



Informatics  
on  
Segregation



Segregated  
Household  
Bin



Aesthetic  
Communal  
Bin



Green  
Zone



Willing to  
Pay for  
Biodegradable  
Bag



Sling  
Bag

# Nudging the Way Forward

## Innovating Waste Management through a Behavioural Approach

### At a Glance

Plastic pollution poses a growing threat to the environment, public health, and livelihoods in Cox's Bazar, home to both a booming tourism economy and the world's largest refugee settlement. Rapid urbanisation, tourism, and population density have overwhelmed local waste management systems, resulting in plastic waste leakage into rivers, seas, and surrounding communities.

While infrastructure and enforcement have traditionally driven waste management efforts, the PLEASE Project has taken a different path: human behaviour. BRAC, in partnership with the Behavioural Insights Team (BIT) and with support from the World Bank through the South Asia Cooperative Environment Programme (SACEP), has tested an innovative suite of six behavioural nudges, designed not to force, but to gently guide communities toward sustainable waste practices.



### What Is a Behavioural Nudge?

A behavioural nudge is a subtle change in the way choices are presented or structured that encourages people to make decisions that are in their long-term interest without restricting freedom of choice. Rooted in behavioural science, nudges work by aligning with how people naturally think and act, rather than relying on rules, punishments, or mandates. In the context of waste management, nudges might involve using visually designed bins, simple pictorial instructions, or creative public installations to guide people toward more sustainable behaviours gently.

*“Nudges don’t force people to act; they help people make better choices by design.”*

### Why a Behavioural Change Approach?

Conventional approaches to waste management often focus on infrastructure, penalties, or top-down enforcement. However, such methods frequently fail to address the root behavioural drivers of plastic pollution. They may lead to short-term compliance, but rarely result in sustained change, particularly in low-resource, high-pressure contexts like Cox’s Bazar. The behavioural change approach adopted in this project offered a fundamentally different philosophy:

- It prioritised voluntary change over coercion.
- It focused on small adjustments that made sustainable behaviour easier, more attractive, and more social.
- It aimed to empower people rather than impose rules on them.

By using nudges, the project helped individuals and communities move toward long-term, self-sustaining waste management behaviours without resistance or dependence on external enforcement.



## Behavioural Approach to Waste Management

Conventional waste management strategies often emphasise infrastructure development, service delivery, and regulatory enforcement. While these components are essential, they rarely succeed in isolation, especially in rapidly growing, resource-constrained, or socially diverse settings. Without addressing the human factors that influence daily waste-related decisions, even well-designed systems can falter.

The initiative applied the EAST Framework to identify behavioural barriers and develop six low-cost, locally relevant interventions. These nudges were tested through community engagement, co-design, and real-world piloting in households, markets, hotels, and public spaces across Cox's Bazar.

- ❖ **Easy:** Make the desired behaviour simple and convenient (e.g., providing dual-compartment bins at home)
- ❖ **Attractive:** Use visual appeal and salient design (e.g., colourful communal bins, pictorial infographics)
- ❖ **Social:** Leverage peer influence and shared norms (e.g., collective clean-up drives, community murals)
- ❖ **Timely:** Intervene at moments when individuals are most likely to act (e.g., distribution of bags at check-in)

By aligning interventions with how people naturally behave rather than how we expect them to behave, the project demonstrated that small, well-placed nudges can lead to significant improvements in plastic waste segregation, disposal, and overall environmental awareness.

## The Six Nudges: From Design to Impact

Under the PLEASE Project, six behavioural nudges were co-designed, piloted, and tested in Cox's Bazar to address specific challenges in plastic waste management. Each intervention targeted distinct behavioural barriers and was informed by community insights, behavioural science, and real-world testing.

1. **Sling Bags for Tourists:** To encourage responsible waste disposal among tourists, hotels distributed reusable sling bags at check-in. A refundable deposit of BDT 100 was introduced to incentivise their return after use.
  - ✓ **Reach:** 500 bags across five hotels
  - ✓ **Outcome:** Limited use; only 32 bags were used to collect waste
  - ✓ **Lesson:** Poor understanding of the bag's purpose hindered uptake, highlighting the need for clearer, more intuitive communication with tourists
1. **Infographics for Households:** Visually engaging, easy-to-understand infographics were provided to households to explain proper waste segregation between plastic and non-plastic materials.



- ✓ *Reach*: 140 households across four wards
  - ✓ *Impact*: Waste segregation accuracy rose to 36.41%
  - ✓ *Sustainability*: Infographics remained visible and in use in 96% of households throughout the pilot
2. **Household Segregation Bins**: Dual-compartment bins were distributed to promote source segregation of household waste, making correct disposal easier and more routine.
- ✓ *Reach*: 280 households
  - ✓ *Impact*: Segregation rate improved to 31.41%
  - ✓ *Condition*: 90% of bins remained functional at the end of the trial
3. **Willingness to Pay for Biodegradable Bags**: Biodegradable bags were offered at designated market booths, supported by visual awareness campaigns on the environmental impacts of plastic pollution.
- ✓ *Reach*: A total of 1,505 customers were approached, of whom 554 purchased bags.
  - ✓ *Result*: 71% of tourists and 31% of locals made purchases
  - ✓ *Barrier*: Price sensitivity remained a significant challenge, with many citing costs as the reason for not purchasing.
4. **Aesthetic Communal Bins**: Artistically designed bins were installed in public hotspots to increase visibility, foster community pride, and encourage proper disposal of plastic waste.
- ✓ *Locations*: Four municipal wards
  - ✓ *Result*: Reduction in surrounding litter; bins were used more consistently in wards with higher baseline awareness
  - ✓ *Community Feedback*: Residents viewed the aesthetic bins as part of the community, which increased collective responsibility
5. **Green Zones**: Designated litter-free public spaces were established using creative signage, murals, awareness activities, and volunteer engagement to promote plastic-free behaviour.
- ✓ *Activities*: Included clean-up drives, environmental art, recycling campaigns, and youth-led initiatives
  - ✓ *Awareness Impact*: 96% of visitors reported improved attitudes toward plastic use and disposal
  - ✓ *Challenge*: Despite increased awareness, behavioural compliance was mixed, pointing to the need for accessible plastic-free alternatives and ongoing reinforcement

## Evaluating Effectiveness

To measure the impact of the behavioural interventions, the PLEASE Project employed a robust evaluation strategy combining Randomised Controlled Trials (RCTs) with mixed-methods research, including daily waste audits, participant observations, and community feedback. This comprehensive approach enabled the project team to assess effectiveness across four key dimensions:

Indicator	Example Nudges
Behavioural Change	Bins with Infographics, Aesthetic Communal Bins
Community Engagement	Aesthetic Communal Bins, Green Zones, Biodegradable Bags Campaign
Environmental Impact	Increased segregation, reduced litter
Cost-Effectiveness	Household bins + infographics = highest

The data revealed clear trends and nudges that combined infrastructure with visual or social prompts led to measurable and sustainable behaviour shifts. Notably, the Household Bins with Infographics intervention proved to be both the most cost-effective and impactful, significantly increasing segregation rates while remaining simple to implement and maintain. Based on the evidence generated, the following three nudges were prioritised for scale-up:

- ★ **Household Segregation Bins** (from 280 households to 10,400 households)
- ★ **Aesthetic Communal Bins** (from 8 bins to 34 locations in high-traffic public areas)
- ★ **Waste Segregation Infographics** (from 280 households to 10,400 households)

## Scaling for Systemic Change

Building on the success of the pilot interventions, the PLEASE Project has developed a comprehensive scale-up strategy to ensure long-term impact and institutional sustainability. The goal is not only to expand reach, but to embed behaviourally-informed waste management practices into local governance, education systems, and community routines. Key components of the scale-up strategy include:

- Geographic Expansion to additional municipal wards and refugee camps where plastic pollution is most severe
- Community-Led Monitoring and Maintenance, empowering residents and volunteers to track bin usage, report issues, and manage minor repairs
- Policy Integration by embedding waste segregation and behavioural interventions into local waste management bylaws and operational guidelines
- Digital Innovation, including real-time tracking dashboards for municipal officials and performance feedback mechanisms for households and businesses

- Youth Engagement and School-Based Education, fostering early adoption of environmentally responsible behaviours through interactive learning and peer-led initiatives
- Local Production and Procurement of bins, biodegradable bags, and educational materials to support circular economy principles and generate green livelihoods

Together, these efforts aim to institutionalise a behaviourally-driven waste ecosystem, one that is responsive, community-owned, and adaptable. By aligning policy, technology, education, and local capacity, the PLEASE Project seeks to build a resilient culture of environmental responsibility that can scale beyond Cox's Bazar and serve as a model for other urban and coastal contexts.

### Lessons and Way Forward

The implementation of behavioural nudges in Cox's Bazar offers valuable insights for designing sustainable, community-driven waste management solutions.

The following key lessons will guide future programming and replication:

- *Sustainable change is most effective when rooted in ownership, not obligation;* Empowering communities to lead and maintain interventions fosters deeper engagement and long-term commitment.
- *Nudges are most impactful when they are simple, visible, and socially embedded;* Interventions that align with daily routines and cultural norms are more likely to be adopted and sustained.
- Behavioural science must be adapted to local realities; Context-specific design, language, and delivery are essential for nudges to resonate with diverse populations.
- Successful waste management requires investing in both infrastructure and behaviour; Providing physical tools (e.g., bins, signage) must be matched with efforts to build lasting habits and reinforce positive behaviours.



## Conclusion

The PLEASE Project in Cox's Bazar has illustrated that small, well-designed behavioural interventions can drive significant environmental change. By integrating behavioural science with local insights, BRAC have developed a replicable, community-centred model for reducing plastic pollution in South Asia.

As the global plastic crisis deepens, this initiative offers an important lesson: meaningful and lasting sustainability begins not just with infrastructure or policy, but with people, their choices, habits, and everyday actions. When communities are empowered to act through subtle, supportive nudges, behavioural change becomes not only possible, but enduring. The Cox's Bazar experience stands as a powerful example of how human-centred design can pave the way for cleaner, more resilient futures.

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