



WASTE WARRIORS

REDUCE RE-USE RECYCLE

Ward 97 - A Model Ward in Dehradun

2020-21 Project Report by

Outreach & Partnerships Team

Waste Warriors Dehradun

Supported By:

In Partnership With:

LAL FAMILY
FOUNDATION





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Model Ward Program Executive Summary, 2020-21

Program Brief

The goal of our second Model Ward program in Dehradun, after Ward 21, was to transform Ward 97, Harrawala, into a model for the effective adoption of best practices for solid waste management (SWM). Through targeted behavioural change methods, focusing on community engagement, proper source segregation, daily segregated collection, and responsible disposal, we changed the way hundreds of individuals, families, and small businesses in the ward think about their domestic waste.

Strategic Approach

Our integrated approach to SWM best practices for our Model Ward involved:

- Training and deployment of community mobilizers for door-to-door household engagement and awareness-raising on source segregation, with distribution of IEC material and dedicated dry waste bags.
- Community workshops held by our team and by active citizens at neighborhood or RWA/colony levels to boost awareness and program participation.
- Identifying and engaging active community representatives to build community support and program participation, and to ensure timely waste collection.
- Training our truck drivers and assistants on segregated waste collection.

Targeted Outreach

Stakeholders:

1. Dehradun Municipal Corp. (DMC)
2. Ward Councillor, Ward 97
3. UK Pollution Control Board
4. UK Forest Department

Beneficiaries:

1. Ward Residents and Families
2. Small Business Owners/Operators
3. Collection Vehicle Drivers/Assistants
4. Active Community Representatives

Key Outcomes

1200 HH

Actively segregating waste & handing over to 3 collection vehicles.

333 MT

Of dry/wet waste collected by our 3 vehicles from 38 lanes in Harrawala.

21 MT

Dry waste was sorted and baled at our MRF for end-recyclers.

24 sessions

In which colony & apartment residents learnt about SWM best practices.

696 people

Participated in our SWM awareness events & workshops.

Overall Impact

On Ward 97 Residents (as per survey):

1. Source segregation went from 57% to 84%, improving dry waste quantum sent for recycling via MRF.
2. 94% of households now give waste to our collection vehicles, reducing dumping/burning from 27% to 5%.
3. 38% of homes are now trying to compost, reducing burden on collection work and city landfill.

On Mobilizers & Collection Staff:

1. Daily-wage earners became salaried & trained drivers/assistants, with addl. income from sale of dry waste.
2. Training on, segregated collection & route/task management led to higher quality & efficiency of collection work.
3. Sessions on community engagement boosted their ability to onboard more households and business owners.

Key Challenges:

1. Improving segregation and reducing dumping required multiple visits and awareness sessions.
2. Frequent maintenance of the old DMC vehicles impacted overall waste collection frequency.
3. User-fee collection in Q1 & Q2 was low as residents were hesitant to pay. Pending fee recovery required multiple visits.
4. Denied land allocation for wet waste processing.

Way Forward:

1. Continue program implementation to cover all 1500 HH in Ward 97 and 5100+ HH from already intervened areas (Ward 21 & 35 RWAs).
2. Collect 36 MT of dry waste to process at existing MRF for end-recyclers.
3. Collect 400 MT of wet waste to process at proposed DWMC.
4. Increase revenue from user-fees collection, compost sale, & recyclables.

About Waste Warriors

ABOUT WASTE WARRIORS

- Founded in 2012, Waste Warriors is a solid waste management NGO and registered society. We work through a combination of direct action initiatives, awareness-raising and community engagement programs, local advocacy, and long-term collaborative partnership with various government bodies and civil societies.

OUR MISSION

- Our mission is to develop sustainable solid waste management systems by being a catalyst for community-based decentralized initiatives in rural, urban, and protected areas, and to pioneer replicable models of waste management, innovative practices in awareness and education, and to formalize and improve the informal livelihoods and stigmatized conditions of waste workers.

Our Link With UN's Sustainable Development Goals



The Outreach & Partnerships team at Waste Warriors is focused on empowering residential and business communities to adopt collaborative, responsible, and sustainable practices in their lives, which in turn is directly linked to the UN SDGs 11, 12, 13, and 17.

- Behavioral transitions towards SDG 12 is done through awareness campaigns that help citizens and business owners take responsible steps to manage solid waste. These efforts, in the form of door-to-door awareness, group workshops, community meetings, and waste collection systems, all leads to SDG 11, to build healthier and more sustainable communities that recognize the importance of SWM.
- On a city level, these efforts reduce mixed waste generated at households, and reduce the load on overburdened municipal systems and overflowing landfills. Our efforts in collecting dry waste, and composting organic waste, all combine to help reduce greenhouse gases produced if these types of waste were otherwise burnt or dumped. The impact of our efforts reflects under SDG 13, climate action, and citizens are taught to take on this responsibility.
- Lastly, we believe in building strong and long-term partnerships between local authorities and marginalized and underserved communities. SDG 17 efforts are a key component of our work.



WASTE MANAGEMENT IN DEHRADUN:

Dehradun has always faced continuous challenges to improve its waste management systems, and the result of a lack of source segregation, composting, dry waste collection, and waste processing has led to large amounts of mixed waste, unsightly street litter, overflowing bins, choked drains, and a whole lot more. After our successful efforts in Dehradun's first model ward in Ward 21 MKP, our Outreach and Partnerships team focused on developing Dehradun's second Model Ward in 2020-21, in Harrawala, Dehradun's Ward 97, with an estimated number of households at over 1700, with the aim of showing this city that it is possible for entire communities to change and make a difference.

OUR BASELINE ASSESSMENT:

1. Ward 97 is both residential and commercial, and daily generated waste was completely undocumented.
2. Ward residents did not initially have separate waste bins to segregate dry and wet waste.
3. A lack of awareness led to mixed waste being dumped in nallahs or burnt in open areas.
4. Garbage collection was extremely irregular and poorly timed with no information on when it would arrive.
5. Residents were unaware of the harmfulness of waste dumping and burning on health and environment.
6. Harrawala is a newly formed ward and was a Gram Panchayat before the transition.

LAL FAMILY
FOUNDATION



Outreach & Partnerships:
An Overview

Our Outreach & Partnerships team was formed in April 2017 through the generous support of the Lal Family Foundation. The team went on to raise awareness and train citizens in over 35 Resident Welfare Associations and dozens of major institutions across Dehradun, focusing on the importance of adopting responsible waste management practices. Our team consolidated efforts in 2019 to transform one ward, Ward 21, into a Model Ward through awareness and engagement.

This included behavioral change campaigns, boosting stakeholder engagement, building new partnerships and strengthening existing relationships, and showcasing that such focused efforts are possible to scale up across the city. The credibility gained by transforming Ward 21 gave us the opportunity to approach the Dehradun Municipal Corporation again to transform Harrawala next, given that our existing Material Recovery Facility was already in that ward under another program. Despite the challenges presented by COVID-19 and the lockdown in 2020, we made great strides to engage the community and despite all the odds have made significant progress in transforming Harrawala.

Model Ward: Our Goals

1. To transform Harrawala Ward 97 into a model for community-based effective solid waste management.
2. To raise awareness and change behaviours to transform the way ward residents think about their waste as a resource, with a focus on responsible disposal.
3. To conduct 10 community workshops and 15 community engagement activities.
4. To organize 13 community conducted externally by active citizens.
5. To conduct 3 training sessions for green workers and 3 training sessions for community mobilizers.
6. To conduct 10 beautification activities in Ward 97.
7. To bring on-board 1500 households under our segregated and monitored waste collection service.



Model Ward: Our Strategies

1. Build a strong relationship with Nagar Nigam Dehradun and on-board them as resource partners for the Model Ward program.
2. On-board active citizens and community representatives to build community-led awareness and engagement and to ensure on-time collection through dedicated vehicles.
3. Conduct awareness programs that focus on the journey of waste from its source and ties it into the current scenario of Dehradun's solid waste management.
4. Provide accessible and cost-effective solutions to manage household organic waste and also reduce the improper disposal of recyclable waste.
5. Develop flexible waste management solutions for households and commercial establishments where conventional programs cannot be implemented.

Our Team In Dehradun



Vishal Kumar, Chief Executive Officer

Vishal joined the Waste Warriors family in December 2020. Prior to this, he was instrumental in scaling up Saahas Zero Waste, one of the first waste management startups in India and later helped launch a US based non-profit, Renew Oceans Foundation in India, aimed at reducing ocean bound plastic pollution. He experience has helped the Outreach & Partnerships team streamline their efforts in Harrawala and boosted the overall impact of the program's collection systems.



Naveen Kumar Sadana, Senior Manager - Outreach & Partnerships

Naveen has been associated with Waste Warriors since 2016 and has played a pivotal role in addressing new challenges and onboarding newer communities. He has reached out and built strategic partnerships with multiple government departments year over year, which has proved to be beneficial in enhancing our program delivery, awareness, recognition, and credibility.



Chirag Mahajan, Senior Manager - Communications

Chirag has worked for Waste Warriors since 2017, first in Dharamsala and then in Dehradun. With a strong background in multimedia design and communications, he has supported the Outreach & Partnerships team to effectively use their communication channels to engage a wide range of stakeholders. The team's implementation efforts have benefited from his innovative awareness designs, videos, reports, and a whole range of multimedia creatives for communities.



Yogesh Shukla, Manager - Outreach & Partnerships

Yogesh joined the Waste Warriors family in April 2018, and is an experienced manager and is known for helping, educating, and supporting Green Workers, mobilizers, interns, and volunteers alike. He's driven by a passion for a better and greener India. He is a positive thinker and innovative in handling complexities and challenges.



Aditya Gupta, Community Mobilizer - Outreach & Partnerships

Being a nature lover since childhood, Aditya knew he wanted to work in the field of environment and waste management. After completing his graduation in Computer Applications, he immediately started searching for platforms that can support his dreams. He joined us as a community mobiliser, where you can find him engaging and training households and businesses to segregate their waste.



Jitendra Pal, Community Mobilizer - Outreach & Partnerships

Jitendra lives in Harrawala and knows all the lanes and is a well-known personality in the area. He loves meeting new people and as a mobilizer he does his best to raise awareness on the harmful effects of mixed waste and burning of waste. He feels he has noticed a change in public attitude towards waste and will continue to do this work till every house in his ward takes responsibility for their waste.

Local Community Leaders



Vinod Kumar, Ward Councillor, Ward 97, Harrawala

Mr. Vinod is the Ward Councillor for Ward 97 and is in his third year in that office, and has strongly supported our efforts from the start. He has actively reached out to many residents in his ward to promote source segregation of waste. He also helped us to shortlist multiple locations for govt. land for organic waste processing.



Rohan Chandel, Ward Councillor, Ward 21, MKP

Mr. Chandel is the Ward Councillor for Ward 21 (MKP) and is very keen on solving waste management issues in his ward and in the city. He was among the first people we approached to kickstart this initiative and he has strongly supported our efforts from the start, and has actively reached out to various citizens in his ward to promote waste segregation. He continues to support ongoing efforts in Ward 21.



Anil Chauhan, RWA President of PPCL Colony, Harrawala

Mr. Anil Chauhan is the RWA President of PPCL Colony, Harrawala, and is an active citizen of this ward. He has been a huge support for our team in terms of his efforts to raise awareness on source segregation and mobilize 116 residents in 30 households in that colony.



Vinay Paswan

Vinay has actively participated in our awareness activities and led community cleanups in Ward 97. He also worked as one of our community mobilizer for a few months. He is very passionate about our work and promotes source segregation in his lanes.



Model Ward Implementation

Municipality Collaboration

**1
Launch**

Our Model Ward program for Harrawala was kickstarted with a formal event on World Environment Day at our material recovery facility at Harrawala. The event was attended by the ward councillor and 25 active citizens. The event was also live-streamed on our YouTube channel.



Training & Orientation

**6
Sessions**

A team of dedicated drivers, helpers and community mobilisers was hired and trained on various components of the program like door-to-door engagement, awareness-raising on source segregation, segregated waste collection, dry/wet waste handling and so on.



Baseline Assessment

**440
Surveyed**

To better understand Harrawala's SWM practices, we conducted a survey of ~27% of existing households along with a detailed recce. Resource mapping was undertaken and the route plans for waste collection at lane levels were set for the area to optimize the vehicle routes.



Deploying Team

**3
Vehicles**

Dehradun Nagar Nigam allocated three waste collection vehicles to our Harrawala program for door to door waste collection. The drivers and assistants are covered and trained under this program and regular monitoring is done by our community mobilisers.



Model Ward Implementation

Onboarding Households

1200 Homes

More than 85% households and businesses have been onboarded into this Model Ward program. We have distributed dry waste bags, awareness material, and gate signboards for participating homes. These have helped with waste segregation, storage, & community-building.



Community Workshops

696 People

We organized a series of community-level workshops and awareness sessions with various colony and neighborhood groups to emphasize the importance of source segregation. Clean up drives were also organised to instill a sense of ownership among community members.



DTD Waste Collection

333 MT Collected

A reduction in open dumping/ burning was noticed as people started giving their waste to our vehicles and most of them segregated their waste before handing it to the vans. Few of them even started composting at home.



Dry Waste Processing

21 MT for Recycling

A positive behavioral change was observed among waste generators post the awareness activities in the area. We could recover more dry waste for processing as the percentage of mixed waste significantly reduced.



Program Outcomes for 2020-21

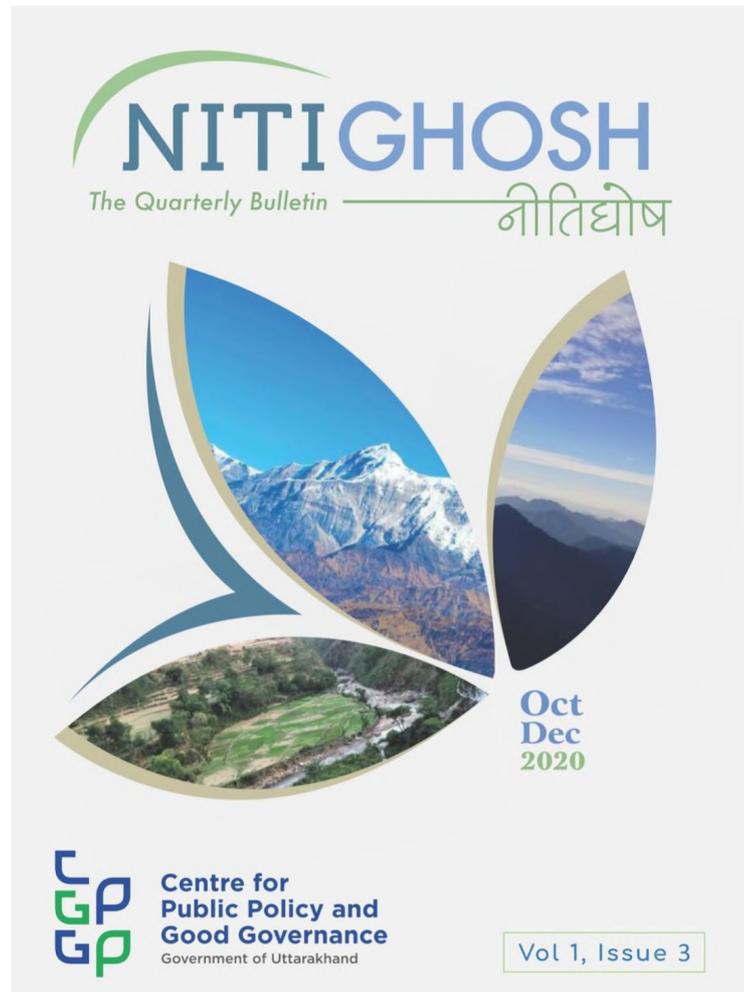
Serial	Activity	Proposed Target	Achieved
1	Program Inauguration Event	1	1
2	Success Event ('Carnival of Crap')	1	0
3	Ward Transformation	1	1
4	Door to Door Collection	1500	1200
5	Community Representatives	100	30
6	Beautification initiatives	10	10
7	Community Engagement Programs (Including Young Warriors Club)	15	5
8	Establishments Engaged in Ward 97 and Ward 21	6686	6386
9	Community Workshops on SWM	10	6
10	External Workshops on SWM	10	13
11	Training Sessions for Green Workers	3	3
12	Training Sessions for Community Mobilizers & Interns	3	3
13	Training & Capacity Building Sessions for Program Implementation team	3	3
14	Waste Collected/Processed	400 MT	333 MT

Impact of COVID Lockdown on Our Program

- **Inauguration:** Our plans were halted due to the COVID lockdown till June 2020. We inaugurated the program on World Environment Day 2020 at our Harrawala facility.
- **Interaction:** Due to COVID fears, there was reduced in-person interaction with Harrawala residents, making both the baseline survey and awareness-raising via DTD engagement difficult till August.
- **Infrastructure:** We received waste collection vehicles from Dehradun Nagar Nigam on Independence Day, but the inability to find land for organic processing and the overall delay in mobilizer deployment led to tight timelines to reach our program targets.
- **Events:** Due to restrictions on event size and in order to mitigate spread, we decided to not proceed with our success event titled 'Carnival of Crap' which would've have engaged a wider audience.



Honored with UDD's Certificate of Appreciation for contributions to Swachh Bharat Mission-Urban.



Our Harrawala Model Ward program is given a 4-page feature as an example of SDG 11 in "Nitighosh", a quarterly magazine by Uttarakhand Govt's Centre for Public Policy & Good Governance.



Our COVID relief work recognized by Graphic Era University on World NGO Day, 27 Feb. 2021.

Government Partnerships



Strong and positive government partnerships have played an important role in the success of all our programs. This year again, we've worked closely with Nagar Nigam Dehradun, UK Forest Dept. and UK Tourism Dept to actively support ongoing campaigns and missions, as well as localized clean-up drives at tourist destinations like Shikhar Falls, Sahastradhara, as well as the secluded but littered wetlands near Nakronda.

Our Efforts During the COVID-19 Lockdown

GiveIndia Relief Fund

To help waste workers and daily wage earners cope with the lockdown during the Covid-19 pandemic, we initiated a relief fund on GiveIndia's donation platform.

Through the donations to our relief fund, we were able to distribute dry food ration kits to people in Dehradun and Dharamshala. Approximately 900+ sanitation items including masks, gloves, sanitizers, soap, and toothpaste were distributed to those who need it in Dehradun.



**Raised
Rs. 13+
lakhs**

**From
487
donors**

**To Help
5200+
people**

One Relief Kit Contains:



3 kg
Rice



5 kg
Flour



1 kg
Pulses



1 kg
Sugar



1 kg
Salt



1 Ltr.
Oil



3 pkts
Spices

Dehradun & Dharamshala (as of July 2020)

28,267 KGs Food Procured	2,028 Relief Kits Packed	1,834 Relief Kits Distributed	68 Areas Distributed	5,285 People Supported
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Testimonials

Col. Gautam Banerjee, Estate Manager, Windlass River Valley

"I have been living in Dehradun for the last 50 years of my life. While serving in the Army, I have been all around Uttarakhand and have seen rivers dying and forests shrinking. Throwing garbage and littering on the streets had become quite common in the last few decades, but I am happy that due to the efforts of organisation like Waste Warriors it is gradually reducing. After Waste Warriors awareness programs in our township, residents have now started to see waste in categories of organic, recyclable and hazardous; earlier there was no such differentiation in our residents and they were mixing everything.

Seeing young lads fighting waste with passion and never give up attitude is the best thing about Waste Warriors. I strongly believe that it is just a matter of time when this team will bring the change and set up a model which can be followed by all of us."



Mr. Anil Chauhan, RWA President, PPCL Colony

"We all at PPCL Society would like to thank Waste Warriors. We had waste piled up in our houses for a week as the private waste collection vehicle didn't come to collect our waste. We called Waste Warriors team and shared our problem with them, within an hour their waste collection vehicle was there in our colony to pick up our waste.

We the citizens of PPCL colony support the efforts made by Waste Warriors to transform Harrawala into a Model Ward."



Vinod Kumar, Ward Councillor, Harrawala Ward 97

"I was elected as the councilor of Ward 97, Harrawala/Kuanwala. This ward was a Gram Panchayat before getting merged into the Municipal Corporation area. As this was a rural area, there was no such proper waste management happening.

I would like to thank Waste Warriors and our Honourable Mayor for initiating the waste collection services. I have seen a major reduction in open dumping & burning since Waste Warriors started their intervention."



Our Challenges in Ward 97



1. **Collection of segregated waste:**

Ward 97 was previously a Gram Panchayat and quite recently been added as a ward under municipality area of Dehradun Municipal Corporation. Residents and businesses in this area were regularly dumping and burning their waste before our intervention. Onboarding of waste generators was challenging in the beginning. It required multiple stakeholder engagement meetings, community workshops and lane-wise visits to initiate a system of proper waste management in the area.

2. **Condition of the waste collection vehicles:**

We appreciate that our Municipal Corporation stepped forward to provide us with 4 waste collection vehicles for Door to Door Waste collection in Ward-97. However, the condition of the vehicles wasn't up to par which resulted in frequent breakdowns. This impacted our operational efficiency in the area and high maintenance costs to repair the vehicles.

3. **Setting up a system for user-fee collection:**

User-fee collection has been another challenge for us since the residents are not used to paying anything against the services provided for waste collection. It took time to streamline the process of user-fee collection and communicate that to the residents of Harrawala.

4. **Organic waste processing:**

We have had multiple stakeholder meetings, including the Ward Councillor and the Municipal Corporation, to establish a wet waste processing unit at Harrawala. However, we haven't been able to identify appropriate land nor has the Municipal Corporation hasn't been able to allocate land for this purpose yet. Moving forward, we hope to encourage household-level composting and plan to create a lane-wise composting system so that the wet waste is processed in the ward itself in a decentralized manner.

Thank You For Your Support!



The Outreach & Partnerships team at Waste Warriors Dehradun extends our sincere thanks to the Lal Family Foundation for supporting us in our efforts this year in Harrawala. With your help we are making huge strides towards showing Dehradun and India that it is possible to bring about systematic and behavioral change in individuals, families, communities, and private and public institutions.

As a result of your support, more than 85% of the waste generators in Harrawala have been actively participating in our mission to make Harrawala a model ward with the best waste management practices in place. We organised a series of community workshops and events to disseminate information about source segregation, composting at home, and proper waste disposal, amongst other things. We diverted 333MT of dry waste from going into the landfills, out of which 21MT has been sent out for recycling.

We hope to continue to raise awareness on the dangers of waste pollution and the importance of waste management, change behaviours, engage municipal systems, and empower communities. We will do our best to ensure that as many households and businesses as possible understand their responsibilities towards their waste and will segregate, compost, and encourage their family and neighbors to do the same.

We thank you for helping us make a difference in the lives of the citizens of Dehradun, and for supporting our vision of a cleaner India.

Naveen Kumar Sadana
Manager, Outreach & Partnerships
Waste Warriors Society, Dehradun



I Am A



WASTE WARRIOR

I Segregate My Waste!

DRY / RECYCLABLE

WET / ORGANIC

DRY WASTE / सूखा कूड़ा



PLASTIC PACKS
प्लास्टिक पैकेट



GLASS BOTTLES
कांच के बोटल



PLASTIC BOTTLES
प्लास्टिक बोटल



TETRA PAK
टेट्रा पैक



ALUMINIUM FOILS
एलुमिनियम फॉइल



MILK PACKETS
दूध के पैकेट



EGG TRAYS
अंडे के ट्रे

ORGANIC WASTE / जैविक कूड़ा



MEAT SCRAPS
मांस की हड्डियाँ



VEG/FRUIT PEELS
सब्जी/फलों के छिलके



TEA/COFFEE
चाय/कॉफ़ी



BROKEN
EGGSHELLS
अंडे के छिलके



LEFTOVER BAKERY
PRODUCTS
बचे हुए बेकरी

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