 12.   | Packing used for water, milk etc.  | -  | -   |
| 13.   | Take Out/ Away containers (Plastic)  | -  | -   |
| 14.   | Take Out/ Away containers (Food)   | -  | -   |
| 15.   | Paper bags coated with plastic film  | -  | -   |
| 16.   | Bottle plastic caps  | -  | -   |
| 17.   | Shopping Bags/ Grocery Bags  | 478  | 16.135  |
| 18.   | Plastic tubes (Dant kanti, Facewash cap)                                   | -  | -   |
| 19.   | Flowers garlands, pooja samagri etc made up of Plastic                     | -  | -   |
| 20.   | Black X ray film   | -  | -   |
| 21.   | Plastic strings used for tying   | -  | -   |
| 22.   | Plastic Purse (Synthetic Leather)  | -  | -   |

| S.NO. | MOST LIKELY TO FIND ITEMS:                                       | Total No. of categorized plastics from 9 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 9 gunny bags of segregated plastics |
|-------|--|--|---|
|       | <b>FISHING GEAR</b>  |  |   |
| 1.    | Fishing Buoys pots & traps:                                      | -  | -   |
| 2.    | Fishing Net & Pieces:  | -  | -   |
| 3.    | Fishing Line (1 Yard/ meter)= 1 piece                            | -  | -   |
| 4.    | Rope (1 Yard/ meter)= 1 piece                                    | -  | -   |
|       | <b>OTHER TRASH</b>   |  |   |
| 1     | Appliances (refrigeration, washers etc)                          | -  | -   |
| 2.    | Balloons   | -  | -   |
| 3.    | Cigar tips   | -  | -   |
| 4.    | Cigarette Lighters   | -  | -   |
| 5     | Cigarette Packets  | -  | -   |
| 6     | Construction Materials with plastic component                    | -  | -   |
| 7     | Fireworks (Lamination made of plastic film)                      | -  | -   |
| 8     | Tires & Rubber   | 6  | 30  |
| 9     | Footwear   | 72   | 4.87  |
| 10    | Beverage Bottle (plastic) including PET Bottle                   | 267  | 2.525   |
| 11    | Foams  | -  | -   |
| 12    | Rubber Ball  | -  | -   |
| 13    | Straws   | -  | -   |
| 14    | Cups & Plates (Thermocol)  | -  | -   |
| 15    | Thermocol & Other Trash  | 20   | 7.32  |
| 16    | Toys, Pens and Toothbrush  | -  | -   |
|       | <b>PACKAGING MATERIALS</b>                                       |  |   |
| 1.    | 6- Packs Holders   | -  | -   |
| 2.    | Other Plastic/Foam Packaging                                     | -  | -   |
| 3.    | Other Plastic Bottle   | -  | -   |
| 4.    | Strapping Bands  | -  | -   |
| 5.    | Medicine Packaging   | -  | -   |
| 6.    | Garment/Textile Packaging Material                               | -  | -   |
| 7.    | Low density plastic packaging material (Diapers, Sanitary packs) | -  | -   |
|       | <b>PERSONAL HYGIENE</b>  |  |   |
| 1.    | Condoms  | -  | -   |
| 2.    | Diapers  | -  | -   |
| 3.    | Syringes   | -  | -   |
| 4.    | Tampons/Tampon Applicators                                       | -  | -   |
| 5.    | Sanitary napkins/pads  | -  | -   |
|       | <b>TINY TRASH LESS THAN 2.5 CM</b>                               |  |   |
| 1.    | Foam pieces  | -  | -   |



| S.NO.   | MOST LIKELY TO FIND ITEMS:  | Total No. of categorized plastics from 9 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 9 gunny bags of segregated plastics |
|---|---|--|---|
| 2.  | Glass pieces  | -  | -   |
| 3.  | Plastic pieces  | -  | -   |
|   | <b>ITEMS OF LOCAL CONCERN</b>                                       |  |   |
| 1.  | Glazed Paper having plastic lamination                              | -  | -   |
| 2.  | Fragmented/ torn/ dusty mixed plastic waste                         | -  | -   |
| 3.  | Synthetic Jackets   | -  | -   |
| 4.  | Synthetic Bags  | -  | -   |
| 5.  | Synthetic Belt pouch  | -  | -   |
| 6.  | Synthetic Clothes/Clothes   | 5  | 9.8   |
| 7.  | Synthetic flowers   | -  | -   |
| 8.  | Pan shop synthetic sheet  |  |   |
| 9.  | Ritual Material   | -  | -   |
| 10.   | God Sculptures having synthetic cloth material & plastic ornaments. | -  | -   |
| 11.   | Plastic Sheet & other thicker plastic bags. Color-Black & White     | -  | -   |
| 12.   | Milky white bottles for carrying gangajal                           | -  | -   |
| 13.   | Tobacco, Pan Masala Sachet/Wrappers                                 | -  | -   |
| 14.   | Silver foil disposable plates & bowls having plastic lamination     | -  | -   |
| <b>DEAD/INJURED ANIMAL</b>  | <b>STATUS</b>   | <b>ENTANGLED</b>   | <b>TYPE OF ENTANGLEMENT ITEM</b>  |
| -   | Dead or injured   | Yes or No  |   |
| <b>CLEANUP SUMMARY</b>  |   |  |   |
| Number of Gunny Bags Filled with mixed trash:   |   |  | 9 nos   |
| Number of Gunny Bags of separated plastic:  |   |  | 9 nos   |
| Number of Gunny Bags opened for segregation of type of plastics:  |   |  | 9 nos   |
| Weight of Mixed Trash Collected:  |   |  | 131 kg  |
| Weight of Plastic Waste from 9 Gunny Bags:  |   |  | 75.53 kg  |
| Weight of Plastic from 9 Gunny Bags used for segregation of types of Plastic:                             |   |  | 75.53 kg  |
| Area Cleaned:   |   |  | 100 sq m  |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 9 number of bags): |   |  | 57.66 %   |
| Plastic weight/Area for Clean Up  |   |  | 755.3 gm/sq m   |
| mixed waste trash weight/Area for Clean Up  |   |  | 1310 gm/sq m  |

**A report on**  
**"Clean Up Activity at Chimbai Beach - Mumbai"**

dated: 3<sup>rd</sup> December, 2019



*under*

***Promotion of Counter Measures against marine  
plastic litter in South East Asia and India - UNEP***



***Submitted by:***

**National Productivity Council**

(Under Ministry of Commerce & Industry, Govt. of India)

**Lodi Road, New Delhi**

## Table of Contents

|   |            |
|---|------------|
| <b>Mumbai, Chimbai Beach, Near Chimbai Police Chowki, Cleanup Report – 10 .....</b> | <b>215</b> |
| 1. Location.....  | 215        |
| 2. Time and Date .....  | 216        |
| 3. Participants/organizations.....  | 216        |
| 4. Activity leaders .....   | 216        |
| 5. Rationale for location of selection.....   | 216        |
| 6. Area covered and demarcated.....   | 217        |
| 7. Methodology.....   | 218        |
| 8. Photos during clean-up.....  | 218        |
| 9. Photos of post clean-up .....  | 218        |
| 10. Qualitative features of Clean-Up .....  | 218        |
| 11. Quantitative features of Clean-Up .....   | 218        |
| Annexure I: Photographs captured during Clean-Up.....                               | 220        |
| Annexure II: Pre & Post Cleanup Photographs .....                                   | 222        |
| Annexure III: Volunteer Ocean Trash Data Form .....                                 | 223        |
| Annexure IV: List of Volunteers participated/registered on site.....                | 227        |



## Mumbai, Chimbai Beach, Near Chimbai Police Chowki, Cleanup Report – 10

### 1. Location

**Clean Up Site Name:** Chimbai Beach, Near Chimbai Police Chowki, Bandra West, Mumbai, Maharashtra.

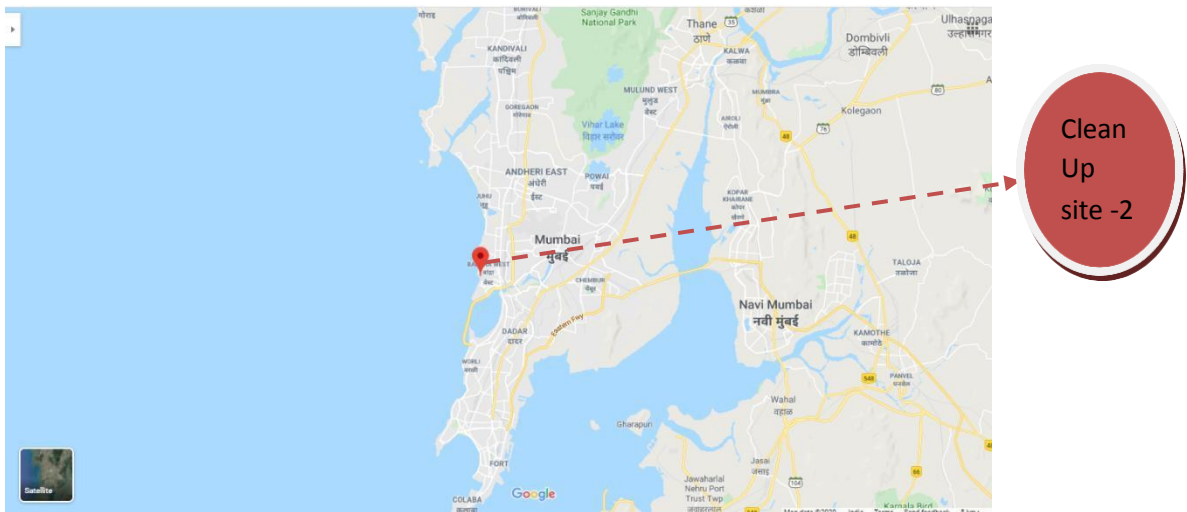
**State:** Maharashtra

**Country:** India

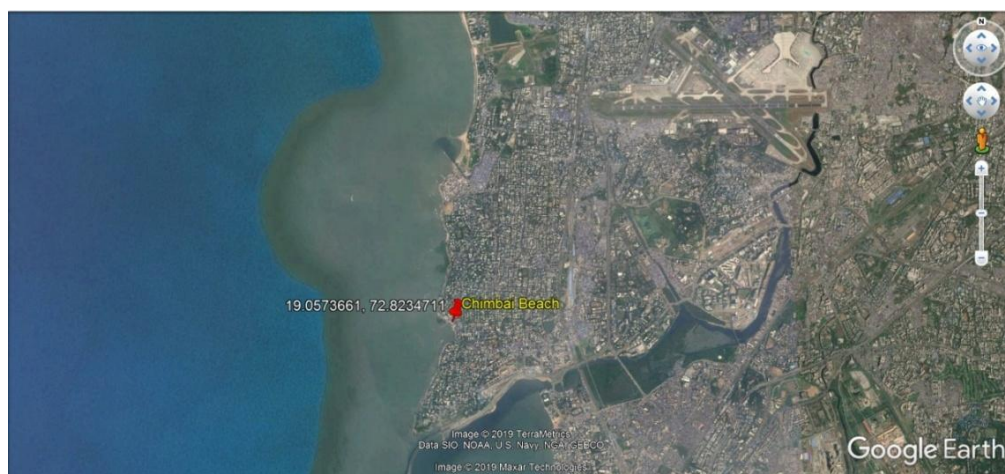
**Landmark:** Near Chimbai Police Chowki, Bandra West, Mumbai

**Latitude and Longitude** – 19.0573661; 72.8234711. (as per location site indicated).

Shortest displacement distance from water flow: The site is located near the Arabian sea at chimbai beach at an approximate distance of 100 metres only.



Plates of Google Map Street View - Mumbai Clean Up Site 2 Chimbai Beach, Mumbai



Plates of Google Earth Image - Mumbai Clean Up Site 2 Chimbai Beach, Mumbai

## **2. Time and Date**

**Time :** 9.00 am – 3.00 pm

**Date :** 3<sup>rd</sup> December, 2019

## **3. Participants/organizations**

**Participating Organisations:** "National Productivity Council" (NPC) and "The Energy & Resources Institute" (TERI).

Details of Clean Up team is attached as **Annexure- IV**.

## **4. Activity leaders**

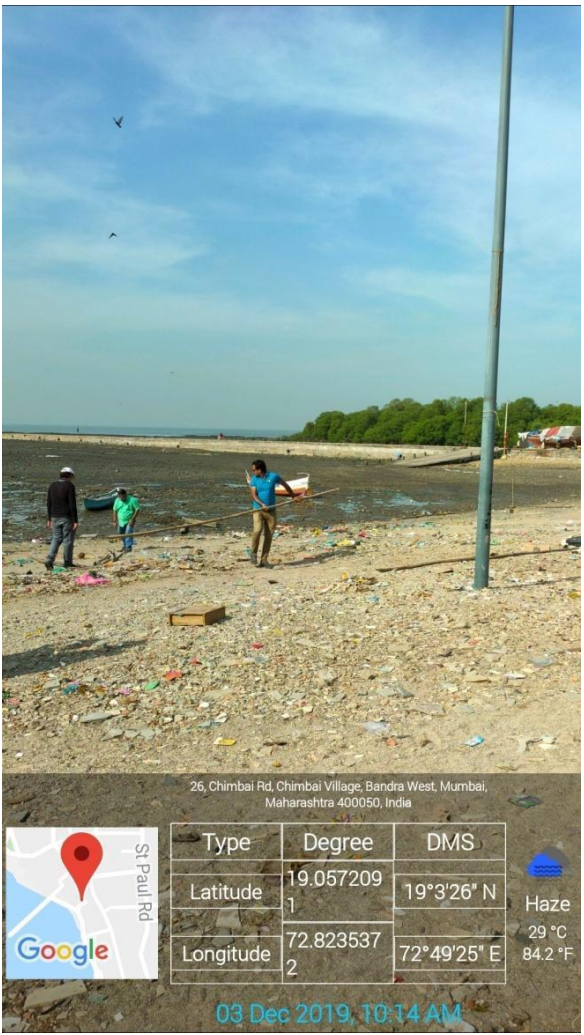
- Technical Team from National Productivity Council (NPC): Dr. Shukla Pal Maitra, Director (Environment), Mr. Himendra Singh (Environment), Mr. Lalit Kamde (Environment), Mr. Gaurav Kadam (Environment).
- Partner Organizations: Dr. Anjali Parasnis, Associate Director, TERI.

## **5. Rationale for location of selection**

The site is a beach area near Mithi river. It is known that Mithi river brings most of the plastic waste generated from the city mainly from the slum areas which are inaccessible for waste collection and discharges to sea. The sea during high – low tide cycles brings back the waste to the beach.

6. Area covered and demarcated

Approximately an area of 24.4 X 14.5 Sq.meters was selected and around 124.89 kg of total waste was collected. Pre Clean Up site photographs are as depicted below:



Demarcation of Site



## 7. Methodology

Methodology adopted was same as per the approved methodology of UNEP.

## 8. Photos during clean-up

A few Photographs depicting the clean up study process are depicted in **Annexure I**. The volunteers utilised the PPE arranged and enthusiastically addressed the task. Gunny bags were used for mixed waste collection that was strewn on the land area. Water flowing in mithi river is flowing North East to South West direction, and the sea water would flow east wards to the beach and west wards away from the beach.

## 9. Photos of post clean-up

Photographs depicting the post clean up study are depicted in **Annexure II**.

## 10. Qualitative features of Clean-Up

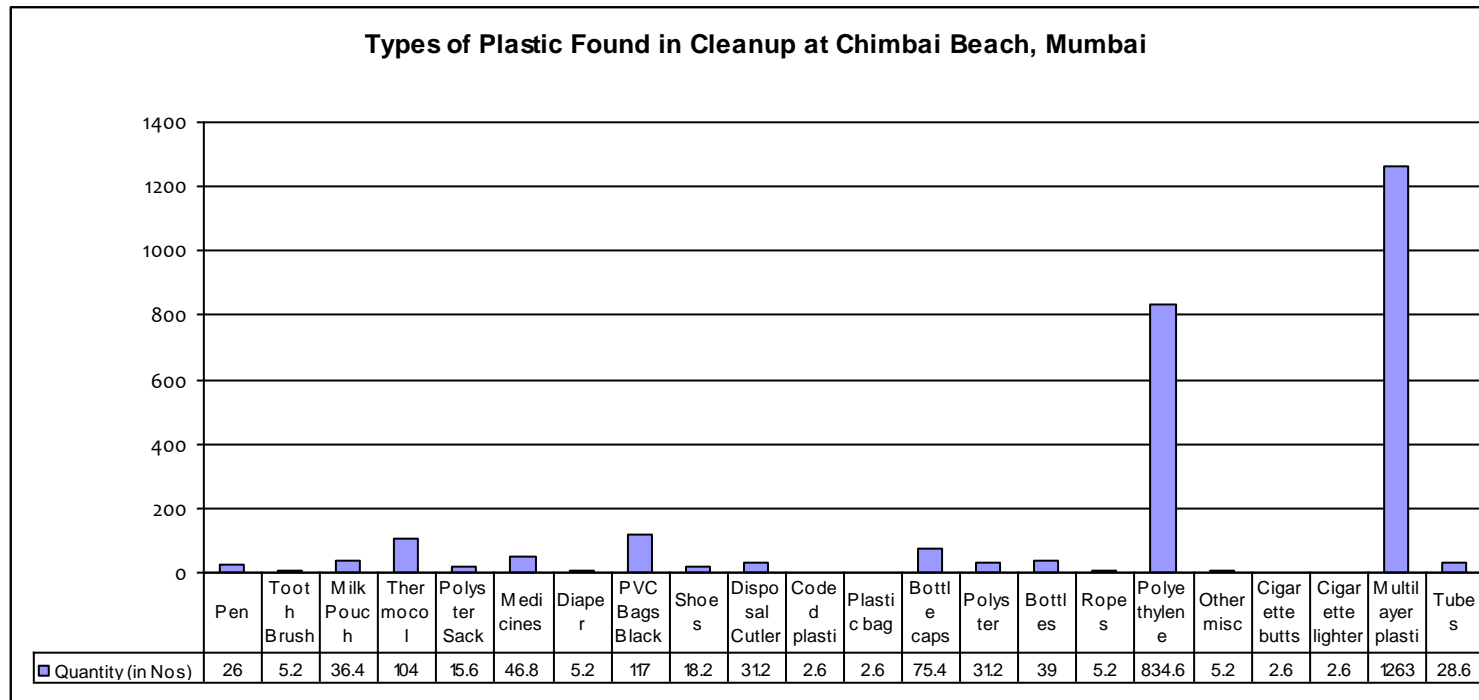
- a. 22 types of waste categories were found during the Clean Up. Graph below depicts the categories.
- b. A collection of thin polythene packaging in pink, green, yellow, black color which are commonly used in carrying vegetables, fruits and other groceries were found in huge quantities; and used pen plastic body, thermocol, foam pieces, medicine packagings, footwear, milk pouches, used tea bags, plastic disposal glasses, PET bottle caps, were available as well but a few.
- c. Multilayer packagings such as packaging of chips, namkeen, snacks etc including torn pieces were approx (48%) vis a vis the total numbers of various plastic collected (1263/2631) = 48% approximately.
- d. Note: Total Nos. of all the types segregated plastic is 2631.
- e. Highly efficient volunteer especially elders in counted the varieties of segregated plastics in the time of the study/clean up and macroplastic assessment.
- f. A unique plastic type that was found at this site is the transparent or translucent plastic packaging's with recyclable mark of plastic such as 4(LDPE), 5(PP).

## 11. Quantitative features of Clean-Up

Data on plastic waste segregated during clean up was recorded as per the trash data sheet format of UNEP as provided in Annexure III and adapted to the site requirements.

At this site in mass terms about 23% plastics was recovered as part of Clean Up exercise in the area vis a vis mixed waste collected.

The area based density of plastic collected was found to be  $(29.06/353.8) \text{ kg/m}^2 = 82.13 \text{ gm/m}^2$  and area based density of mixed waste collected  $(124.89/353.8) \text{ kg/m}^2 = 352.9 \text{ gm/m}^2$ .



## Annexure I: Photographs captured during Clean-Up



Group Photograph Captured before Clean Up

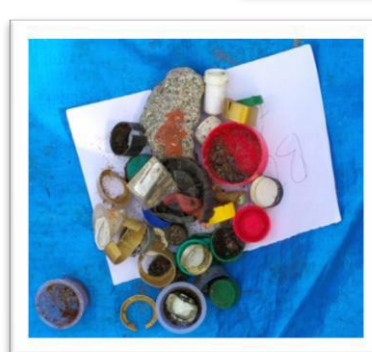


Photograph captured during labelling of bags and collection of mixed waste





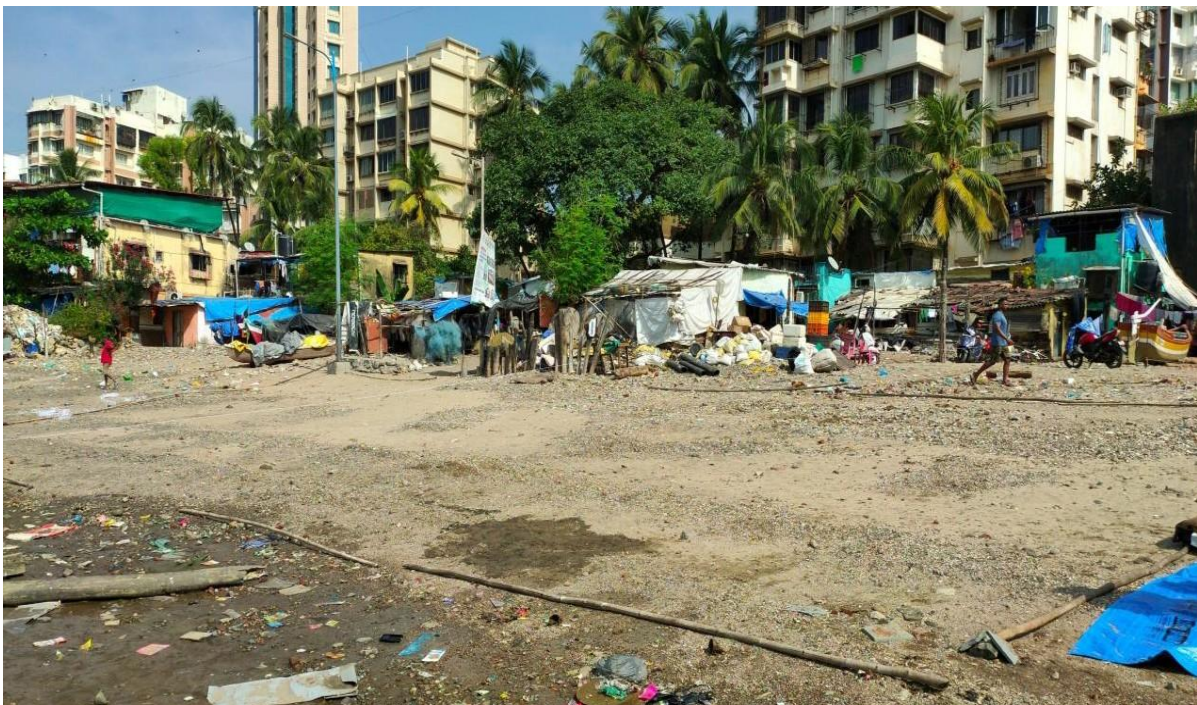
Photograph captured during segregation of waste





## Annexure II: Pre & Post Cleanup Photographs

**Pre Clean Up**



**Post Clean Up**

### Annexure III: Volunteer Ocean Trash Data Form

## VOLUNTEER- Ocean Trash Data Form

Ocean and waterways trash rank as one of the most serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris threatens human health, wildlife, communities and economies around the world. The ocean faces many challenges, but trash should not be one of them. Ocean trash is entirely preventable, and data you collect are part of the solution. The international cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

Clean up Site Name: **Chimbai Beach near Chimbai Police Chowki, Bandra West, Mumbai, Maharashtra**

State: **Maharashtra**

Zone or Country: **INDIA**

Country: **INDIA**

Landmark: **Near Chimbai Police Chowki, Bandra West, Mumbai**

#### MOST UNUSUAL ITEM COLLECTED-

Recyclable plastics coded as 4 and 5 and black polythene

Land

Adult

~40

Under Ground Water

Children under 12

-

Water

Date

03.12.2019



# TRASHCOLLECTED

**Citizen scientist:** *Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas*

| S.NO. | MOST LIKELY TO FIND ITEMS:   | Total No. | Total weight in Kg |
|-------|--|-----------|--------------------|
| 1.    | Cigarette Butts  | 1         | 0.002              |
| 2.    | Multilayer Large and Medium Size for snacks, chips, namkeen, biscuits etc. | 486       | 1.755              |
| 3.    | Multilayer Sachets for Shampoo, Tobacco, tea, coffee, tomato sauce etc.    | -         | -                  |
| 4.    | Multilayer Gift Wrapping Paper   | -         | -                  |
| 5.    | Monolayer Plastic Packaging used for food, detergent etc.                  | -         | -                  |
| 6.    | Synthetic woven bags used for cement packaging etc.                        | 6         | 0.085              |
| 7.    | Hard Plastic such as HDPE Pipes, HDPE bottles, HDPE tubes, tray, PVC etc.  | -         | -                  |
| 8.    | Polythene bags (colored white, black)                                      | 368       | 4.825              |
| 9.    | Woven Polycloth Bags for Carrying Groceries/Vegetables                     |           |                    |
| 10.   | Disposable paper cups coated with plastic film                             | 12        | 0.23               |
| 11.   | Disposable plastic Cups/Glasses  | -         | -                  |
| 12.   | Packing used for water, milk etc.  | 14        | 0.16               |
| 13.   | Take Out/ Away containers (Plastic)  | -         | -                  |
| 14.   | Take Out/ Away containers (Food)   | -         | -                  |
| 15.   | Paper bags coated with plastic film  | -         | -                  |
| 16.   | Bottle plastic caps  | 29        | 0.175              |
| 17.   | Shopping Bags/ Grocery Bags  | -         | -                  |
| 18.   | Plastic tubes (Dant kanti, Facewash cap)                                   | 11        | 0.1                |
| 19.   | Flowers garlands, pooja samagri etc made up of Plastic                     | -         | -                  |
| 20.   | Black X ray film   | -         | -                  |
| 21.   | Plastic strings used for tying   | -         | -                  |
| 22.   | Plastic Purse (Synthetic Leather)  | -         | -                  |

| S.NO.                              | MOST LIKELY TO FIND ITEMS:                                       | Total No. | Total weight in Kg |
|------------------------------------|--|-----------|--------------------|
| <b>FISHING GEAR</b>                |  |           |                    |
| 1.                                 | Fishing Buoys pots & traps:                                      | -         | -                  |
| 2.                                 | Fishing Net & Pieces:  | -         | -                  |
| 3.                                 | Fishing Line (1 Yard/ meter)= 1 piece                            | -         | -                  |
| 4.                                 | Rope (1 Yard/ meter)= 1 piece                                    | 2         | 0.245              |
| <b>OTHER TRASH</b>                 |  |           |                    |
| 1                                  | Appliances (refrigeration, washers etc)                          | -         | -                  |
| 2.                                 | Balloons   | -         | -                  |
| 3.                                 | Cigar tips   | -         | -                  |
| 4.                                 | Cigarette Lighters   | 1         | 0.01               |
| 5                                  | Cigarette Packets  | -         | -                  |
| 6                                  | Construction Materials with plastic component                    | -         | -                  |
| 7                                  | Fireworks(Lamination made of plastic film)                       | -         | -                  |
| 8                                  | Tires & Rubber   | -         | -                  |
| 9                                  | Footwear   | 7         | 2.24               |
| 10                                 | Beverage Bottle (plastic) including PET Bottle                   | 15        | 0.405              |
| 11                                 | Foams  | -         | -                  |
| 12                                 | Rubber Ball  | -         | -                  |
| 13                                 | Straws   | -         | -                  |
| 14                                 | Cups & Plates (Thermocol)  | -         | -                  |
| 15                                 | Thermocol & Other Trash  | 42        | 0.42               |
| 16                                 | Toys, Pens and Toothbrush  | 12        | 0.145              |
| <b>PACKAGING MATERIALS</b>         |  |           |                    |
| 1.                                 | 6- Packs Holders   | -         | -                  |
| 2.                                 | Other Plastic/Foam Packaging                                     | -         | -                  |
| 3.                                 | Other Plastic Bottle   | -         | -                  |
| 4.                                 | Strapping Bands  | -         | -                  |
| 5.                                 | Medicine Packaging   | 18        | 0.15               |
| 6.                                 | Garment/Textile Packaging Material                               | 12        | 0.215              |
| 7.                                 | Low density plastic packaging material (Diapers, Sanitary packs) | -         | -                  |
| <b>PERSONAL HYGIENE</b>            |  |           |                    |
| 1.                                 | Condoms  | -         | -                  |
| 2.                                 | Diapers  | 2         | 0.015              |
| 3.                                 | Syringes   | -         | -                  |
| 4.                                 | Tampons/Tampon Applicators                                       | -         | -                  |
| 5.                                 | Sanitary napkins/pads  |           |                    |
| <b>TINY TRASH LESS THAN 2.5 CM</b> |  |           |                    |
| 1.                                 | Foam pieces  | -         | -                  |
| 2.                                 | Glass pieces   |           |                    |

| S.NO.                         | MOST LIKELY TO FIND ITEMS:  | Total No. | Total weight in Kg        |
|-------------------------------|---|-----------|---------------------------|
| 3.                            | Plastic pieces  | -         | -                         |
| <b>ITEMS OF LOCAL CONCERN</b> |   |           |                           |
| 1.                            | Glazed Paper having plastic lamination                              | -         | -                         |
| 2.                            | Fragmented/ torn/ dusty mixed plastic waste                         | -         | -                         |
| 3.                            | Synthetic Jackets   | -         | -                         |
| 4.                            | Synthetic Bags  | -         | -                         |
| 5.                            | Synthetic Belt pouch  | -         | -                         |
| 6.                            | Synthetic Clothes/Cloth   | -         | -                         |
| 7.                            | Synthetic flowers   | -         | -                         |
| 8.                            | Pan shop synthetic shee   |           |                           |
| 9.                            | Ritual Material   | -         | -                         |
| 10.                           | God Sculptures having synthetic cloth material & plastic ornaments. | -         | -                         |
| 11.                           | Plastic Sheet & other thicker plastic bags. Color Black & White     | -         | -                         |
| 12.                           | Milky white bottles for carrying gangajal                           | -         | -                         |
| 13.                           | Tobacco, Pan Masala Sachet/Wrappers                                 | -         | -                         |
| 14.                           | Silver foil disposable plates & bowls having plastic lamination     | -         | -                         |
| DEAD/INJURED ANIMAL           | STATUS  | ENTANGLED | TYPE OF ENTANGLEMENT ITEM |
| -                             | Dead or injured   | Yes or No |                           |

| CLEANUP SUMMARY   |        |      |
|---|--------|------|
| Number of Gunny Bags Filled with mixed trash:   | 8      | nos  |
| Number of Gunny Bags of separated plastic:  | 8      | nos  |
| Number of Gunny Bags opened for segregation of type of plastics:  | 3      | nos  |
| Weight of Mixed Trash Collected:  | 124.91 | kg   |
| Weight of Plastic Waste from 3 Gunny Bags:  | ....   | kg   |
| Weight of Mixed Trash Collected from 3 gunny bags:  | 40.65  | kg   |
| Weight of Plastic from 3 Gunny Bags used for segregation of types of Plastic:                             | 11.177 | kg   |
| Area Cleaned:   | 353.8  | sq m |
| Percentage of aggregate plastics of the site vis a vis mixed waste collected (based on 8 number of bags): |        | %    |



#### Annexure IV: List of Volunteers participated/registered on site

| S. No. | Name of Technical Team | Organization                  |
|--------|------------------------|-------------------------------|
| 1      | Dr. Shukla Pal Maitra  | National Productivity Council |
| 2      | Mr. Lalit Kamde        | National Productivity Council |
| 3      | Mr. Gaurav Kadam       | National Productivity Council |
| 4      | Mr. Himendra Singh     | National Productivity Council |

| S. No. | Name of Voluntarily Support Team | Organization |
|--------|----------------------------------|--------------|
| 1      | Dr Anjali Parasnis               | TERI         |
| 2      | Pranali Chavan                   | TERI         |
| 3      | Manish Asodekar                  | TERI         |
| 4      | Riya Thorat                      | TERI         |
| 5      | Sumedh Kurundkar                 | TERI         |
| 6      | Kishore Wankhade                 | TERI         |

| List of Volunteers engaged under cleanup activity at Chimbai Beach, Bandra on 3 <sup>rd</sup> December 2019-UNEP |                        |     |            |                          |
|--|------------------------|-----|------------|--------------------------|
| S. No.   | Name                   | Age | Profession | Contact No.<br>E mail ID |
| 1  | Pawar Akshota Hinduroo | 20  | Student    | 9594136260               |
| 2  | Mayuri Dumbre          | 20  | Student    | 8691837052               |
| 3  | Jyoti Bhawde           | 20  | Student    | 8692061207               |
| 4  | Pooja Wankhede         | 20  | Student    | 8828248637               |
| 5  | Asnisha Khose          | 19  | Student    | 7400295322               |
| 6  | Sanchi S. Gamare       | 19  | Student    | 9137461101               |
| 7  | Rutuja S. Dniwar       | 19  | Student    | 8879945275               |
| 8  | Ashlesha A. Pawar      | 20  | Student    | 7039498584               |
| 9  | Aakansha S. Nikam      | 20  | Student    | 8879229974               |
| 10   | Sharda H. Kamble       | 20  | Student    | 8652129787               |
| 11   | Rutuja R. Bangar       | 20  | Student    | 8169568418               |
| 12   | Ketaki V. Shinde       | 20  | Student    | 8600696373               |
| 13   | Parajakta Ghodaka      | 19  | Student    | 9004641109               |
| 14   | Afiya Dalwai           | 19  | Student    | 9769090784               |
| 15   | Payal Chikhalekar      | 20  | Student    | 9082114470               |
| 16   | Prashant Prajapat      | 21  | Student    | 9137540509               |
| 17   | Quati Jabeen           | 21  | Student    | 8779257216               |
| 18   | Mohite Sneha Mohan     | 20  | Student    | 8767679601               |
| 19   | Arfa                   | 20  | Student    | 8355842742               |
| 20   | Shefali V. Bisen       | 19  | Student    | 7738126969               |
| 21   | Penuat Satish Katal    | 20  | Student    | 9372226896               |
| 22   | Apurva Dnyaneshwar     | 20  | Student    | 9867871201               |
| 23   | Mrinali Jadav          | 21  | Student    | 7506969489               |
| 24   | Shubham Jambhale       | 20  | Student    | 8080177347               |
| 25   | Sayali T. Sanawale     | 20  | Student    | 9869829150               |
| 26   | Lochana C. Jadhav      | 20  | Student    | 8369187758               |
| 27   | Sardhya D. Gaikwad     | 20  | Student    | 9920476657               |
| 28   | Akansha R. Shinde      | 20  | Student    | 8369244164               |

| List of Volunteers engaged under cleanup activity at Chimbai Beach, Bandra on 3 <sup>rd</sup> December<br>2019-UNEP |                      |     |            |                          |
|---|----------------------|-----|------------|--------------------------|
| S. No.  | Name                 | Age | Profession | Contact No.<br>E mail ID |
| 29  | Chirag Savita        | 20  | Student    | 9004132118               |
| 30  | Sanjivani B. Pathane | 21  | Student    | 8879918584               |
| 31  | Khan Shaista         | 20  | Student    | 9833095663               |
| 32  | Karanje Nagmani      | 20  | Student    | 9699565159               |
| 33  | Asmita Gaikwad       | 19  | Student    | 8805735638               |
| 34  | S. A. Gcharge        | 48  | Teacher    | 9869158538               |

**A report on**  
**"Clean Up Activity at Gorai Creek- Mumbai"**

dated: 2<sup>nd</sup> March 2020



*under*

***Promotion of Counter Measures against marine  
plastic litter in South East Asia and India -  
UNEP***



***Submitted by:***

**National Productivity Council**

(Under Ministry of Commerce & Industry, Govt. of India)

**Lodi Road, New Delhi**



## Table of Contents

|  |            |
|--|------------|
| <b>Mumbai, Gorai Creek, Near Gorai Bridge, Cleanup Report – 11 .....</b> | <b>231</b> |
| 1. Location.....   | 231        |
| 2. Time and Date .....   | 232        |
| 3. Participants/organizations.....                                       | 232        |
| 4. Activity leaders .....  | 232        |
| 5. Rationale for location of selection .....                             | 232        |
| 6. Area covered and demarcated .....                                     | 234        |
| 7. Methodology.....  | 235        |
| 8. Photos during clean-up.....   | 235        |
| 9. Photos of post clean-up .....   | 235        |
| 10. Qualitative features of Clean-Up.....                                | 235        |
| 11. Quantitative features of Clean-Up .....                              | 235        |
| Annexure I: Photographs captured during Clean-Up .....                   | 237        |
| Annexure II: Photographs captured for pre Clean Up & post Clean Up ..... | 238        |
| Annexure III: Volunteer Ocean Trash Data Form .....                      | 240        |
| Annexure IV: List of Volunteers participated/registered on site.....     | 245        |

## Mumbai, Gorai Creek, Near Gorai Bridge, Cleanup Report – 11

### 1. Location

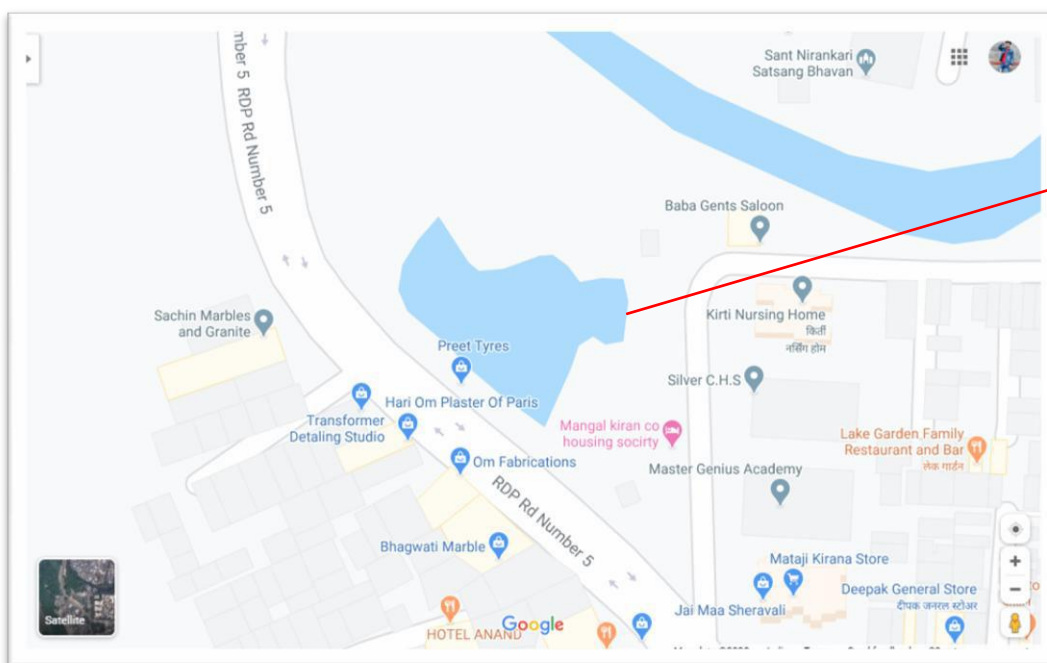
**Clean Up Site Name:** Gorai Creek, Near Gorai Bridge, Kandivali (West), Charkop Gaon, Mumbai, Maharashtra- 400067.

**State:** Maharashtra **Country:** India

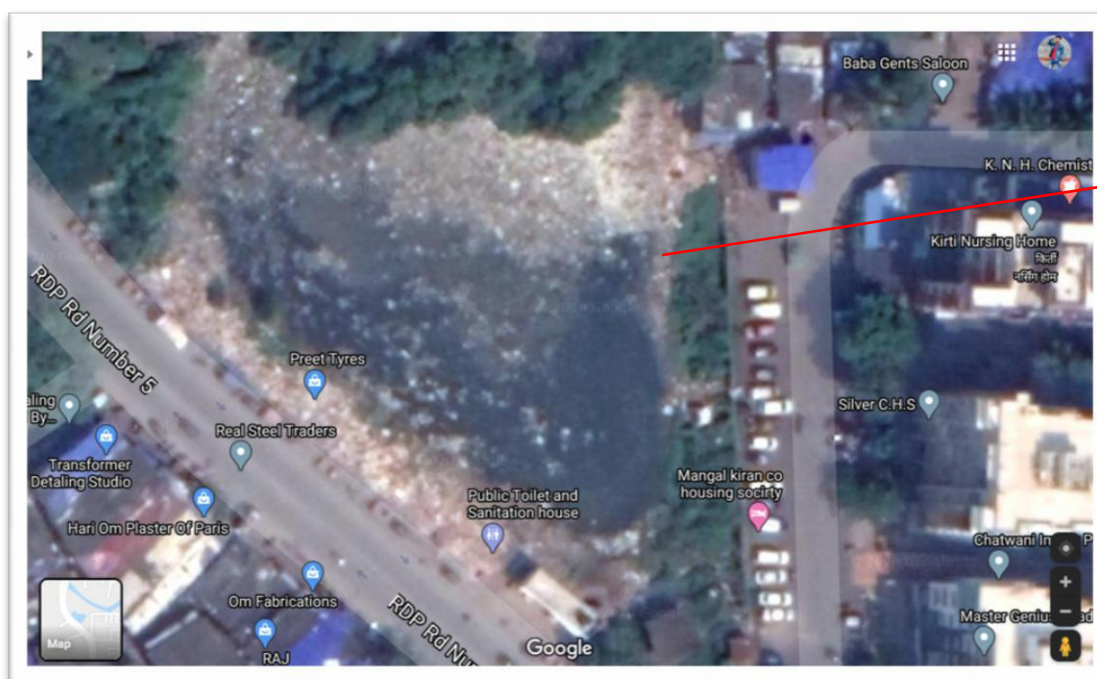
**Landmark:** Near Charkop Bus Depot, Kandivali (West), Mumbai

**Latitude and Longitude** – 19.2223426; 72.8285182. (as per location site indicated).

**Shortest displacement distance from water flow:** The site is located on the shoreline of Gorai creek (about 100 m away from main Gorai creek water flow during low tide) near Gorai bridge at about 100 m distance from Charkop Bus depot . The site is depicted in following Google Map snap shot



**Plates of Google Map Street View – Mumbai Clean Up Site Gorai Creek, Near Gorai Bridge, Kandivali, Mumbai, Maharashtra**



**Plates of Google Earth Image - Mumbai Clean Up Site Gorai Creek, Near Gorai Bridge, Kandivali, Mumbai, Maharashtra**

## 2. Time and Date

**Time :** 7.00 am – 10.00 am

**Date :** 2<sup>nd</sup> March 2020

## 3. Participants/organizations

**Participating Organisations:** "National Productivity Council" (NPC) and "The Energy & Resources Institute" (TERI) along with associated educational institute and volunteers from NSS.

Details of Clean Up team is attached as **Annexure- IV**.

## 4. Activity leaders

- Technical Team from National Productivity Council (NPC): Mr. Lalit Kamde (Environment), Mr. Gaurav Kadam (Environment), Mr. Jayant Kamde (Environment), Mr Hemant Kumar (Environment).
- Partner Organizations: Dr. Anjali Parasnis, Associate Director, TERI.

## 5. Rationale for location of selection

The site is at shore line of Creek near Gorai Bridge. It is known that Gorai Creek brings most of the plastic waste generated from the city mainly from the nearby slum areas which are inaccessible for BrihMumbai Municipal Corporation (BMC) for waste



collection, hence the waste generated in this area, is discharged into Gorai Creek during the process of low and high tides.

## 6. Area covered and demarcated

Approximately an area of  $6.91 \times 4.23 = 29.229$  Sq. Mtr. was selected and around **59.005 kg** of total waste was collected. Pre Clean Up site photographs are as depicted below:



## 7. Methodology

Methodology adopted was same as per the approved methodology of UNEP.

## 8. Photos during clean-up

A few Photographs depicting the clean-up study process are depicted in **Annexure-I**. The volunteers utilised the PPE arranged and enthusiastically addressed the task. Gunny bags were used for mixed waste collection that was strewn on the land area. Water flowing in Gorai creek is flowing in North West direction towards Manori Creek.

## 9. Photos of post clean-up

Photographs depicting the post clean up study are depicted in **Annexure II**.

## 10. Qualitative features of Clean-Up

- a) 20 types of waste categories were found during the Clean Up. Graph below depicts the categories.
- b) A collection of thin polythene packaging in green, black color and transparent polythene which are commonly used in carrying vegetables, fruits and other groceries were found in huge quantities; and Woven Bags, thermocol, foam pieces, medicine packagings, footwear, milk pouches, plastic disposal glasses, PET bottle caps were available as well but a few.
- c) Multilayer packaging such as packaging of chips, namkeen, snacks etc including torn pieces were approx (43%) vis a vis the total numbers of various plastic collected ( 575/1333) = 43% approximately.  
Note: Total Nos. of all the types segregated plastic is 1333.
- d) Highly efficient volunteer especially elders in counted the varieties of segregated plastics in the time of the study/clean up and macro plastic assessment.
- e) A unique plastic type that was found at this site is the Woven Bags(Cement Bags) and hard plastic (like Toys etc.)

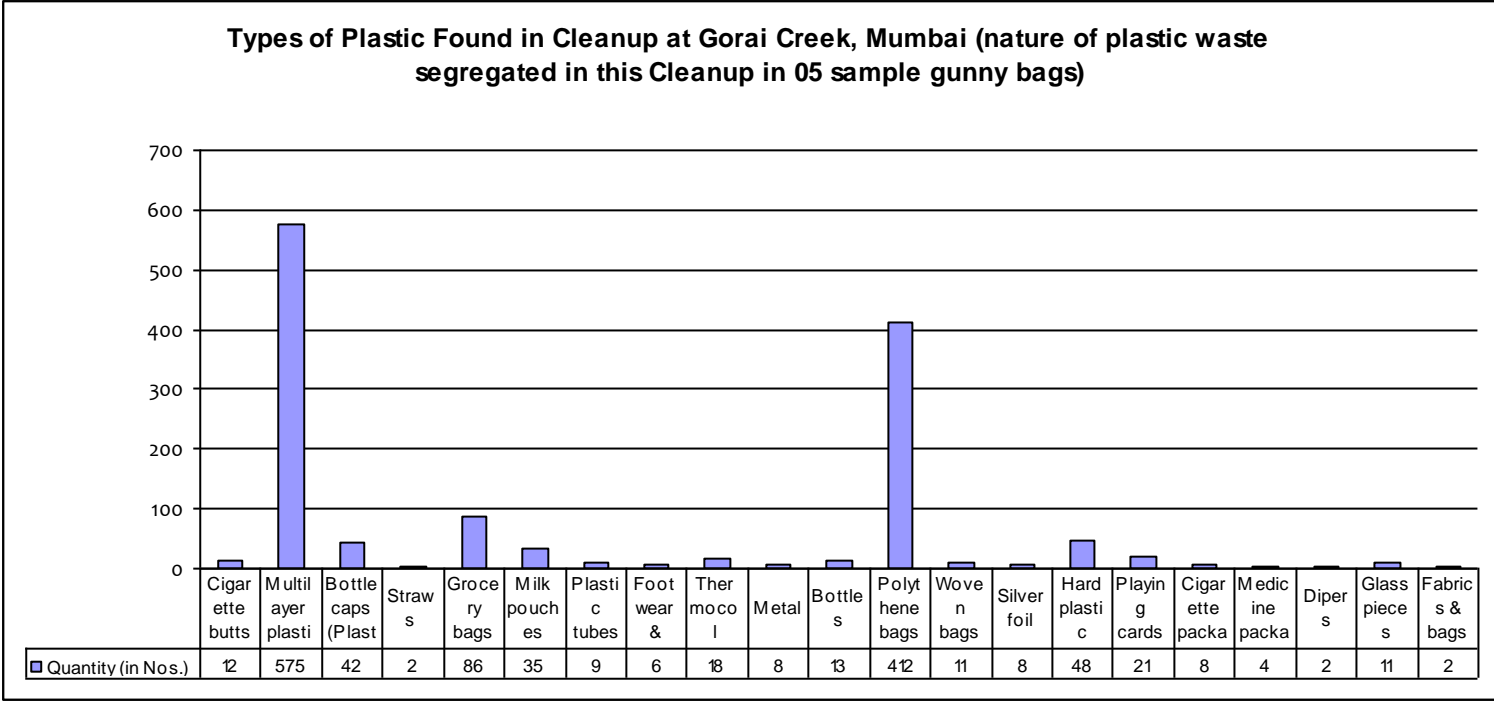
## 11. Quantitative features of Clean-Up

Data on plastic waste segregated during clean up was recorded as per the trash data sheet format of UNEP as provided in Annexure III and adapted to the site requirements.

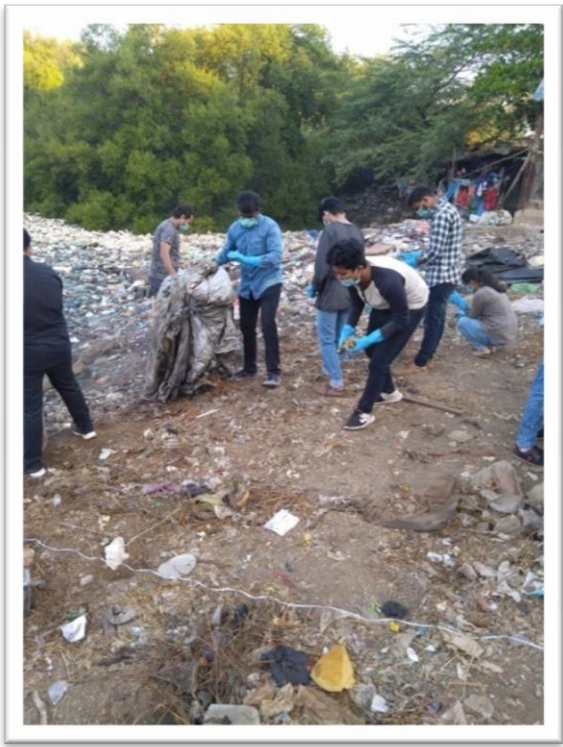
At this site in mass terms about 50.12% plastics was recovered from 5 number of bags as part of Clean Up exercise in the area vis a vis mixed waste collected.

The area based density of plastic collected was found to be  $(29.57/29.229)\text{kg/m}^2 = 1012\text{gm/m}^2$  and area based density of mixed waste collected  $(59.005/29.229)\text{kg/m}^2 = 2018.71\text{gm/m}^2$ . It may be noted that plastic waste in 8 bags was calculated as: 50.12% plastic wastes recovered (based on 5 no. of bags opened randomly for plastic waste separation) x area based density of mixed waste/100.





Annexure I: Photographs captured during Clean-Up



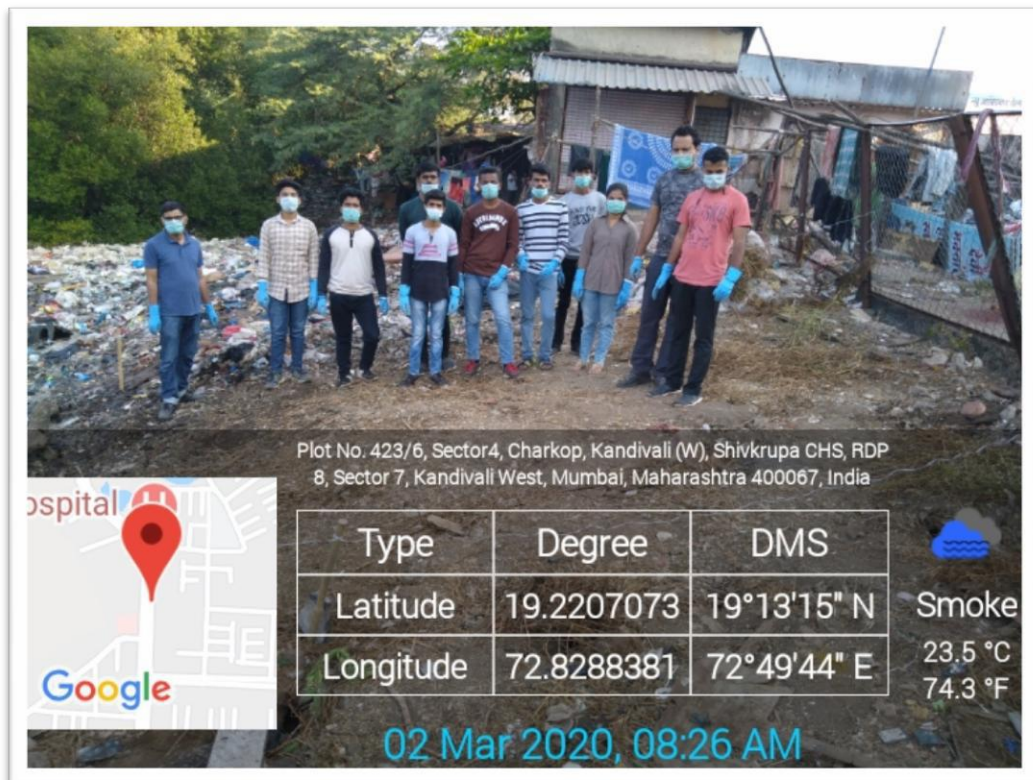
Annexure II: Photographs captured for pre Clean Up & post Clean Up

Pre Clean Up





## Post Clean Up



### Annexure III: Volunteer Ocean Trash Data Form

## VOLUNTEER- Ocean Trash Data Form

Ocean and waterways trash rank as one of the most serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris threatens human health, wildlife, communities and economies around the world. The ocean faces many challenges, but trash should not be one of them. Ocean trash is entirely preventable, and data you collect are part of the solution. The international cleanup is the world's largest volunteer effort on behalf of ocean and waterway health.

### Site Information:

Clean-up Site Name: **Gorai Creek, Near Gorai Bridge, Kandivali (West), Charkop Gaon, Mumbai, Maharashtra- 400067.**

State: **Maharashtra**

Zone or Country: **INDIA**

Country: **INDIA**

Landmark: Near Charkop Bus Depot, Kandivali (West), Mumbai

### MOST UNUSUAL ITEM COLLECTED-

Recyclable plastics coded as 4 and 5 and black polythene

**Land**

**Adult**

23

**Under Ground Water**

**Children under 12**

-

**Water**

**Date**

02.03.2020

# TRASHCOLLECTED

**Citizen scientist:** *Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas*

| S.NO. | MOST LIKELY TO FIND ITEMS:   | Total No. of categorized plastics from 5 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 5 gunny bags of segregated plastics |
|-------|--|--|---|
| 1.    | Cigarette Butts  | 12   | 0.005   |
| 2.    | Multilayer Large and Medium Size for snacks, chips, namkeen, biscuits etc. | 575  | 1.065   |
| 3.    | Multilayer Sachets for Shampoo, Tobacco, tea, coffee, tomato sauce etc.    | -  | -   |
| 4.    | Multilayer Gift Wrapping Paper   | -  | -   |
| 5.    | Monolayer Plastic Packaging used for food, detergent etc.                  | -  | -   |
| 6.    | Synthetic woven bags used for cement packaging etc.                        | 11   | 12.525  |
| 7.    | Hard Plastic such as HDPE Pipes, HDPE bottles, HDPE tubes, tray, PVC etc.  | 48   | 0.475   |
| 8.    | Polythene bags (colored white, black)                                      | 412  | 1.175   |
| 9.    | Woven Polycloth Bags for Carrying Groceries/Vegetables                     |  |   |
| 10.   | Disposable paper cups coated with plastic film                             | -  | -   |
| 11.   | Disposable plastic Cups/Glasses  | -  | -   |
| 12.   | Packing used for water, milk etc.  | 35   | 0.095   |
| 13.   | Take Out/ Away containers (Plastic)  | -  | -   |
| 14.   | Take Out/ Away containers (Food)   | -  | -   |
| 15.   | Paper bags coated with plastic film  | -  | -   |
| 16.   | Bottle plastic caps  | 42   | 0.06  |
| 17.   | Shopping Bags/ Grocery Bags  | 86   | 1.07  |
| 18.   | Plastic tubes (Dant kanti, Facewash cap)                                   | 9  | 0.115   |
| 19.   | Flowers garlands, pooja samagri etc made up of Plastic                     | -  | -   |



| S.NO.                      | MOST LIKELY TO FIND ITEMS:                                       | Total No. of categorized plastics from 5 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 5 gunny bags of segregated plastics |
|----------------------------|--|--|---|
| 20.                        | Black X ray film   | -  | -   |
| 21.                        | Plastic strings used for tying                                   | -  | -   |
| 22.                        | Plastic Purse (Synthetic Leather)                                | 2  | 0.21  |
| <b>FISHING GEAR</b>        |  |  |   |
| 1.                         | Fishing Buoys pots & traps:                                      | -  | -   |
| 2.                         | Fishing Net & Pieces:  | -  | -   |
| 3.                         | Fishing Line (1 Yard/ meter)= 1 piece                            | -  | -   |
| 4.                         | Rope (1 Yard/ meter)= 1 piece                                    | -  | -   |
| <b>OTHER TRASH</b>         |  |  |   |
| 1                          | Appliances (refrigeration, washers etc)                          | -  | -   |
| 2.                         | Balloons   | -  | -   |
| 3.                         | Cigar tips   | -  | -   |
| 4.                         | Cigarette Lighters   | -  | -   |
| 5                          | Cigarette Packets  | 8  | 0.06  |
| 6                          | Construction Materials with plastic component                    | -  | -   |
| 7                          | Fireworks (Lamination made of plastic film)                      | -  | -   |
| 8                          | Tires & Rubber   | -  | -   |
| 9                          | Footwear   | 6  | 0.26  |
| 10                         | Beverage Bottle (plastic) including PET Bottle                   | 13   | 0.225   |
| 11                         | Foams  | -  | -   |
| 12                         | Rubber Ball  | -  | -   |
| 13                         | Straws   | 2  | 0.005   |
| 14                         | Cups & Plates (Thermocol)  | -  | -   |
| 15                         | Thermocol & Other Trash  | 18   | 1.16  |
| 16                         | Toys, Pens and Toothbrush  | -  | -   |
| <b>PACKAGING MATERIALS</b> |  |  |   |
| 1.                         | 6- Packs Holders   | -  | -   |
| 2.                         | Other Plastic/Foam Packaging                                     | -  | -   |
| 3.                         | Other Plastic Bottle   | -  | -   |
| 4.                         | Strapping Bands  | -  | -   |
| 5.                         | Medicine Packaging   | 4  | 0.015   |
| 6.                         | Garment/Textile Packaging Material                               | -  | -   |
| 7.                         | Low density plastic packaging material (Diapers, Sanitary packs) | -  | -   |
| <b>PERSONAL HYGIENE</b>    |  |  |   |
| 1.                         | Condoms  | -  | -   |
| 2.                         | Diapers  | -  | -   |
| 3.                         | Syringes   | -  | -   |

| S.NO.                              | MOST LIKELY TO FIND ITEMS:  | Total No. of categorized plastics from 5 gunny bags of segregated plastics | Total weight in Kg of categorized plastics from 5 gunny bags of segregated plastics |
|------------------------------------|---|--|---|
| 4.                                 | Tampons/Tampon Applicators  | -  | -   |
| 5.                                 | Sanitary napkins/pads   | 2  | 0.04  |
| <b>TINY TRASH LESS THAN 2.5 CM</b> |   |  |   |
| 1.                                 | Foam pieces   | -  | -   |
| 2.                                 | Glass pieces  |  |   |
| 3.                                 | Plastic pieces  | -  | -   |
| <b>ITEMS OF LOCAL CONCERN</b>      |   |  |   |
| 1.                                 | Glazed Paper having plastic lamination                              | 21   | 0.035   |
| 2.                                 | Fragmented/ torn/ dusty mixed plastic waste                         | -  | -   |
| 3.                                 | Synthetic Jackets   | -  | -   |
| 4.                                 | Synthetic Bags  | -  | -   |
| 5.                                 | Synthetic Belt pouch  | -  | -   |
| 6.                                 | Synthetic Clothes/Clothes   |  |   |
| 7.                                 | Synthetic flowers   | -  | -   |
| 8.                                 | Pan shop synthetic sheet  |  |   |
| 9.                                 | Ritual Material   | -  | -   |
| 10.                                | God Sculptures having synthetic cloth material & plastic ornaments. | -  | -   |
| 11.                                | Plastic Sheet & other thicker plastic bags. Color-Black & White     | -  | -   |
| 12.                                | Milky white bottles for carrying gangajal                           | -  | -   |
| 13.                                | Tobacco, Pan Masala Sachet/Wrappers                                 | -  | -   |
| 14.                                | Silver foil disposable plates & bowls having plastic lamination     | 8  | 0.06  |
| <b>DEAD/INJURED ANIMAL</b>         | <b>STATUS</b>   | <b>ENTANGLED</b>   | <b>TYPE OF ENTANGLEMENT ITEM</b>  |
| -                                  | Dead or injured   | Yes or No  |   |

| <b>CLEANUP SUMMARY</b>  |        |     |
|---|--------|-----|
| Number of Gunny Bags Filled with mixed trash:                                     | 8      | nos |
| Number of Gunny Bags of separed plastic:  | 5      | nos |
| Number of Gunny Bags opened for segregation of type of plastics:                  | 5      | nos |
| Weight of Mixed Trash Collected:  | 59.005 | kg  |
| Weight of Plastic Waste from 5 Gunny Bags:  | 19.9   | kg  |
| Weight of Plastic from 5 Gunny Bags used for segregation of types of Plastic:     | 18.655 | kg  |
| Weight of Mixed Trash from 5 Gunny Bags used for segregation of types of Plastic: |        |     |

|  |          |         |
|--|----------|---------|
|  | 39.705   |         |
| <b>Area Cleaned:</b>   | 29.229   | sq m    |
| <b>Percentage of aggregate plastics of the site vis a vis mixed waste collected<br/>(based on 5 number of bags):</b> | 46.98    | %       |
| <b>Plastic weight/Area for Clean Up</b>  | 638.236  | gm/sq m |
| <b>mixed wate trash weight/Area for Clean Up</b>   | 2018.714 | gm/sq m |



#### Annexure IV: List of Volunteers participated/registered on site

| S. No. | Name of Technical Team | Organization                  |
|--------|------------------------|-------------------------------|
| 1      | Mr. Lalit Kamde        | National Productivity Council |
| 2      | Mr. Gaurav Kadam       | National Productivity Council |
| 3      | Mr. Jayant Kamde       | National Productivity Council |
| 4      | Mr. Hemant Kumar       | National Productivity Council |

| S. No. | Name of Voluntarily Support Team | Organization |
|--------|----------------------------------|--------------|
| 3      | Mr. Manish Asodekar              | TERI         |
| 4      | Miss. Vaishnavi Barthwal         | TERI         |
| 5      | Mr. Prakash Joshi                | TERI         |
| 6      | Mr. Kishore Wankhede             | TERI         |

| List of Volunteers engaged under clean-up activity at Gorai Creek, Kandivali (West) on 2 <sup>nd</sup> March 2020-UNEP |                   |              |  |             |
|--|-------------------|--------------|--|-------------|
| S. No.   | Name              | Organization | E mail ID  | Contact No. |
| 1.   | Nikhil Pawar      | JES College  | <a href="mailto:nickpawar14@gmail.com">nickpawar14@gmail.com</a>             | 8433758907  |
| 2.   | Krishikesh Vaidya | JES College  | <a href="mailto:hreshivaidya700@gmail.com">hreshivaidya700@gmail.com</a>     | 7039315209  |
| 3.   | Rohini Rane       | JES College  | <a href="mailto:rohinirane851@gmail.com">rohinirane851@gmail.com</a>         | 8369972655  |
| 4.   | Ritik Desai       | JES College  | <a href="mailto:ritikdesai321@gmail.com">ritikdesai321@gmail.com</a>         | 8879913509  |
| 5.   | Suyash Jamgam     | JES College  | <a href="mailto:suyashjangam2@gmail.com">suyashjangam2@gmail.com</a>         | 9819524376  |
| 6.   | Hardeep Gohil     | JES College  | <a href="mailto:hardeepgohl87@gmail.com">hardeepgohl87@gmail.com</a>         | 7977753157  |
| 7.   | Suraj Kadam       | JES College  | <a href="mailto:suraj7264854782@gmail.com">suraj7264854782@gmail.com</a>     | 7264854782  |
| 8.   | Aniket Ganeshkar  | JES College  | <a href="mailto:aniketganeshkar18@gmail.com">aniketganeshkar18@gmail.com</a> | 8108454532  |
| 9.   | Shubham Kudtarkar | JES College  | <a href="mailto:shubhamwk@gmail.com">shubhamwk@gmail.com</a>                 | 8104676369  |
| 10.  | Mayur Jadhav      | JES College  | <a href="mailto:mayurjadhav2581@gmail.com">mayurjadhav2581@gmail.com</a>     | 9867173648  |
| 11.  | Pranav Kalambe    | JES College  | <a href="mailto:pranavkalambe26@gmail.com">pranavkalambe26@gmail.com</a>     | 7768900278  |
| 12.  | Deepa Choudhary   | JES College  | <a href="mailto:deepachoudhary@gmail.com">deepachoudhary@gmail.com</a>       | -           |
| 13.  | Kaushik Shet      | JES College  | <a href="mailto:kaushik102@gmail.com">kaushik102@gmail.com</a>               | -           |
| 14.  | Livon Fernandes   | JES College  | <a href="mailto:livonfernandes29@gmail.com">livonfernandes29@gmail.com</a>   | -           |
| 15.  | Jay Patil         | JES College  | <a href="mailto:patiljay705@gmail.com">patiljay705@gmail.com</a>             | -           |