



# Let's come to- gether to separate

A conceptual and  
practical guide  
for communities  
interested in managing  
their waste at source

Garbage-  
free  
India

Let's come together to separate

garbagefreeindia.org



Best Practices Manual

Supported by  
Reckitt Benckiser

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This document presents Garbage-Free India's (GFI) learning's from our community interventions in three cities to pilot test the concept of 'zero waste communities'.

Our primary collaborator was Reckitt Benckiser India. Additionally Rotary Club of Delhi Millennium sponsored two activations in this period.

Our aim is to highlight key challenges and barriers and critical success factors needed to achieve a 'zero waste' community. We also offer a step-by-step practical guide for communities that want to get started on the zero waste journey. The three communities in our pilot program varied in profile and needs, providing a rich playground for insights and learnings.



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■ Cuffe Parade Residents Association, (CPRA), Mumbai

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☐ October 2017–October 2018  
**Profile**

- ▷ 30 high-rise apartments in a concentrated area
- ▷ High income residential community of professionals and business people

**Triggers for getting started on waste management**

- ☐ BMC legislation requiring communities generating more than 100kg of waste per day to manage wet waste at source

**Intervention Strategy**

- ☐ Each building society had the freedom to choose their appropriate waste management solution.
- ☐ GFI collaborated with Hari Dharti and Clean Mumbai Foundation to provide a comprehensive action plan which included training and monitoring progress as the building societies embarked on the zero waste journey



■ Sadiq Nagar, Delhi

▣ October 2017-August 2018

**Profile**

- ▷ 1700 household-strong government community residing in low-rise apartment blocks, over a geographically widespread area
- ▷ Low to middle income government colony

**Triggers for getting started on waste management**

- ▣ A highly motivated municipal councillor keen to introduce source segregation in his constituency

**Intervention Strategy**

- ◇ Free distribution of two bins to each household
- ◇ GFI collaborated with Chintan Environmental Research And Action Group to provide training and oversee the implementation of household-level waste sorting and disposal



## 2/ Community profiles of pilots



### ■ Cygnus School, Baroda

☐ October 2017-February 2018

#### Profile

- ▷ Private High School
- ▷ Affluent school with 'green school' certification already in place

#### Triggers for getting started on waste management

- ☐ A progressive school keen to plug the only gap in their school community, namely the efficient management of organic waste generated by their school canteen

#### Intervention Strategy

- ◇ Identifying the right technology and partner to set up a waste to energy conversion facility



By getting communities to take ownership of segregating waste, we were in essence disrupting habitual behavior—



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Residents used to collecting and disposing waste in mixed form were now required to sort their garbage into wet and dry, while waste collectors needed to collect sorted waste in two bags instead of one, which gave rise to new types of operational challenges to address.

Would this behavior change happen and be sustained? Taking a leaf from Richard Thaler's 'Nudge Theory' we wanted to test the hypothesis that behavior change needed for betterment of the country or society at large requires some sort of encouragement or intervention in the form a gentle 'nudge', rather than a mandate that is imposed from the top.

It involves steering people in a particular direction—without depriving them of the freedom to choose. So, while there is encouragement, there is no legal compulsion to comply and people have the freedom to choose other options.

Often inertia, lack of knowledge or poor incentives leads us to make sub-optimal choices.

If a nudge helps us choose an option that is also socially desirable, it could mean better public healthcare, civic sense and social harmony. The government's Swachh Bharat Abhiyaan is a classic example of the 'Nudge Theory' in action.

With this high profile social initiative, the government sought to build awareness and create an enabling environment for communities and cities to come forward and participate in cleaning up their neighborhoods and segregating their waste. In this milieu, where the public was already sensitized to the cleanliness mission, our interventions sought answers to the following questions:

- ▶ *To what extent do drivers like pride and community feeling play a role in persuading ordinary citizens to take the zero waste journey?*
- ▶ *What 'nudges' work, and what do not work?*
- ▶ *What are the critical success factors to achieve a zero waste community?*

### Mumbai CPRA

At the end of the pilot period, all building societies in the project had successfully initiated source segregation and were doing this on a continued basis. The motivation and energy of green champions within the community to train, persuade and follow up with individual flat owners to participate in the initiative went a long way in ensuring behavior change.

Sustainable disposal of wet waste however, met with partial success.

- ▶ 59% of the 30 societies were able to identify their preferred waste solution partners and implemented waste conversion to energy/compost at the building premises. However, only 7 buildings could eventually sustain this. (A spot audit of 6 buildings revealed approximately 25 tons of organic waste was treated and saved from going to the landfills during the project period.)
- ▶ The rest reverted to centralized waste disposal by hiring 'Mobitrash' (a semi-private waste collection and disposal agency), due to technical problems in the equipment chosen for waste conversion. No official report is available on the extent to which Mobitrash is managing full conversion of wet waste to compost, and some may be finding its way back to landfills.
- ▶ 41% of societies initiated sorting at source, but were not able to identify an appropriate waste disposal solution. Hence, again the sorted waste was given to BMC for disposal.

### Sadiq Nagar, Delhi

The pilot project achieved partial success in Sadiq Nagar. Low-income residents of the community showed limited interest in ethical waste disposal, and source segregation was taken up only partially. Poor support from government collection agencies and a resistant waste worker community added to slow adoption of the new process.

A decision was therefore taken to focus the program on Sector 3, which had 368 households, with a highly motivated RWA (Resident Welfare Association). At the end of the project period, 63% were giving segregated garbage to waste collectors. However, there was no visibility on whether the waste was fully treated by the government appointed collection and disposal agency.

### Cygnus School, Baroda

The school was able to identify and set up a waste to energy conversion facility. After a few initial teething troubles, the facility was up and running and was able to treat the wet waste generated by the School canteen. Currently the treated organic waste from the canteen fuels 3 gas burners in the canteen for the preparation of daily meals.

The diverse experiences of the three communities revealed interesting insights and its implications for a successful zero waste journey. A detailed discussion on what worked and what didn't is presented in the appendix of this report.

Presented below are some key learnings, which can be considered as answers to the questions we had initially raised as part of our concept test:

- ▶ To what extent do drivers like pride and community feeling play a role in persuading ordinary citizens to take the zero waste journey?
- ▶ What 'nudges' work, and what do not work?
- ▶ What are the critical success factors to achieve a zero waste community?

### Insight Pro-environment and pro-community mindset and behavior is still not mainstream

While we came across progressive minded citizens in every community, these were limited to a select few. The majority were either fence sitters or did not think waste management was a priority that needed urgent addressing.

In Mumbai, BMC's strict legislation targeted at bulk waste generators gave the required fillip to source segregation, which had met with partial success in earlier attempts to voluntarily initiate waste sorting at home. In Delhi, free distribution of bins was insufficient to initiate universal behavior change. Waste legislation is not so strictly enforced here, and success in segregation required ongoing canvassing interspersed by periodic activations like reward-based competitions.

#### What this means

01. Pride and community feeling are necessary but not sufficient drivers for a successful intervention.
02. Strictly enforced legislation must go side by side with 'nudges' to fast track the burgeoning garbage crisis.

### Insight Ensure four-way stakeholder alignment before the start of the programme

The Mumbai pilot achieved higher success due to better alignment of the community with these 4 stakeholders: NGO partners, waste solution providers, waste collectors and the municipality. While BMC legislation was already in place, GFI collaborated with local NGO's to provide the support to get started by consolidating fragmented society initiatives and waste segregation training.

VIDEO BY Neha Nowlakha interviewing waste collectors to discuss well designed waste collection process <https://drive.google.com/file/d/1agTefu0T-gLSUny-C5LNEkYjAMCGXNoRF/view?usp=sharing>

More effort in identifying waste solution partners with a proven track record however could have prevented the 'drop off' in successful implementation of composting at source by several societies.

In Delhi, Chintan Environment Research and Action Group, a well-known NGO helped GFI with program implementation and monitoring. However slow, bureaucratic response prevented effective and timely action to support collection of segregated waste. The extent to which sorted wet waste is converted into compost, and how much is reaching the landfills as mixed waste is still unknown. At source composting would have been a winning solution, but setting up composting pits within the community public areas was never addressed by the municipality. Additionally, independent contractors were charged with door-to-door waste collection. They saw no benefit and more effort in collecting sorted waste in two bags. Eventually they were persuaded to comply when the commercial benefits of better quality sorted waste was explained to them, since this reduced time in secondary sorting.

#### What this means

01. Don't start till you have a full end-to-end implementation design in place, which includes the collaboration and cooperation of the 4 stakeholders.
02. Have clearly defined roles and responsibilities for all program stakeholders
03. Thoroughly whet the technical success of the waste solution providers

## 6/ Key learnings

**Insight** Community champions are the backbone of a successful zero waste journey

In Mumbai, green champions invested many hours in door to door canvassing, education and follow ups to ensure homeowners and domestic workers did not drop off from the initiative.

VIDEO BY Neha Nowlakhia on waste segregation and checklist by building manager) <https://drive.google.com/open?id=1agTefu0TgLSUny-C5L-NEkYjAMCGXNoRF>

Similarly, in Delhi, a highly motivated RWA office bearer in Sector 3, along with 3-4 green champions were key to ensuring the segregation campaign initiated by the Municipal Councillor continued and gained momentum.

### What this means

1. Identifying community champions at the start of the project are critical for project success
2. Make them partners in your intervention and recognize their efforts as catalysts within the community

**Insight** Communicate frequently and for impact

At CPRA initial project take off was slow in the absence of a comprehensive communication campaign to launch the project. Many families were unaware of GFI's "Socho Alag" initiative At Sadiq Nagar, communication efforts came with some teething troubles:

1. Posters explaining waste segregation pasted on common walls were either stolen or blown away.
2. Use of a mobile app to share news and event information had limited reach due to low device ownerships among housewives- a key target.
3. Printed flyers to announce the inter-jeena competition came in too late.
4. Well-placed banners announcing an Art Competition on Earth Day were well noticed

### What this means

Communication strategy is critical and needs to be well designed, on the following criteria:

05. The right target audience
06. The right medium based on media ownership and important touch points
07. The right frequency

**Insight** Budget six months for sustainable behavior change

In Mumbai, interviewing some green champions in CPRA revealed the slow pace of initial take off in source segregation. Constant door to door visits to encourage residents to get started, educating and reeducating domestic workers to ensure correct sorting.

Eventually 100% segregation was achieved in the community, but needed 6 months to get there.

► VIDEO Introduction by Rekha Krishnan <https://drive.google.com/file/d/11riK3L5aKqqivX-4p9EPSchR2FgkgHHTw/view?usp=sharing>

► VIDEO Detailed interview by Rekha Krishnan [https://drive.google.com/file/d/1P1AXHBYZB-mYK\\_Nf\\_ryLU-tj1qj0-zbdv/view?usp=sharing](https://drive.google.com/file/d/1P1AXHBYZB-mYK_Nf_ryLU-tj1qj0-zbdv/view?usp=sharing)

In Delhi, Sector 3 residents of Sadiq Nagar achieved 63% success through ongoing contacts and motivation by GFI/Chintan team-members to encourage segregation, monitor progress and smooth out teething troubles.

### What this means

- When planning an intervention, budget for a team of volunteers for a minimum of 6 months to persuade, educate and monitor progress.
- It is important for community to take ownership for sustaining the initiative once the external body exits project

**Insight Design “nudges” that touch targets personally**

**Nudges that worked well**

The Best Building Competition in CPRA and the Inter-Jeena competition in Sadiq Nagar spread over 3 months helped sustain motivation and momentum of the residents to continue segregation.

Similarly the Children’s Art Competition on Earth Day on ‘No plastic’ in Sadiq Nagar attracted parents and children and became a natural platform to spread the message of ethical resource management.

**Nudges that could have been better**

In both communities, more impactful and hard-hitting narratives around the negative health impact of poor garbage disposal could have helped residents voluntarily start source segregation.

Additionally, in Sadiq Nagar, highlighting the direct commercial benefits of source segregation to waste workers by way of reduced sorting time and selling better quality recyclable garbage could have expedited their ‘buy in’ into the new process

**What this means**

Designing impactful ‘nudges’ requires understanding personal triggers that can make people change behavior. This requires a judicious combination of relevant statistics, observation research, incentives and expertise in story telling to get the point home



What worked *The rivers*



Cuffe Parade

01. Strongly enforced BMC legislation spurred societies into finding own solutions.
02. Readily available society funds expedited identification and selection of waste solution partners
03. Door to door waste collection already in place.
04. GFI's role as a catalyst and enabler in consolidating fragmented society initiatives into a comprehensive action plan
05. Highly motivated community champions to persuade homeowners and educate domestic help on sorting waste
06. Periodic high profile events and a competition based rewards and recognition program
07. Youth ambassadors worked well to manage activities

What didn't *The mountains*



Cuffe Parade

01. Faster take off of the project due to lack of a comprehensive communication campaign
02. Clear communication of stakeholder roles and responsibilities to ensure aligned CPRA objectives.
03. Community Pride as a motivator. Most residents showed limited interest in the initiative calling for door-to-door canvassing for 6 months.
04. Mid way through the program, individual solutions selected by the housing communities (machinery selected) had technical issues and had to be abandoned.
05. What started as DECENTRALISED waste Management where every housing society would manage waste at source... turned into Centralized waste management with the introduction of MOBI Trash taking away the segregated waste to another location.
06. 40% was still sending the waste to BMC. While source segregation had been introduced, it was still getting mixed by BMC at the time of collection
07. Frequency of communication was limited. More frequent communication would have seen more community participation

What worked *The rivers*



Sadiq Nagar

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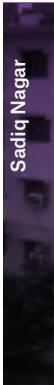


Sadiq Nagar

What didn't *The mountains*

01. Community Pride as a motivator. Many residents and community groups (like the Mahila Mandal) showed limited interest in the initiative
02. Lack of community resources for upgradation of existing infrastructure and ensuring 100% door to door segregated collection
03. Waste collection workers controlled by an independent contractor. Hence challenges in eliciting interest and commitment to sending waste workers

## 8/ Detailed report



Sadiq Nagar

- 05. Highly motivated community champions to persuade homeowners and educate domestic help on sorting waste
- 06. Periodic high profile events and a competition based rewards and recognition program for sustained motivation (in Sector 3)



Sadiq Nagar

- for segregation training
- 04. Resistance to change by waste workers. Taking garbage in two segregated bags seen as additional work, with no commensurate rewards.
- 05. Bureaucracy within the eco-system preventing effective and timely action to support collection of segregated waste
- 06. Fragmented community feeling due to various socio-economic backgrounds of residents. Final success on segregation was achieved in middle -income sector. Lower income groups more difficult to target for behavior change.
- 07. Mass communication via what's app and flyers to disseminate important information and related events due to low ownership of mobile phones with housewives
- 08. Lack of coordination and accountability of different stakeholders involved in the program.

### What worked *The rivers*



Cygnus School

- 01. A progressive mindset of the school administration ensured ready acceptance of the waste to energy solution suggested by GFI



Cygnus School

### What didn't *The mountains*

- 01. Apart from initial teething problems with the waste conversion equipment, which were eventually sorted out, no major hurdles were faced in introducing the new technology at the school

To stem the alarming pressure on landfills, in 2017, Bombay Municipality Corporation introduced a legislation for bulk waste generators to manage waste at source, with penalties for non-compliance. All building societies generating more than 100kg of waste per day were now required to sort wet and dry waste at source and implement their own organic waste disposal solutions.

In response to this new regulation, The Cuffe Parade Residents' Association (CPRA) of 30 apartments also set up a waste management cell to support individual society efforts.

CPRA partnered with Garbage Free India (GFI) to provide advisory and training support.

This document presents 10 practical steps for any apartment-based community that wants to get started on managing their solid waste. It is built upon consolidating both the challenges and successes experienced in the year long intervention at Cuffe Parade.

## 9/ Ten practical steps to get started on solid waste management in apartments

### Guidelines

*Build a "Socho Alag" Green Team*

### Documents links/actions

*The team should include the following representatives*

- Managing Committee.
- Committed resident volunteers along with the youth team.
- Housekeeping Staff Pet bottles and e-waste collection team
- External NGO partner for segregation training

### Guidelines

*Prepare project implementation plan covering one time capital expenditure and running costs*

01. Identify vendors for managing wet and dry waste
02. Get a list of consumable materials and basic equipment needed for residents to start household segregation (colour coded bins, safety equipment tools like mask, gloves, shoes).
03. Get proposals and cost quotations from at least 3 vendors and material suppliers
04. Get society committee to approve budgets
05. Shortlist and hire vendor based on cost quotations

### Documents links/actions

*Vendors With Disposal Solutions for Wet & Dry Waste*

- <https://www.youtube.com/watch?reload=9&v=P9nAOg5zoog>
- <http://www.mobitrash.in/>
- [www.klimrus.in](http://www.klimrus.in)
- [www.biomali.in](http://www.biomali.in)

*Colour coded bin suppliers*

- <https://www.pepperfry.com/housekeeping-cleaning-dustbins-plastic-dustbins.html?v=all>
- <https://www.indiamart.com/proddetail/swach-bharat-dustbin-15374221488.html>

*Household and Housekeeping tools for Segregation*

- [https://drive.google.com/open?id=1hj\\_zVEQwXOzI5R5NFPTUXoeOE33kUwvR](https://drive.google.com/open?id=1hj_zVEQwXOzI5R5NFPTUXoeOE33kUwvR)
- <https://drive.google.com/open?id=1rohzenztz-4VWoWthJEEM5uG32Xv2dTFw>

### Guidelines

*Understand local SWM legislation and visit a model community*

### Documents links/actions

*SWM legislation article*

- <https://indianexpress.com/article/cities/pune/maharashtra-state-government-issues-own-by-laws-for-disposal-of-waste-5514555/>

*BMC legislation site link*

- <https://portal.mcgm.gov.in/irj/portal/anonymous>

*Some Model Communities in Mumbai*

- Matoshree Pearl Mahim
- Ashok Tower, Sewree
- Oberoi Splendour, Jogeshwari (E)
- Vijay Nagar Society Andheri (E)

### Guidelines

*Circulate letter and posters to Society management and all residents to make them aware of the launch*

*Collect contact information of the residents with their permission to keep them updated on all future developments through social media.*

### Documents links/actions

*Awareness letter*

- <https://drive.google.com/open?id=1-C2hrPrJ9xqcsVVSaxww-F2toNULDFOu>

*Poster*

- <https://drive.google.com/file/d/1vc9I pjR2BYGcOxcRwoCtTvKXI dpfVJ9T/view?usp=sharing>

## 9/ Ten practical steps to get started on solid waste management in apartments

### Guidelines

Conduct Waste Segregation training for residents, housekeeping staff and domestic staff

01. Use "Know Your Waste" PowerPoint Presentation
02. Use Waste segregation Posters waste, wet/dry/e-waste/reject waste
03. Assign roles and responsibilities for Green Committee members

### Documents links/actions

"Know Your Waste" Presentation

- [https://drive.google.com/file/d/1Un\\_QYMqqsBfXIVUZWhma6sHIDD2nFcTr/view?usp=sharing](https://drive.google.com/file/d/1Un_QYMqqsBfXIVUZWhma6sHIDD2nFcTr/view?usp=sharing)

Waste Segregation Posters

- [https://drive.google.com/drive/folders/1I\\_xIcIat1a2wpoStK8W3uO-53JFeQJ\\_Y2?usp=sharing](https://drive.google.com/drive/folders/1I_xIcIat1a2wpoStK8W3uO-53JFeQJ_Y2?usp=sharing)

Roles and Responsibilities—see ANNEXURE

### Guidelines

Initiate Segregation

01. Initiate daily segregation
02. Conduct waste audit to identify the quantity of wet waste and other waste, from Waste solution vendor or managing committee volunteer of the society.
03. Follow up by committee volunteer and society member's daily or weekly basis.

### Documents links/actions

Waste audit form

- <https://drive.google.com/open?id=1IRUcLC9ZYWbfgk-oG3I27YMA2bdy3BrhH>

Segregation Poster

- <https://drive.google.com/file/d/12ZR1pT7thXR4pZfsJCAW7477VVnfpOz/view?usp=sharing>

Follow up by daily check list basis

- <https://drive.google.com/open?id=1Qsj-m56mL2Nqo8MOTQeT8FjZKSsxiOK7>

### Guidelines

Distribute waste segregation tools to all the households. (gloves, mask ,shoes)

01. Colour coded bins
02. Required items per household waste Segregation(household bins)
03. Required items for Door to Door waste collection(collection bins)

### Guidelines

Conduct periodic awards and recognition program for the community to keep them motivated

### Documents links/actions

Community program at CPRA

- <https://drive.google.com/open?id=1QvPXv3cfBuzkvqh-jlrDkKBAOeCZWuabH>

Competition Parameters

- [https://drive.google.com/open?id=1sdhCtafkx\\_2087\\_dhQHewEe6JFNYY2AW](https://drive.google.com/open?id=1sdhCtafkx_2087_dhQHewEe6JFNYY2AW)

### Guidelines

Conduct periodic e-waste drives

### Documents links/actions

E waste poster

- [https://drive.google.com/drive/folders/1I\\_xIcIat1a2wpoStK8W3uO53JFeQJ\\_Y2?usp=sharing](https://drive.google.com/drive/folders/1I_xIcIat1a2wpoStK8W3uO53JFeQJ_Y2?usp=sharing)

E waste Recycler registered under MPCB

- <https://drive.google.com/file/d/199wl-qidyqwnTtW7Jj35Oho3DHxDzarBg/view?usp=sharing>

E waste Collection drive poster

- [https://drive.google.com/open?id=1u-S3q9Fz\\_TCcyQMMG1ZRg4Sw9BCIgcjG](https://drive.google.com/open?id=1u-S3q9Fz_TCcyQMMG1ZRg4Sw9BCIgcjG)

E waste Collection drive template

- <https://drive.google.com/open?id=1Ar-5j39xT9VoGBF1ZhPTLq3VikHmL2LOP>

### The Managing Committee

01. Regular training meetings for the HK staff and residents
02. Communicate SWM rules, waste collection timings and penalties to residents
03. Motivate housekeeping staff with rewards and recognition –including financial incentives.
04. Audit various solutions available in the market to identify the most suitable SWM tool for the community.

### The SWM Green Team

01. To work with Managing committee to set up roles and responsibilities
02. To help implement the waste segregation at household level and monitor the same
03. Communicate best practices and challenges with MC and residents to help develop individual best practices
04. Collaborate and work closely with all housekeeping staff
05. Good and friendly relationship with HK staff.

### The Estate Manager

01. Provide all necessary infrastructure to help the community start the SOCHO ALAG SWM plan
02. Maintain waste audit records
03. Monitor and evaluate the de- centralised waste management plan
04. Provide HK staff with proper gear for handling waste.
05. Circulate information to new residents
06. Organise regular awareness and training programs.
07. Incentivise HK staff
08. Cooperate with the local waste workers and help them earn better
09. Organise collection drives (old clothes, recyclable items) and donate to NGOs

### The Residents /Community

01. The residents should follow the rules and regulation given by the BMC and the Managing committee
02. Ensure waste segregation is followed at the household level and help guide their domestic staff
03. Maintain cleanliness in the common areas and also outside the building
04. Help and support to the building to achieve 100% segregation.
05. Participate in every green event like training meetings and etc.
06. Always acknowledge the housekeeping and domestic staff for helping them manage waste responsibly
07. Always hand over your waste with smile
08. Acknowledge their hard work at training and awareness sessions.
09. Organise gifts for them during special occasions and festivals.
10. Help them earn more –donate your dry waste that has good recycling value

### The Housekeeping Staff

01. Collect segregated waste from homes.
02. Must transport the segregated waste in separate bins.
03. Wear proper gear while handling waste
04. Ensure waste segregation at household level timely door-to-door waste collection
05. Follow the rules and regulation of society.
06. Attend training and awareness sessions.
07. Politely inform residents about any default.
08. Motivate and encourage the other staff.

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Best Practises Manual

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