

# Waste Segregation in Households

## Overview

Effective waste management practices, at the household level, play a critical role in curtailing emissions. Current rates of waste segregation at source remain inconsistent and constraints by a lack of clear reporting data (CPCB, 2022), driven by an interplay of behavioural barriers and influences.

Waste accounts for **2.6%** of India's GHG emissions

The Low Carbon Lifestyles (LCL) Programme by CSBC leverages behaviour change for sustainable lifestyle choices. Through a detailed literature review, diagnostic field work, and design ideation workshops, we identified behavioural pathways and interventions to improve waste segregation in Indian cities.

MSW contributes to **25%** of waste emissions

By applying behavioural science, programs can be designed to simplify the process of waste sorting to make it aspirational. People are also influenced if waste segregation is linked to proximal benefits, and if it is championed by those in their communities and social networks.

## Behavioural Barriers

Target behaviour

Encouraging household waste segregation at source

Target population

Urban households in middle- and high-income groups

- **Lack of clarity on wet and dry waste:** many households do not understand what qualifies as wet and dry waste or lack awareness on how to segregate waste properly
- **High effort for an unknown payoff:** the perceived cognitive load of segregating waste along with a lack of clear and proximal benefits reduces motivation to segregate
- **Existing waste disposal habits:** the 'status quo bias' to stick to existing practices and ingrained habits of non-segregation may hinder adoption
- **Segregation as an inconvenience:** time constraints, and a lack of convenience around disposal and collection schedules makes integrating segregation practices in busy routines challenging



## Behavioural Pathways

### BEHAVIOURAL PATHWAY

### INTERVENTION IDEA



Link to personal goals over climate

Highlight the proximal benefits of segregation like improved health, prevention of vector-borne diseases, cleanliness and other personal goals



Make segregation visible and aspirational

Using influential figures like celebrities, RWAs, or local 'Waste Segregation Champions' to model waste practices through community events and demonstrations



Simplify language and use cues for easy sorting

Provide user-friendly dustbins that use distinct and intuitive colours (e.g., green for wet waste, blue for dry waste) and images (e.g. food scraps, paper, etc.)



Children as vectors for change

Change terminology from 'wet and dry' waste to 'organic waste' or 'kitchen waste' and 'recyclables' or 'other waste'

Put visual reminders on everyday items like stickers or pictures of segregated waste or recycling symbols in the kitchen, on food packaging, in grocery stores

Developing school curricula like game-based learning, videos, and storytelling around waste management practices

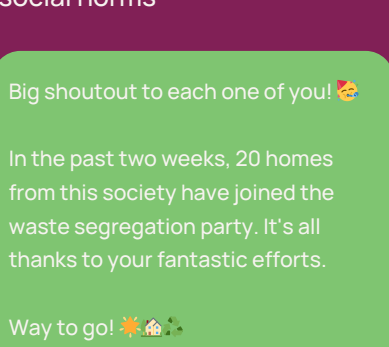
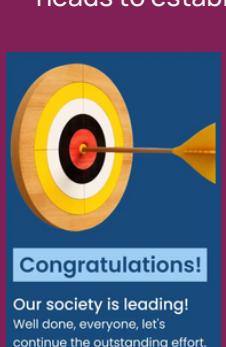
## Insights From Pilots

### 1 Making Segregation Simple, Social, and Relevant

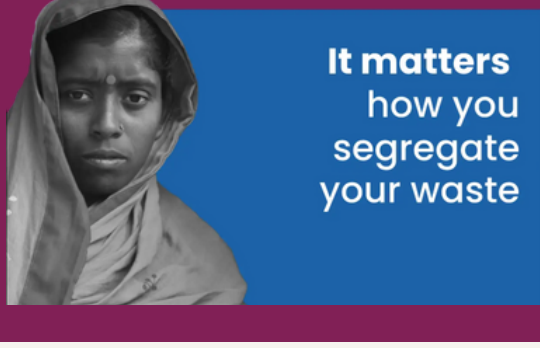
Made sorting clear and intuitive by using "Food and Kitchen" and "Other" waste



Used WhatsApp groups and messaging by RWA heads to establish social norms



Linked waste segregation to personal outcomes like better health and cleanliness



### Setting

Mira Bhayandar, Maharashtra  
1,500 mid-income households

### Approach

We addressed barriers around the lack of clarity of what constitutes "wet" and "dry" waste, and leveraged existing community structures to reinforce norms and accountability. The messaging also emphasized personal goals, as opposed to abstract and distant climate outcomes.

### Results

The pilot had a positive impact on participants' ability to accurately sort waste, especially for wet waste and a positive effect on the belief that waste segregation was a shared responsibility. There was largely no change in waste practices driven by high segregation rates at baseline (89%).

### 2 Community-Led Approach for Change

Used clear segregation guidelines at key points like community shops and restaurants



Created a Changemaker Toolkit for residents to champion waste practices in their community



Ran community-wide events to gamify waste management and establish social norms



### Setting

Harrawal, Dehradun  
400 mid- to high-income households

### Approach

We provided clear information on bins and posters to reduce ambiguity around waste categories. We developed a toolkit for residents to model waste management as 'Windlass Warriors' and influence others. We also held community events to establish social norms.

### Results

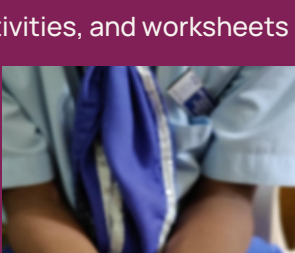
A community-centric approach was effective with segregation rates improving, as indicated by weight:

- Increase in dry waste (by 10%), wet waste (by 133%), and hazardous waste (by 46%)
- Decrease in mixed waste (by 85%)

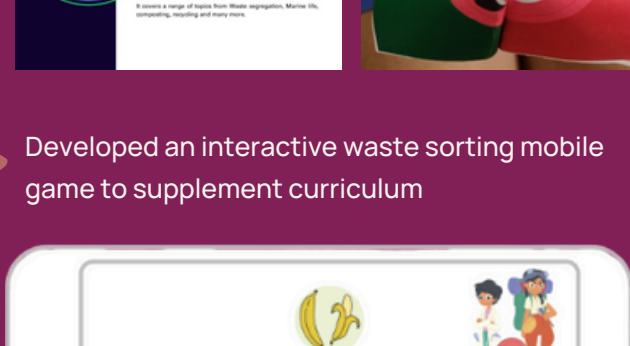
The intervention improved participants' ability to sort accurately, especially wet waste, and resulted in a positive shift in attitudes about waste segregation, (improving by 0.3 points on average).

### 3 Using Children as Vectors of Change

Developed a character-based interactive curriculum with videos, activities, and worksheets



Developed an interactive waste sorting mobile game to supplement curriculum



### Setting

Kohlapur, Maharashtra  
250 schools in a district

### Approach

The Waste No More (WNM) curriculum aimed to make students agents of change in their community by teaching them about waste management processes. It included engaging games, character-based stories, waste audits, and DIY composting.

### Results

The curriculum resulted in an increase in students reporting waste management practices, namely reusing scrap items (6 percentage points) and not burning waste (11 percentage points). WNM students also performed better at a waste sorting game in terms of accuracy (0.5 points faster on average) and speed (21s faster on average).