

Designing Reuse for Justice

Waste picker led Reuse Systems from India

Lakshmi Narayan / July 2026



INTERNATIONAL
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This case study is a tribute to the waste pickers whose labour, knowledge, and commitment have sustained circular economies long before concepts such as “reuse,” “resource recovery,” and “circularity” entered mainstream environmental discourse. The experiences, reflections, and analyses presented in these pages are rooted in their daily realities, aspirations, and determination to shape a future that is both environmentally sustainable and socially just.

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Finally, this report honours waste pickers across the world. In cities, towns, villages, dumpsites, streets, and informal settlements, they continue to perform indispensable environmental labour under difficult and often precarious conditions. Despite exclusion, stigma, insecurity, and inadequate recognition, they persist in organising, innovating, and advocating for their rights while engaging with alternatives that may fundamentally reshape their own work and livelihoods. Their resilience, courage, grit, and determination remain unmatched. Their struggles, achievements, and aspirations inspire this report and remind us that the transition to a more sustainable future must also be a transition toward greater equity, recognition, and justice for those who have long been at the forefront of caring for our shared environment.

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SUMMARY

Reuse systems hold real promise for reducing plastic waste and creating green livelihoods, but only if designed with inclusivity, standardisation, and strong public governance at their core. Piecemeal pilots that ignore existing informal economies risk displacing the very workers who have long sustained circular material flows. A just transition demands that waste pickers are not merely accommodated, but centred, in the design and governance of reuse systems.

To illustrate the importance of an inclusive design of reuse, this case study explores the engagement of two waste picker organisations based in India, Solid WASTE Collection and Handling, SWaCH and Hasiru Dala Innovations across four reuse models: refill-on-the-go, reusable event ware, festival material diversion, and thrift stores.

It provides an analysis of the rationale, experiences, scale, finances, sustainability, concerns, and impacts on waste pickers of each reuse system. Furthermore, it provides recommendations specifically with respect to each reuse system for an appropriate policy framework and interventions like financial and infrastructural support. These are needed to ensure the successful implementation of these reuse systems and to enable a sustainable city-scale coverage with the active participation and involvement of waste pickers in a just transition away from plastics.

The four cases illustrate the experience of different reuse systems that include waste picker organizations:

The first case outlines the waste picker organisations' experience in partnering with Refillable Circular Solutions Pvt Ltd (Refillable Solutions) in implementing a Refill-on-the Go and a refill-at-home model.

The second one presents a brief case-study on a Pune specific initiative that ensures the diversion of festival (Ganesh) idols, flowers, cloth, food and other offerings (from single-use and immersion into water bodies) into reuse.

The third case describes Hasiru Dala Innovations' (an offshoot of Hasiru Dala) effort to introduce reusable ware in Green Events (Waste) Management.

The fourth and final part elucidates both organisations' thrift store enterprises focussed on reusing household consumables with a spotlight on textiles which diverts them from recycling.

The analysis draws on a rich mix of primary and secondary sources. Primary data was gathered through in-depth interviews with a diverse set of stakeholders — including waste pickers who are directly involved in, or closely familiar with, the day-to-day operations of these systems; the founders of the organisations who conceived and established them; and the coordinators and staff responsible for their ongoing management. These conversations provided ground-level insight into both the practical functioning and the lived experience of the systems under study. This qualitative data was complemented by a review of written reports, organisational documents, and — where available — Management Information System (MIS) records tracking the activities and outputs of the relevant projects. Together, these sources enabled a comprehensive and multi-perspectival understanding of the systems examined.

Abbreviations

AIW – Alliance of Indian Waste Pickers

BBMP – Bruhat Bengaluru Mahanagara Palike

DWCC – Dry Waste Collection Centre

EPR – Extended Producer Responsibility

GAIA – Global Alliance for Incinerator Alternatives

GHG – Greenhouse Gas

HD – Hasiru Dala

HDI – Hasiru Dala Innovations

HDPE – High-Density Polyethylene

ILO – International Labour Organization

INR – Indian Rupee

IS – Indian Standard

KKPKP – Kagad Kach Patra Kashtakari Panchayat

MLP – Multi-Layer Plastic

MRF – Material Recovery Facility

PCMC – Pimpri Chinchwad Municipal Corporation

PET – Polyethylene Terephthalate

PMC – Pune Municipal Corporation

PVC – Polyvinyl Chloride

RRR – Reduce, Reuse and Recycle

SHG – Self-Help Group

TDS – Total Dissolved Solids

TRF – The Recycling Fund

UNEP – United Nations Environment Programme

USD – United States Dollar

WIEGO – Women in Informal Employment: Globalizing and Organizing

1. Introduction

1.1. Waste pickers and the plastics economy

World over, waste pickers collect waste from households, roadsides, and dumps to retrieve recyclables and prevent them from ending up in waterways, landfills and incinerators. They are responsible for collecting over half of post-consumer plastic waste recycled globally, and comprise a workforce of nearly 20 million (Lau et al., 2020; ILO, 2018; Maorais et al., 2022). Their hard work significantly reduces the quantities of virgin material needed for plastic, paper, and glass products, and forms the foundation of the recycling sector.

Yet, an estimated 95% of packaging plastics, valued at over USD 80 billion annually, are not retained in productive use cycles (Brown et al., 2022). Research from the Ellen MacArthur Foundation shows that 72% of all plastic packaging materials are not recovered at all, with 40% being landfilled and 32% leaking out of the formal waste stream, either dumped illegally or burned. Of the plastic that is recovered, only 6-9% of plastic waste is recycled. Less than 15 percent of plastics produced globally is recycled, with an increasing portion of packaging consisting of hard to collect and recycle, multi-layer and flexible materials (Tearfund, 2019).

Even the plastics that are processed are downcycled, i.e., turned into lower-value applications which cannot be recycled again (like polyester fibers from PET bottles, dustbins, buckets, and mugs from HDPE, pipes from MLP), leaving only an estimated 2% being recycled in a closed loop. (Hilton et al., 2023) Most plastics can only be recycled 7-10 times, losing their viability after each cycle, or relying on the addition of virgin polymers to maintain quality. The recycling process is also highly inefficient, with over 30% material losses, rendering it a diminishing recovery pathway for many plastic types. Besides, it poses serious environmental and human health risks, particularly for low-income communities, including areas where waste pickers themselves typically live and work, and for workers directly engaged in recycling who are frequently exposed to harmful fumes and emissions without adequate protective equipment. (Badal et al., 2025)

Despite the challenges involved in recycling, these unsustainable materials continue to flood the market, and are a central income source for waste pickers. Waste pickers recognize that plastics recycling may not generate safe or sustainable livelihoods in the long-term, and endorse the need for severe reductions in plastics production; they share the vision of a plastic-free future and recognize the urgent need to protect the environment for future generations, albeit not at the expense of the current one. They advocate for a just transition into alternative material handling systems, and sustainable alternatives for this pattern of destructive consumption.

1.2. Waste pickers and reuse-based livelihoods

In the context of the discussion about the adoption of a Global Plastics Treaty, and other spaces debating the best methodologies for achieving a more circular economy, reuse and refill is increasingly presented as an alternative to plastics production and recycling. While there has been deserved excitement around reuse, it is critical to have a nuanced perspective on it and recognise that it may work differently across geographies and contexts, and needs to be analysed through a just transition lens, drawing on the perspective of waste pickers, the most vulnerable and least represented stakeholders within the plastics-waste-environment discourse.

Waste pickers have been instrumental in enabling the few, long-established reuse systems that have operated at scale, such as glass bottle return systems in the beverage industry, demonstrating their critical role in circular material flows. Despite historically being key actors in reuse, repair and refill systems, unlike the visibility, recognition and evidence of their work in recycling, there is limited documentation of their role in reuse.

Reuse-based livelihoods have been shown to generate more jobs than incineration, waste disposal and even recycling (GAIA, 2021), but most pilots as well as models are rarely accessible to waste pickers, and often carry the risk of displacing them or shrinking their earnings. Small scale initiatives are taking shape to demonstrate closed loop shops, restaurants and hotels claiming that these systems create jobs in cleaning, washing, stacking, drying, and collection, but these jobs are often mechanised, or bypass waste pickers, and are unfortunately usually informal,

low-wage and without statutory benefits. They require adherence with formal norms and full time work hours, further excluding many waste pickers, especially women. Refillable packaging systems can offer similar challenges for waste pickers, by significantly reducing the need for packaging handling and placing the responsibility of returning packaging onto consumers. Some are embedded in apps that are linked to the consumer's account, discouraging them from handing over the materials to waste pickers, who often lack technological and literacy skills. Being small- scale, pilots, or handling very specific materials/products/packages, collection points are rarely centralized or convenient. Furthermore, these systems are often also financially and logistically inaccessible to inexpensive brands and low-income consumers, putting them in the realm of boutique services.

Several global and local initiatives seek to address the growing plastic waste crisis pilot reuse and repair-based systems, without considering the inherent potential impact on or roles for waste pickers. It is crucial for waste pickers to defend their existing roles, and carve newer, prospective roles in these systems. There is a growing need to demonstrate their readiness to transit to newer livelihoods in reuse, as part of their larger transition away from single use plastics. Equally it is critical for the reuse economy to shoulder the responsibility of enabling a just transition by safeguarding their livelihoods, promoting fairness, and ensuring inclusion. The many variants of reuse models need to be analysed for their feasibility, scalability and inclusivity.



2. Case studies: Refill solutions

2.1. Background on the engagement of waste picker organizations in refill models

Around 4 million waste pickers (AIW, n.d.) currently reside in India, toiling in unsafe and unhealthy working conditions, without any access to social protection. Belonging mostly to lower castes, despite being indispensable to cities and urban areas, their labour is largely ignored by local governments. Forced to work in informal settings, waste pickers are invariably dependent on the recyclables they collect for their incomes.

SWaCH and Hasiru Dala (HD), like many waste picker organisations across and outside India, have aspired to create and enhance the livelihood opportunities for their members. Recognising and having suffered the debilitating impact of privatisation in waste collection, that have shrunk the total number of waste picker livelihoods as well as the earning ability of each waste picker due to reduced access to recyclables, both organisations strive to explore alternatives, whilst engaging in active advocacy with the municipal, state and central governments. The imminent threat of the national Extended Producer Responsibility (EPR) legislation, that seeks to increase private enterprise in the space of recycling, has further displaced and marginalised waste pickers.

In a quest to stay ahead of the curve and explore the opportunities and threats that solutions like reuse hold, they have sought to engage in these spaces, study, analyse, tweak and occupy them, advocating for a just transition for the waste pickers in order to be accommodated here.

In this realm of alternative solutions, refill models are one part of reuse systems. They are commercial frameworks centred on providing consumers with mechanisms to replenish products into durable, reusable containers rather than purchasing new single-use packaging each time.

The examples of KKPKP and Hasiru Dala (HD) showcase two variations of refill models: The KKPKP pilot focuses on refill-on-the-go model, where consumers bring their own containers to shops or mobile units to get refills of a certain products. On the other hand, HD focused on refill-at-home models, where consumers get refills as a service at their doorsteps.

2.2. Experiences with refill-on-the-go: KKPKP and SWaCH in Pune

KKPKP (kkpkp-pune.org) is a pioneering trade union of waste pickers in Pune and Pimpri-Chinchwad, India, founded in 1993. It argues that the work of waste pickers is environmentally useful, socially relevant, and critical for reducing solid waste management costs, and advocates for the rights, welfare, and recognition of waste pickers, negotiating with municipal authorities for progressive social protection and inclusive waste management policies.

SWaCH -Solid Waste Collection and Handling, (swachcoop.com) is a waste picker-owned cooperative in Pune, India, formed in 2007 by members of the Kagad Kach Patra Kashtakari Panchayat trade union. It partners with the municipal corporation to provide door-to-door waste collection and allied waste management services, integrating over 3900 informal workers into semi-formal systems while promoting source segregation, recycling, and livelihoods for waste pickers.

In Pune, the integration of 3900 waste pickers into door-step waste collection has ensured efficient recovery of recyclables, at 35% of the daily dry waste generated. (Narayanan & Anantakrishnan, 2022) Having the right to sell the waste they collect further incentivises Pune's waste pickers to sustain these numbers. The decentralised door-step waste collection model allows for granular data on waste, earnings from waste, recyclables diversion, greenhouse gas (GHG) emissions and other useful insights to enable framing of appropriate demands, spaces and livelihoods within the materials economy.

Data from SWaCH show that plastics are particularly crucial to waste pickers as they account for 59% of their earnings from scrap. Rigid plastics, which are used for packaging consumer goods like soaps, shampoos and

detergents, are recovered at extremely high levels of efficiency and account for 80% of their income from plastics. In contrast, flexible plastics, particularly food packaging material, have lower recovery, contributing only 18% to their plastic sales. Lower-value plastics, such as Multi Layer Plastic (MLP) present significant challenges for collection, aggregation, and transportation due to high contamination levels, material heterogeneity, and their lightweight and voluminous nature. As a result, they have very low resale and recovery rates and are mostly neglected, with only 6% of metallised MLP being recovered.

As an active member of various environmental, zero-waste and plastic-free networks, as well as being a cooperative that has worked for nearly two decades carving newer green jobs in waste collection, composting, recycling, trading and reprocessing, SWaCH believed it was critical to engage in the space of refill on the go. SWaCH sought to assess the opportunities and challenges within the Refill model, for formalizing or even simply piloting these activities. It hoped to understand the readiness of waste pickers to work in the system, and analyse the net gain i.e. the number of livelihoods gained against the loss in waste picker earnings due to the reduced packaging the project would result in. SWaCH aspired to gauge how inclusive of waste pickers a Refill model could be, theoretically, by examining if the livelihoods generated are easily transferable and have low or no entry barriers. It also sought to assess the scalability of such models, by better understanding the numbers of consumers such an intervention can reach within the Pune context, consumer willingness to engage longer term with reuse models, and examine the extent to which the purchasing behaviour of consumers changes in the absence of any clear policy mandate.

While the overarching motivation and rationale underpinning Hasiru Dala's engagement with Refill on the Go was similar to SWaCH, it is important to understand the context and situation of waste pickers in Bengaluru to get a holistic picture of how and why their initiative was launched.

2.3. Experiences with refill-at-home: Hasiru Dala (HD) and Hasiru Dala Innovations (HDI) in Bengaluru

Bengaluru has an estimated 30,000 waste pickers organised under the aegis of Hasiru Dala (hasirudala.in), Green Force in Kannada, a social impact organisation registered in 2013 and dedicated to securing justice for waste pickers by focussing on their socioeconomic inclusion and empowerment through initiatives promoting identity rights, education, health care, housing, pensions, skill development and entrepreneurship in sustainable waste management and green business. Hasiru Dala works in 18 cities, 38 districts and 64 villages across two states in South India. Over 8,500 waste pickers have been identified, registered and provided Identity cards by the urban local body BBMP (Bruhat Bengaluru Mahanagara Palike), the municipal corporation responsible for civic administration and infrastructure management in the city of Bengaluru. HD collaborates with the BBMP in the management of 35 of the city's 198 Dry Waste Collection Centres (DWCCs) integrating waste pickers and enabling them to grow along the value chain.

The DWCCs embody a decentralised and inclusive model for Bengaluru's waste management system displaying a successful public-private collaboration. These centres, set up in wards across the city, collect household inorganic waste, sort it meticulously, and send it for processing and recycling. As, the management of DWCCs is entrusted to waste pickers and Self-Help Groups (SHGs), they are empowered to become entrepreneurs, hiring and managing teams of 5 to 20 waste pickers based on the volume of waste received. The city's urban local body, Bruhat Bengaluru Mahanagara Palike (BBMP), provides the crucial infrastructure, including electricity, water, and collection vehicles. This partnership model ensures uniform implementation of the decentralised system across a significant portion of the city, reaching approximately 80% of Bengaluru.

Hasiru Dala Innovations (HDI) is a social enterprise company, innovating circular economy business models that integrate waste pickers into the evolving circular economy value chain empowering them to become green collar professionals and entrepreneurs, and helping create predictable incomes for them.

Like SWaCH, HDI had several hopes attached to engaging in the refill space. The reuse model of providing refillables through a mobile delivery unit seemed like an intuitive and promising working proposition. HDI hoped to facilitate waste picker entrepreneurs to run modular refillable units if the economics worked out. The ultimate goal of HDI was for waste pickers to buy the unit, work out the repayment over a few years, and with appropriate handholding, oversight and monitoring, develop it into an enterprise model. The rationale behind HDI's engagement into refill was to envisage 'Reuse' as a growing part of the larger framework of the 3 Rs, (Reduce, Reuse and Recycle). Their

clientele had hitherto approached them for reducing and recycling, and if the concept of consuming detergents and cleansers out of a refillable package worked, Reuse held the promise to become an additional portfolio in the basket of services offered by them. Recognising that change in this space was inevitable, HDI resolved that the argument should not be framed in the context of Reuse taking away livelihoods, but rather in terms of how to ensure a just transition for this generation of waste pickers over the next 15 to 25 years. They aspired to do so by creating large scale models that do not disintimidate waste pickers but integrate them in an inclusive circularity as a deliberate and planned integration. They planned to design a reuse system so that waste pickers get access to markets they cannot otherwise access. In the following section, the reasons behind the failure of this refill pilot and the lessons learned will be explained.

While the waste pickers of Bengaluru associated with Hasiru Dala had their own reservations and did not promote refill solutions due to the risk in reducing their access to recyclables, they were open to family members and others trying their hands at the work associated with the mobile delivery unit.

2.4. Operational Insights and Barriers

In October 2022, SWaCH partnered with Refillable Circular Solutions Pvt Ltd (Refillable Solutions) to explore the viability of an inclusive “refill on the go” model in the city of Pune. The government of Maharashtra on the basis of a grant agreement, had mandated the company to reduce 7.5 Metric Tonnes of plastic through an environmentally sustainable solution. The company approached the Pune Municipal Corporation which directed it to SWaCH.

The operational model involved a mobile unit operated by a driver and sales person, that dispensed a range of home care products (such as sanitizers, hand wash, toilet cleaners, and floor disinfectant) along fixed routes across the city. Consumers were expected to come with their own containers and fill the detergent.

SWaCH analysed the scope, logistics, finances, concerns and model details with the waste pickers in detail at the onset. The model would involve consumers bringing a container in which they had purchased a product, and refilling it with consumables from large dispensers at their doorstep. Consumer adoption would likely be limited since they would not be able to access their preferred brands through refill services. It would possibly find purchase among a section of the middle/upper middle classes, and perhaps have a marginal impact on the usage of rigid plastic packaging for personal and home care products. As mentioned earlier, these plastics are already recovered and recycled at a high level of efficiency, and are not as problematic to the waste stream as other plastic materials. On the other hand, replacing them could lead to a significant loss in waste pickers' livelihoods, given that 80% of their earnings from the sale of plastics come from rigid plastics.

Waste pickers were aware that the kind of jobs required to run this model were not going to be easily transferable. The delivery vendors would require a vehicle and a licence, which would be especially arduous for female waste pickers to obtain. It would also probably require them to be comfortable with an app-based user interface, or written receipts and measuring devices which could be an obstacle, given the low digital literacy as well as limited access to smartphones or other appropriate mobile devices within the community. The relatively inflexible working hours, too, would make the work more inaccessible to women.

A home delivery setup also entails additional transport, leading to higher emissions, leaving its environmental impact questionable.

As expected, the initiative faced several hurdles from the outset, staffing being particularly bothersome. This was nonetheless surprising, since waste pickers had consistently demonstrated their willingness and ability to transition into new livelihoods, including roles in decentralized composting, biomethanation, sorting/baling operations, and plastic recycling. Under this model, however, the roles of both driver and salesperson for the mobile unit had to be drawn from other urban poor since waste pickers had neither the necessary training nor licenses for these positions. The barrier was not interest or ability, but the bureaucratic hurdles tied to commercial licenses and digital systems, often inaccessible to waste pickers, 60% of whom have not studied beyond the fifth grade .

HDI had entered into a similar agreement earlier in 2022 itself. HDI's motivation was the creation of an entrepreneurship model, leveraging on the innate entrepreneurial spirit of waste pickers. Refill as a system was an experiment to determine if waste pickers could manage mobile routes with Refillable consumables and if it worked, creating 200

such micro-enterprise models within Bengaluru. HDI wanted to ensure the economics worked prior to bringing in the waste pickers. However, the pilot could not be sustained long enough to convince waste pickers to invest, so it never went beyond the single delivery truck. In Bengaluru too, there was a lot of turnover of employees and the interest of second generation waste pickers did not sustain because the inability to optimise deliveries meant the pilot was never financially viable.

The other, even more unsurmountable challenge was the shift in consumer behaviour. In Pune, SWaCH tied the Refill operations to the allied citizen outreach programmes associated with the thrift stores it ran. This translated into over 200 drives where citizens interacted with the mobile unit. Another 2,500 citizens that frequented the thrift store were also given the consumables in refillable containers as part of a promotional drive.

In Bengaluru, extensive outreach was done by Refillable Solutions to promote the concept while HDI optimised operations and logistics. Refillable Solutions put in a lot of effort, spent time on the ground, had a marketing team and were completely invested in the success of the pilot.

However, the density of orders was simply too low to be able to give the existing consumers a confirmed schedule for delivery as there were not enough drops along a route to make the transportation and delivery cost viable. The 2,000 customers, (of whom 400 were regulars) were used to immediate or next day delivery and found it increasingly difficult to absorb the delays and the longer wait. Although there were no complaints about the quality of the products, consumers were not brand agnostic, and offering a limited choice to consumers in an economy designed to give them unlimited choice was unlikely to sustain. Only the die-hards for whom saving plastics was a higher priority than the choice of brand remained loyal consumers, and when HDI realised the delivery schedule could simply not meet their requirements, given the existing investment and infrastructure available, they were forced to shut shop.

In both cities, the model simply did not land the expected number of consumers in a sustained way.

Limited interest from consumers meant that the intervention failed to even reach the break-even point. In Pune, over the 18 months of operations, the initiative only managed to sell 1,724 litres of product, amounting to a total sale value of INR302,126 (USD3,021). With high operational costs and low revenues, the project was never profitable and amassed losses of up to INR840,000 (USD8,400) during its run time. SWaCH had made a down payment of INR 200,000 (USD2,000) towards the vehicle. An additional Equated Monthly Instalment of INR 35,000 (USD350) each month for a 3 year period, was due from sale of the detergent, which was bought at wholesale rates from Refillable Solutions, as sales picked up. The margins of INR 20 (USD0.2) per litre from the total sale of 1,700 litres was far too insufficient to cover the operational costs, far less the promotional costs, and the partnership had to be terminated within 18 months as it was simply not viable for SWaCH to pay the salaries of INR 40,000 (USD400) towards staff.

The situation in Bengaluru was not dissimilar. While HDI netted a loss of INR4,000,000, (USD40,000) Refillable Solutions itself invested upwards of INR2,000,000 (USD20,000) that could not be recovered.

2.5. Current status of both pilots

The mobile delivery units in both Pune and Bengaluru functioned for approximately 18 months each before shutting down, due to lack of viability. The Pune project was formally closed in March 2024. As of October 2024, Refillable Solutions itself has shut down its Business to Consumer partnerships in all cities, including Chennai and Surat, and runs only Business to Business wholesale orders, using large refillable jerry-cans. Additionally, they planned to dispense detergent in sturdy, single use plastic sachets using a two-wheeler.

2.6. Challenges in building Inclusive Reuse Systems

Structural barriers for the inclusion of waste pickers

The Pune pilot project's inability to draw enough consumers to run up to break-even point, precluded a comprehensive assessment of broader impacts on livelihoods, consumer readiness, or the net effects of reduced packaging on

waste picker employment. Instead, the experience revealed critical structural barriers that excluded marginalized communities from emerging circular economy opportunities. It highlighted the gap between policy intentions for inclusive circular systems and the practical support systems needed to make such inclusion viable. Its failure to reach meaningful scale ultimately rendered questions of employment generation and long-term viability both premature and inconclusive.

Need for extensive prior planning and assessment

HDI key takeaways were that piloting in a specific part or ward of the city, using two-wheelers or bicycles, and more homework on this prior to the pilot itself may have enabled a more nuanced blueprint. The per unit delivery cost was the sticking point and this could only have worked in a city like Bengaluru, if delivery was within a 5-10 km density as there was just a single warehouse for stocking.

The activities were clearly a pilot and lacked a holistic approach to materials management, consumer behaviour or policy mandate. It sought to impact a small and specific type of packaging, in a rather piecemeal approach that could not build on the city's infrastructure, systems, plans or outlets. However, the advantages in engaging with a nascent, reuse pilot system that was not brand or producer driven gave HDI an important insight into how piecemeal trials for individual items/packages/products packaging trials may look and operate.

Challenge of shifting consumer behaviour

HDI attributes the reasons for the failure of the pilot to the extreme changes expected of consumers. They not only had to reuse existing containers or packaging they had instead of going to a shop and picking up prepacked material, but were also being asked to change brands. Change in consumer behaviour in the context of the convenience of delivery in minutes, or shopping in large superstores with a wide variety of choice, is very hard unless legislated. India's transition to single use packaging for milk, cereal, oil etc, has been relatively recent, and a large proportion of consumers are still familiar with stores which bought in bulk and retailed at their premises. However the convenience of delivery apps, concerns regarding contamination and quality issues, and the significant increase in brand options are serious deterrents for consumers to shift to refill systems offering a smaller range of brands and products. HDI argues that getting consumers to change is more uphill than getting producers to. To quote an example: Brands are not shifting to increasing recycled content in their products through consumer demand alone, as people are not necessarily buying based on that, and so adding more recyclates becomes more expensive, and producers have to decide whether to pass the costs on to the consumer or to absorb it.

Challenge of engaging bigger brands to ensure success and enhance consumer acceptance

The bigger brands, with larger market share, were not a part of the pilot, due to their fears of their branded containers being filled with spurious products, and the lack of conviction that it would add to their volume of sales. Although quality of the product was not an issue, access to high market share (mass) brands was critical to the success of this pilot.

Working with a single warehouse and truck and attempting to service the whole city was not practical. Zepto, one of the quick commerce apps operating in Bengaluru has 159 warehouses across the city, enabling immediate delivery of brands of choice to consumers, and for HDI, competing against Zepto with minimal infrastructure was simply not viable. For HDI, refillable turned out to be a dead end.

Inclusivity considerations should also take the consumers into account

Another learning resulted from the inclusivity of the targeted consumer group. The pilot was clearly a reuse/refill intervention that was a boutique service operating at a small scale and structured around an app-based, doorstep delivery model with relatively expensive products, thus logistically and financially out of reach for most consumers—including waste pickers and other low-income groups. Interestingly though some waste pickers did access it, and remarked on the good quality of the products balancing out the high cost as quantities of the cleansers required were lower, making them ultimately more economical.

Concerns about the impact on waste pickers' livelihoods remain unclear

The reuse pilot did not prioritise a neglected waste stream like flexible plastics and the waste pickers did have some misgivings that if the pilot worked, it could cause significant disruptions in the market as well as their incomes. Without focus on flexible packaging material, it targeted rigid plastics, which not only constitute the bulk of a waste picker's income basket but are also recovered and recycled to relatively higher degrees. Harder to recycle materials like MLP, which are largely fodder for cement factories and waste-to-energy plants, were completely ignored. In retrospect, the waste pickers' wariness of the risk of such pilots fragmenting the existing recycling materials economy and impacting its economic viability by diverting relatively higher value, high recyclability materials like HDPE, were perhaps unfounded as consumer behaviour did not support the shift in any case.

Overall assessment

It became clear that such pilots are unlikely to sustain without support from policymakers, as they are logistically more cumbersome and expensive to implement or sustain. On the other hand, it highlighted starkly the entry barriers for waste pickers or their next generation, in the form of digital literacy, driving skills, marketing skills etc. Thus, the refill-at-home model potentially lacked inclusivity, scalability, and feasibility.

For scaling to work, the design of reuse strategies must therefore be comprehensive from the outset, with detailed operational and investment plans developed before roll-out, avoiding small-scale, short-sighted pilots that fail to integrate into broader materials management systems. Reuse policy must be inclusive by design, scalable by standardisation, and feasible through strong public governance and mandatory producer accountability.

2.7. Outlook: The potential of open loop reuse systems

Open loop Reuse systems offer an insight into the strengths of an inclusive design from the start. In open loop systems, consumers use and return packaging away from the point of adoption, with reverse logistics managed by multiple service providers, often including informal workers. Unlike closed or semi-closed loop models, there are no brand-specific return points. Instead, used packaging typically enters the general waste stream and is retrieved by waste pickers during routine collection. These materials are then sold to local scrap shops or aggregators, forming the first node in an extended value chain that links to washing and refilling facilities. The glass beer or coke bottle reuse industry is perhaps the oldest, most established, widespread example, where used bottles entering the waste stream are collected by waste pickers and sold to local scrap shops or aggregators, who sell them on to washing and rebottling plants.

This system operates at scale, without imposing a significant burden on consumers, or disrupting existing recycling flows, as middle/upper class consumers find the deposit or resale value per bottle negligible, while low-income households that consume such beverages often sell them directly to scrap shops. Waste pickers earn through the labour of retrieving and selling these bottles in bulk. Critically, the historical efficacy of this model relied on standardised bottle designs, which facilitated ease of sorting and reuse. In India, for instance, the multi-trip glass beer bottle standard (IS 2091:1983) was formally specified but later archived—eliminating legal enforcement and contributing to heterogeneous bottle designs that have since undermined recovery rates. The market for bottles was definitely very attractive for waste pickers, and often for lower income families too; bottles sold at a per unit cost, with the rates nearly 7-8 times that of glass. Today, with the wide variation in the shapes and sizes and types of beer bottles of different brands, they are sold at the rate of glass and are often not picked up by waste pickers at all, as they are extremely heavy and therefore need to be transported in motorised vehicles, further increasing the costs and reducing the margins on sale. Reinstating standards would be essential to restoring system viability.

Applying the open loop model's principles of standardisation, decentralised recovery, and informal sector integration to other product categories will require logistical adaptation and product-specific design changes. However, doing so holds the potential to generate sustained environmental and social benefits—through minimal consumer burden and embedding informal livelihoods within circular systems. It exemplifies a pathway for a just transition, meeting the core criteria of inclusivity, scalability, and feasibility in labour-rich, resource-constrained economies.

2.8. Enabling Policies for Inclusive Reuse

Based on the experiences and lessons learned from the refill model pilots in Pune and Bengaluru, it became clear that policymakers play a vital role. They have the potential to create an enabling framework that makes it easier for waste picker organizations to engage in the refill spaces. In order to move beyond pilots into successful and inclusive long-term systems, policymakers need to create the necessary conditions and support structures, and remove structural barriers. The following recommendations delve into more detail on how to support waste pickers in playing a vital role in these new spaces.

Embed Just Transition Principles

- Acknowledge waste pickers as key players in the plastics value chain and ensure their involvement in all discussions and stages of the transition, governance, and oversight.
- Mandate employment vulnerability assessments to identify risks to existing waste livelihoods. It is critical that the reductions in net earnings and total number of livelihoods of an already vulnerable community are factored in and weighed against the potential for newer jobs.
- Create clear transition pathways for affected workers, including funded capacity building, upskilling, and placement in reuse supply chains such as collection, washing, reverse logistics, or related circular economy services.
- Develop local government mandate to transit registered workers into new reuse operations, with specified minimum hiring quotas, factoring in the limitations of erstwhile waste pickers given their lower digital literacy skills and mobility.
- Constitute independent oversight bodies to track livelihood impacts, job creation, and informal sector integration.
- Mandate businesses and enterprises in the green economy to prioritise inclusion of waste pickers in their supply chains and work

Standardisation for Scale, Interoperability, and Reuse Efficiency

- The government must implement binding national standards for packaging design, sizing, labelling, and reverse logistics. These standards are vital to enable scalable open-loop reuse systems and to strengthen the efficiency and material consistency of the existing recycling sector.
- Producers should be required to adopt standardised reusable packaging formats, allowing for easy sorting, and upscaling, particularly in sectors with established reuse viability.
- Design comprehensive and radical alternative materials and packaging, standardisation and alternate supply and distribution channels.
- Mechanised systems need to be carefully weighed against manual ones to determine the relative cost in terms of loss of livelihoods.
- Comply with clear labelling and design protocols that improve sorting accuracy, facilitate high-quality washing, and enable more consistent re-commercialisation of recovered materials, reinforcing both reuse and high-quality closed-loop recycling.
- Ensure safe material composition and design that protects workers at all handling stages—eliminating hazardous additives, sharp edges, and materials that pose health risks during collection, sorting, washing, and reprocessing.

Prioritise and Incentivise Open-Loop Systems

- Given their alignment with existing informal waste ecosystems, open-loop reuse models should be prioritised through preferential permitting and tax benefits for firms standardising and scaling reuse systems that support inclusive recovery and washing operations.

- Financial incentives for businesses that demonstrably integrate informal collectors into open-loop reuse supply chains.
- Rationalised taxation on recyclable and reusable materials by eliminating or significantly reducing taxes that add unnecessary cost burdens to material recovery systems (Ashok, 2017), thereby improving price realisation for waste pickers and strengthening the economics of both recycling and reuse value chains.
- Mandating the reservation of decentralised spaces for collection, storage, and cleaning facilities within city development plans and local area zoning to sustain high rates of adoption, dovetailed within the existing/ planned spaces for storing other recyclables, so as not to step on anyone's toes. Subsidies to ensure the reuse system is affordable for the economically vulnerable consumers.



Photo credit: Kashtakari Panchayat



Photo credit: Kashtakari Panchayat

3. Case Study: Reuse at cultural and religious celebrations

This chapter explores the significant potential and impact of promoting inclusive reuse within the context of cultural and religious celebrations. As an illustrative example, it showcases how reuse was integrated into the Ganesh Chaturthi festival in Pune, and how waste pickers played a vital role in its implementation.

The Ganesh Chaturthi festival celebrated across India in the month of August holds special significance in Pune, with the ten-day celebration involving hundreds of thousands of 'pandals', enormous installations of the idol of Ganpati, across the city. Millions of local as well as out of city devotees throng to see the elaborately decorated pandals. The tenth day of the festival involves immersion of the idols, along with Nirmalya, offerings of flowers, fruit, coconuts, and fabric in the river. Thousands of Ganesh idols from individual households as well as community pandals are immersed at the end of the festival and new ones produced and installed the subsequent year.

Over the past two decades, environmental activists have underscored the severe damage resulting from the immersion of the Ganpati idols in the water bodies, highlighting the depletion of the water quality, increasing the acid content and proportion of TDS (total dissolved solids), reduced oxygen content and increased traces of heavy metals like iron and copper by up to ten times in the water. Following a Public Interest Litigation filed in the year 2003 at the Mumbai High Court by the Janhit Manch, one relief granted by the court included banning the practice of idol immersion and directions to create appropriate guidelines for alternatives for the same. The new guidelines directed local bodies to identify appropriate spots and make artificial lakes and tanks with synthetic liners for immersion. Idols were required to be made with traditional clay rather than baked clay or Plaster of Paris, and painted with water soluble, nontoxic, natural dyes.

3.1. Integration of reuse and waste picker organizations into the operations

Pune took to the new guidelines with remarkable agility, speed, innovation and inclusiveness. Despite protestations from radical Hindu groups, citing offense to their private religious sentiments, the initiative has continued to gain popularity in Pune, in large part due to concerted action by a group of environmental and civil society organisations including SWaCH. Intensive strategic inputs, outreach efforts, engagement with the municipality, ongoing meetings with organisers of the Ganesh festival, and general citizens of Pune, have resulted in the creation of a robust ecofriendly immersion process in Pune.

While the Pune Municipal Corporation (PMC) sets up appropriate infrastructure at the immersion sites, SWaCH deploys waste pickers to man the sites with the highest footfall and significant Nirmalya generation. Other civil society organisations are engaged in the outreach and awareness activities leading up to the programme. The flower offerings collected are converted into compost and distributed at no cost to farmers. Waste pickers at the immersion sites educate citizens on the appropriate segregation of the immersion materials and facilitate the diversion of reusables, recyclables and organics from the water bodies. Fruit, food items, coconuts etc. as well as fabric are reused by the waste pickers, and plastics, paper and styrofoam are separated and sold for recycling. While in the past, some of the flower and other organic offerings have been used to make eco-friendly dyes and fragrances, a large proportion is now composted by a few civil society organisations in partnership with PMC. Idols in good condition are donated and reused by contracted vendors of PMC.

3.2. Development from the beginnings in 2009 to current times (2025)

Started in 2009 by a group of civil society organisations including SWaCH, and growing steadily over the years, this initiative is now a crucial aspect of Pune's and Pune Municipal Corporation's flagship Ganeshotsav, (the ten-day Hindu celebration honoring Lord Ganesh) and continues to reflect the inclusive nature of the festival. Waste pickers from SWaCH are an integral part of this process, linking the festival with environmental conservation.

In the year 2025, 400 waste pickers were responsible for collecting and diverting 132 tons of Nirmalya and 46 tons of recyclables across 50 immersion sites, ensuring the diversion and subsequent reuse of 500,000 idols from immersion. Waste pickers stand at each immersion site educating citizens about the need to separate the

offerings into biodegradable and non-biodegradable, and collect the separated materials and deposit them in different containers. Each waste picker receives a daily wage of INR 500(USD5) for the collection and outreach work performed. This is in addition to their daily doorstep waste collection work and regular earnings on Nirmalya day. They also benefit from the donations of flowers, fruit, fabric and coconut offerings made by devotees. The initiative also draws widespread financial and volunteer support from local corporates who appreciate its cultural, environmental and social impact.

In 2009, the first year of operations with the focus on diverting the Nirmalya offerings, saw a modest collection of 14 Metric Tonnes of fruit, flowers, cloth and other offerings, by 64 waste pickers servicing 8 ghats. In 2025, over half a million Ganesh statues were immersed in an ecofriendly way through the 10 day festival, with nearly a quarter being donated for reuse, instead of being immersed. A further 923 Metric Tonnes of Nirmalya including flowers, garlands and coconuts were collected and diverted. The urban local body, Pune Municipal Corporation, set up 38 artificial ponds, 648 iron tanks and multiple collection centres across the city to ensure a smooth and eco-friendly immersion.

3.3. Impact of the initiative

The practice has had a critical impact on the cultural, religious, social and behavioural practices of significant numbers of citizens, creating a long-lasting shift in waste and material handling practices in Pune city. Today, Pune's Ganpati celebration boasts of nearly hundred percent diversion of Nirmalya, idols and non-biodegradable waste from the water bodies. Many of the floats and displays of the Ganesh festival also focus on the need for and value of environmental protection, appropriate waste management and protection of water bodies. Each immersion point of the city has appropriate infrastructure for the separation of the offerings, and trained volunteers, waste pickers as well as municipal staff deployed to communicate the important messages about protection of the environment and water bodies. The bulk of these materials make their way into reuse, significantly reducing the carbon footprint of the entire festival.

3.4. Lessons learned for implementing other inclusive reuse systems

The initiative is a hallmark of the advantages of sustained partnership and networking under an appropriate policy framework between like-minded legal, environmental, civil society, labour and municipal groups. It demonstrates the power of an appropriate policy framework in guiding and facilitating actual changes on the ground, by active citizenry. Although the policy does not explicitly reference waste pickers, the proactive engagement of KKPKP and SWaCH as well as the grassroot participation, enthusiasm and active role of waste pickers over the years has entrenched them firmly within the system albeit in an informal way. Likewise, although the policy is silent on the reuse of Ganesh idols and other offerings and decorations, the effective and enthusiastic implementation of the other aspects of the policy has ensured the diversion of all these items to reuse.

3.5. Enabling Policies for inclusive reuse at religious and cultural celebrations

The re-emergence of community celebrations of religious and cultural events world over creates a unique opportunity for systematic, consistent and recurring outreach about the finitude of our planet's space and resources, along with a serious threat of damaging them irreversibly. Protecting religious sentiments without compromising the environment requires an appropriate policy framework that recognises this dichotomy, and builds to create a harmonious context for them to co-exist. This includes relevant messaging on alternative material use as well as reuse of existing materials, infrastructure, paraphernalia and other decorations that such events may generate, in a spirit of sharing, conserving and providing for indigent communities.

State supported infrastructure and spaces for reuse stores for idols, decorations, alternative material, and repair facilities offer the potential to conserve scarce resources and generate sustainable green livelihoods in education and outreach, retrieval, repurposing, and re-sale of such materials and making them available at affordable prices to economically weaker sections of the population.

4. Case study: Reuse in Green Event management

This chapter describes waste picker engagement in Green Event waste management in Bengaluru, and the nascent efforts to move away from single-use to reusable cutlery in such events.

In 2016, The Forest Economy and Environment Secretariat imposed a ban on the manufacture, supply, sale and reuse of Single Use Plastics under the Environment Protection Act, 1986. Five years later, the Union Ministry followed with a blanket ban. Items such as carry bags, flex, flags, banners, cling films, thermocol, balloons, invitation cards, straws and PVC banners were prohibited. Celebrations in particular, from weddings to community feasts, leave behind mountains of plastic waste with discarded cups, plates and spoons clogging drains and polluting open spaces. Karnataka was the first state in India to pass a law against single use plastics. Like in other states, however, single-use plastic continues to thrive in the face of poor enforcement and civic apathy.

Capitalising on the new legislation, HDI stepped into the Green events' space in an effort to impact the environment positively whilst providing livelihoods. Jobs in green event management provide waste pickers access to newer markets that they have traditionally been denied, and give them agency so they can aspire for better quality of life and work. Against this backdrop, HDI took up an initiative for responsible waste management at different kinds of events, from music, cultural/religious (weddings, thread ceremonies), sports (marathons), corporate, government (millet mela) to community events (Durga Puja).

Green event management fits within the HDI business model where waste pickers aspire for more than Minimum Wages but continue to have flexibility without a permanent employer-employee relationship. They operate with autonomy and a reasonably predictable, stable employment and higher revenue than in itinerant waste picking during those periods.

For event organisers, the value proposition is that waste is responsibly processed, with (near) zero reaching landfill. HDI consults on how to reduce waste generation, suggests using plate banks, provides washing service with natural cleansers and waste segregation services.

4.1. Integration of reuse and waste picker organizations into Green Event operations

In green events, the workers' mainstream waste picking income is supplemented, so they continue with their existing work and provide waste management services on demand. HDI contracts with event managers or hosts, assesses the time and material needed (e.g. number of waste pickers/supervisors needed to cover the venue, where to place them etc) and coordinates the entire event.

Waste pickers are hired for the day and paid ten percent higher than minimum wages. While a typical working day ensures earnings of around INR 300 (USD3), which consists of picking for 4 hours and sorting for 2 hours plus transportation time, at such events waste pickers get INR 550 (USD5.5) plus transport plus food for an 8-12 hour working day as a supplemental income. The work is attractive from a non-monetary perspective as well. Waste pickers meet people they don't otherwise get a chance to interact with and are treated with dignity and respect. Besides, event waste management is completely waste picker centric: They come if they are available and need extra money, while they continue to work collecting waste.

In some places there are bins with instructions, sometimes waste pickers standing near bins instructing guests/visitors on how to separate their plate waste and plates. In public events like marathons, there is a waste management station and waste pickers empty food into one bin and recyclables into another. Since 2.5 years HDI has also started offering housekeeping services at these events, including cleaning venues and toilets.

4.2. Development from the beginnings in 2015 to current times (2025)

The Green event management work started in 2015, and has grown steadily, with HDI handling marathons for 8 years consecutively. The business model is viable: The revenue covers overheads, fixed costs, people on payroll, material, wage labour and supervision costs. Supervisors and waste pickers are event specific as the work is seasonal and not pre-established through the year. Besides, the waste pickers too prefer this arrangement as it gives them the flexibility to continue their regular itinerant waste work if that is more lucrative.

The run rate for event management for HDI is good with a steady increase over the years, reaching 288 events last year, with a target of 400 this year. The breakup of events indicate that 60 percent were personal (weddings, thread ceremonies etc), while 50 events were sports events and the balance were corporate.

For smaller events depending on the location, often the same waste pickers from nearby communities are hired. For Marathons where 250-275 workers are needed across Bengaluru, HD is roped in to provide waste pickers desirous of doing the work. The workers are almost always waste pickers.

Due to the huge impact and potential, HDI has expanded this activity to other cities. Sometimes HDI partners with waste picker organisations from the Alliance of Indian Waste pickers (AIW), and sometimes with housekeeping agencies while insisting that 70 percent of the workers are waste pickers.

4.3. Challenges in the integration of reuse into Green Events

The effort to convert events into completely green events without the use of single-use plastics however has been an uphill task for HDI. Depending on the event organiser or more importantly the host, and their openness to go the whole way, HDI recommends reusable cutlery instead of single use, or plantain leaves instead of plates (as this is culturally more acceptable), or tissue paper to be replaced with air driers.

Insisting on no single-use plastic in events they manage is difficult for HDI to implement universally, as many event managers and/or hosts demand single-use water bottles, single use table-sheets citing issues of hygiene. Often caterers exert more influence as does the event manager. Many bring their own cleaners who are not as skilled in responsible waste management. This chain has to be broken in order to leverage the reuse potential and move towards more responsible waste management. HDI's impact is limited to waste management only and cannot influence all potential opportunities to reduce waste generation, or address concerns regarding the issue of hygiene, convenience, multiple venues, multiple contractors handling different aspects of the work. Besides HDI is often called last minute as waste management is not top-most in people's minds while organising such events.

Nonetheless, in 7 percent of the events managed by HDI, hosts agreed to use reusable plates and glasses. Recently a marathon was organised entirely with reusables and a washing team was provided to handle the soiled cutlery. Although this trend is possibly growing, there may not be data to substantiate the increase in reusables at events over the years.

4.4. Impact of reuse in Green Events on waste pickers

Reusable options generate more work due to washing needs over and above the waste management work, since manual and not mechanised washing is done. Although earnings from recyclables goes down and reduces the potential waste picker income, this works within this model because wage is decoupled from sale of scrap and the workers earn irrespective and independent of the recyclables. It sometimes affects the payment of transportation cost to the waste picker entrepreneur who is assigned to take away the waste. However, this is carefully calibrated, and with access to high value recyclables the transport costs are reduced proportionately. Overall, HDI opines that a shift to reusables may generate more jobs.

HDI voices caution that caterers and event managers may bring their own workers who are not waste pickers, for such events. Such workers may suffer without recyclables to offset their wages against. The current practice encourages workers to cherry pick material and not account for it albeit for overall lower wages. However HDI

recognises that it is possible that labourers will refuse to work unless full wages are paid, as it will simply not be viable for them otherwise, and the market forces potentially could ensure that irrespective of who does the cleaning, erstwhile waste picker or other urban poor, an equal number of livelihoods will be created.

Although waste pickers of HD are justifiably concerned about the overall reduced access to recyclables if all events, canteens, malls etc are circular, they are quite open to doing the work of washing, cleaning and otherwise engaging themselves in such events that use reusables and appreciate the income-generating potential. They recognise the risk of other players, both institutional/organisations as well as workers occupying these spaces and shrinking the opportunities for erstwhile waste pickers. They argue that waste pickers should ideally be the first beneficiaries of such a move towards reuse in a just transition framework.

HD has also experimented with running a reusable cutlery bank through a 10-member Self Help Group (SHG) in Hubli. Customers rent cutlery off them and pay for the material as well as the waste pickers and waste management services. Washing is done by professionally trained waste pickers, with eco-friendly material, ensuring minimum wastage, and eco-friendly detergent.

HD gave the SHG working capital of around INR 60,000 (USD600) to buy stainless steel cutlery and it is still in the nascent stages. It was started in early 2025 and covers around 2 events a month at the time of writing this report. The income is supplementary for waste pickers and this alternative aims to augment incomes and to reduce waste in the streets.

4.5. Lessons learned for implementing reuse at Green Events

The initial experience in rural areas revealed that the offtake for reusables is generally lower for cultural reasons, with people not wanting different caste groups to eat off the same plates. However, these trends are also changing with time. Another insight of HD is that the poor themselves are not always convinced about reusables for events in their community due to water shortage and other logistics issues but also because using recyclables has become a status symbol for the poor.

In Bengaluru, a waste picker driven cutlery bank model could not be implemented as a revenue source as larger, politically motivated organisations have captured this space. They give such material (plates, cups, spoons, bowls) out for free, even if in very large quantities. Consumers with paying capacity end up getting these items at no cost except in case of material loss, where a deterrent fee is taken. These environmental justice groups do not engage on the issue of reduced incomes for waste pickers. Such voluntary systems kill the potential for business and revenue models around such banks run by waste pickers.

Some of these behaviour patterns and preferences will need extensive outreach, robust implementation, and strong policy mandate to see sustained and marked changes.

4.6. Enabling Policies for Green Events

Based on the experiences of this case study, it becomes clear that once again policymakers play a vital role in creating the necessary enabling and supporting framework to support the successful implementation of reuse systems at events. The following key recommendations have emerged from the case study:

- Establish an enabling policy framework

A suitable policy framework would ensure that all events above a certain minimum number of guests are green with a complete ban on single use plastics, mandating reusables (or compostables like leaves,) and disallowing single use items in general (cutlery, non-recyclable decoration items like flex, thermocole, sponges).

- Ensure successful Implementation through penalties

Stiff penalties on organisers and hosts who do not comply with these measures would further ensure significant reduction of single-use plastics and uptake of reusables at green events. Stringent implementation of the policy would be critical to effect real change in the consumption of single-use plastics.

- Invest into outreach efforts

Extensive outreach efforts and a more participatory approach with hosts, organisers, event managers, and allied service delivery vendors would be critical to ensure wider, and more sustained changes in plastic consumption and waste generation.

- Ensure a just transition for waste pickers

Newer livelihood opportunities generated should be earmarked and reserved for waste pickers and waste picker organisations as a just transition measure, as they risk to lose the most in the shift away from single-use plastics. Financial measures including low interest loans and subsidies need to be instituted to ensure appropriate investment towards infrastructure (e.g. refillables, reusable cutlery, containers and storage) are accessible on easy terms for waste picker organisations.



5. Case Study: Reuse of textiles and other materials in thrift stores

This chapter describes the experiences of SWaCH and KKPKP in running thrift stores which divert reusable textiles and other materials away from recycling.

The changing waste streams in India reflect the increasing consumerism especially within the middle and upper income groups, with many of the disposed consumables being single use, or no-use products or materials, and are trashed with the original, sealed, packaging, as they have simply never been used. Meanwhile aspirations of the urban poor, especially the young, fuelled by the glamorous lure of the advertising industry, have created a steady market for clothes, toys, utensils, and various other household consumer goods. Exploiting this, as well as the huge potential some of the 'waste' materials (products) contain, waste picker organisations have explored the possibilities of developing a Reuse market for such commodities.

The foot soldiers of India's rich and robust reuse sector, itinerant buyers, traverse several kilometres a day, sourcing used clothes, utensils, toys, shoes and other nicknacks from middle class households, in exchange for utensils or money. These items are sold in informal, road-side, flea markets to a dedicated urban poor clientele. While traditional markets for such reusable commodities including thrift stores, flea markets and weekly, road-side, second-hand markets continue to exist; they are plagued by new zoning laws that have significantly shrunk the spaces accessible to them. Shrinking spaces for such markets and severely restricted access to households within gated societies has compromised and limited this sector's operations as well as potential for growth. Anti-encroachment drives by the PMC in the flea markets and raw material supply now almost entirely accessed from poorer households due to the restrictions on entry into middle and upper middle income households, contribute to a reduction in their net returns.

Data from the KKPKP show that Pune's erstwhile 'dabbabatliwalis', (female itinerant waste buyers), population of 562 in the year 2000, constituting 12 percent of the Union membership, has been steadily decimated to 3 percent, at a mere 300. However, their shrewd business acumen, and years of marketing experience offer an opportunity to institutionalise this sector within more formal, structured urban thrift stores.

5.1. Experience with reuse centres from SWaCH in Pune

SWaCH stepped into this space tentatively in the year 2008 after several queries from well-meaning citizens serviced by waste pickers, who wished to donate gently-used consumer goods to waste pickers. These were items the middle class traditionally did not and still do not dispose of in waste bins, even if they held little or no use or value for them. The initiative had a modest start encouraging citizens to drop off well used, washed and ironed clothes to designated centres. These were then sorted and sold to waste pickers who had the option of buying them at nominal prices in retail for their own consumption, or for buying at (even lower) wholesale rates and selling it further within their communities and retaining the margin.

Like every other initiative, while there were several iterations over the monthly SWaCH Board meetings, in actual practice the operations evolved organically and dynamically based on waste picker insights, participation and inputs.

Early on itself, it was evident that SWaCH waste pickers did not frequent the reuse centres, as they already received several such items on a regular basis from the citizens they serviced. As familiar service providers, who interacted with around 200 households on a daily basis they were the first to be offered old bicycles, gas stoves, washing machines, refrigerators, utensils, clothes and several such household goods directly. Some SWaCH waste pickers themselves started donating such material to the centres.

While a few waste pickers tried their hand at wholesale purchase and retail sale, there was not too much offtake for this, as the older waste pickers struggled with marketing and pricing for outfits typically worn by the younger generation. Other urban poor including children of waste pickers also dabbled in this, but lacking the entrepreneurial spirit, training and capital, they too could not sustain the activity. Meanwhile the regular flow of material at the centre and its small size meant that sales had to be timely, regular and sometimes not at the best possible rates.

Also, the location of the centre was not central and only members from nearby communities accessed it. Other urban poor from the vicinity often came in to buy both in wholesale and in retail.

Other efforts to increase input as well as offtake were developed. These included sales in slum communities, in pockets close to where waste pickers lived, mega sales drives, sales in the SWaCH office, monthly sales during waste picker meetings. Members of KKP, itinerant waste buyers who had stopped work due to challenges related to access of material were encouraged to buy from the centre. Waste pickers were invited to encourage their children to intern at the centre and grow into retail vendors.

Wholesale vendors were contacted who bought in bulk and sold the materials either at the few residual second hand markets of the city, or in nearby villages and periurban areas. At times of calamities, either individual or collective, such as sudden deaths, house collapses, fires, floods, evictions, material was given free of cost to those affected.

On the collection side, weekend drives were organised in middle and upper middle income housing societies across the city through the SWaCH staff and waste pickers. Festivals like Diwali and Dussera, as well as corporate drives such as the Joy of Giving Week, became annual events around which citizens started donating material in large quantities. Drop offs increased in numbers, and citizens would frequently drive up and drop off reusables at the centre over weekends and public holidays. On an average, twice a month, citizens called up to ask for an entire house or office to be cleared up, as they are shifting homes, or if there has been a demise in the family. At such times large quantities of material came in.

It was soon evident that the inflow of material far exceeded the outflow. A dedicated larger space to manage the material was critical. After much advocacy with the Pune Municipal Corporation, around 2000 square feet of space was given in an old ward office, which developed visibility as a Thrift store. Soon, this space too was insufficient, and the volume of sales allowed SWaCH to invest in another rental warehouse for stocking wholesale supplies of materials.

Meanwhile, the initiative received a lot of coverage and was documented as a best practice nationally. The central government encouraged other municipalities to emulate these examples and Reduce Recycle and Reuse (RRR) centres were soon created in many cities. The Pune Municipal Corporation responded by announcing 15 centres to be handed over to different organisations to run. However, after the initial fanfare none survived as the effort to manage and run the centre systematically involved hiring, supervising, inventorising and managing material through-put. The organisations who had volunteered to run the centres brought neither the expertise, motivation, finances, know-how or motivation to run them. They simply could not cope with the overall work involved. Very soon, the practice of sending the material from all the centres across to the SWaCH thrift store was institutionalised. The neighbouring municipality, Pimpri Chinchwad Municipal Corporation (PCMC), allocated space for three RRR centres and handed over two for SWaCH to operate.

5.2. Current status and mode of operation of SWaCH's reuse centres

Currently, PMC offers space to SWaCH for one thrift store in Pune, that handles an average of 30 metric tonnes of material per month, generating formal livelihoods for 17 urban poor persons and business opportunities to another 65. Many of these individuals are erstwhile waste pickers.

After consistent follow up, PCMC offered a 3000 square foot space to SWaCH in 2021 to run as an RRR centre. This centre has staff for the collection, sorting, inventorising and sale of material. 22 smaller centres varying in size from 200 to 900 square feet have also been given to SWaCH across the city. These are tougher to allocate fulltime personnel due to their limited size and locations that inherently constrain large scale collection or sale. They function as drop off points, run with minimal municipal staff support and SWaCH manages the material on a weekly or need basis.

The net profit has grown steadily from around INR 4,00,000 (USD4,000) in 2018 to 37, 00,000 in 2024. The years 2024-25 saw a huge dip due to unseasonal rains and damage of material, resulting in a glut of material and limited warehouse space to accommodate more collections. However, the profits are up again this year (2026) and likely to maintain the upward trend onwards.

While 18 percent of the material coming in is sold in retail, 82 percent is sold to wholesalers, as the volumes are simply unmanageable for retail sale in the limited spaces currently available. More importantly, everything gets sold, and the few items that do not have reuse value are sent up the recycling chain to scrap dealers, who sell it to wholesalers. Rags, or clothes with absolutely no reuse value, are bought by garages and small mechanics. Nothing from the thrift store goes to the landfill. Over the past five years, a steady average of little over a metric tonne of reusables has been making its way into the SWaCH reuse store each day. The store currently employs 17 people, whose costs, as well as the other incidental expenditure of transport, outreach, and administration, are recovered from the sale of reusables. While three of the employees are from families of waste picker members of SWaCH, ten are from other urban poor households. Clothes, at 51%, are the predominant material coming into the store, with damaged/broken household items that need to be sold as scrap constituting 21 % and E waste 12 % of the material handled.

The collection of material happens through drives organised in most up-market localities of Pune and Pimpri Chinchwad every weekend. The drive is typically preceded by distribution of outreach material through leaflets and announcements. Over the past couple of years, most of these locations are aware of and prepared for these events, and often pop over to the neighbouring area, if they miss donating during the drives in their own areas. Almost 120 drives were conducted in the last year (2025) alone, and nearly 2500 citizens dropped off material at the centre. Diwali, Dussera and the festival season are special draws with almost 50 percent of the total annual material coming in, during those three months.

Today, 11 of the 65 wholesalers purchasing from the store are members of KKKPKP. The number of waste pickers making regular retail purchases from the store however continues to remain fairly small at around 15, as most others find the commute prohibitively expensive and time-consuming. However, the store has a client base of almost 1500 retail purchasers comprising a motley assortment of staff, collectors of curios, environmental activists and urban poor.

At an estimated outreach to 500,000 citizens, SWaCH reaches but a tenth of the population of potential donors and a 100th of the population of buyers. Despite the competition in this space, there is confidence that a good part of the city continues to remain unserved or underserved.

The widespread media coverage for this work in Pune along with the relative ease of operations and minimal infrastructure requirements has spawned a number of private entrepreneurs, competing in this space with the erstwhile informal sector workers or their organisations. Many apps have been deployed to encourage the donation of such materials and facilitate pick up and drop offs.

The municipality offers space and outreach support to some of these entities. In Pune, Janvani, a non-government organisation working on outreach and awareness on waste management, has started similar drives and captures some part of the city, through citizen volunteers who persuade others to donate used materials. The entire effort is supported through corporate sponsorship, although some of the costs are perhaps offset through sales of material. Pune Municipal Corporation (PMC) also regularly appeals to people to donate their E waste to Janvani.

In the eastern part of Pune, an upper income Resident's Welfare Association has engaged in similar work in their immediate locality, in space provided by the municipality.

Goodwill India conducts collection drives in different parts of the city, through 3 delivery vans and 4 full time drivers. Their website reports that they generate additional livelihoods for 50 underprivileged individuals at 13 distribution outlets in Pune and 4 in neighbouring Pimpri Chinchwad. Most of the material collected is distributed to orphanages, institutions, victims of floods, or poor communities.

More recently, contractors offering housekeeping services to large housing societies have been conducting collection drives for reusables and selling such material directly to scrap dealers.

In the outskirts of the city, smaller buyers have been approaching SWaCH waste pickers and offering to buy any cloth waste they collect directly from them at collection points.

In 2 of its 8 wards, PCMC has given space to other operators to run on similar terms.

Although SWaCH recognises that enterprise, competition and more players in these spaces are in principle welcome, as they are likely to increase the overall livelihood as well as reuse potential, some caution needs to be exercised.

Apart from the risk of shrinking the spaces available to very vulnerable and marginalised communities, by focussing on higher value materials, such enterprises fragment the potential of recovery, reuse and recycling in the waste sector. Like with the scrap trade, the diversion of highly priced materials like good garments, footwear, utensils, furniture etc over relatively lower quality items of similar categories reduces the revenue for operators who handle all materials without cherry picking. With only low value materials in balance, the revenue from sale of second hand goods is likely to be unattractive and confined to very poor communities with minimal purchasing power.

Likewise without adequate policy measures, the sector will continue to operate in the grey market, and workers employed in these spaces are unlikely to draw statutory minimum wages or benefit from any social protection.

5.3. Experience with reuse centres from HD in Bengaluru

In Bengaluru, HD had a similar experience with the collection of reusable materials beginning quite organically, right from the inception of the Dry Waste Collection Centres (DWCC) in 2011. Although there was no separate collection system for clothes and other reusables, several citizens started making enquiries about how and where to dispose of household material. HD started diverting such enquiries to one of the 33 DWCCs they operated. Over time, and with publicity in the local press, the calls became more regular and frequent, and the donors were directly connected to the closest DWCC. Since 2024, collection drives are being organised during festivals as well as in central places including schools and colleges, where workers from the DWCC go and pick up the collected materials.

5.4. Current status and mode of operation of HD's reuse centres

Currently, most of the material is routed through citizens groups. Bengaluru has 198 DWCCs, one per ward, although only 120 of them are functional. HD manages 33 of these DWCCs. Each of these is associated with two or three Residents Welfare Associations who proactively support and facilitate the process, encouraging citizens who wish to donate materials to the DWCC they are associated with.

Each DWCC encourages the workers within to take what they can reuse for themselves, free of charge. With an average of seven workers per DWCC, (and a range between 5 and 25 depending on the size and the number of households associated with it) once the workers have retrieved the reusables, the remaining material including electrical and electronic devices and waste, photographs, vessels, refrigerators, clothes, nicknacks and other household items people chose to dispose off, are sold to traders specialising in these items.

In some DWCCs, such items are also given to waste pickers who put up weekly markets for sales. Traditional and specialised communities associated with handling textile waste have been regular buyers from the DWCCs with the Wagri community accessing cotton fabric, and people from Kanjeevaram buying off the gold borders of the traditional Kanjeevaram silk sarees. Cotton dominant material draws many players and sells at the highest price with recycled yarn selling at 100- 150 INR (USD1-1.5) and cotton yarn selling at 200-250 INR (USD2-2.5). The biggest challenge with isolating cotton yarn is the huge prevalence of blended material such as rayon, nylon and other polyblends in post consumer textiles. Although regular handlers are fairly adept at identifying the materials by look and touch, more accurate differentiation requires scanning to ensure the exact percentage of blend is recorded. Lower quality and value material does continue to have a market, although it is often downcycled into mats, carpets and other consumables with a relatively shorter life, ultimately reaching the landfill.

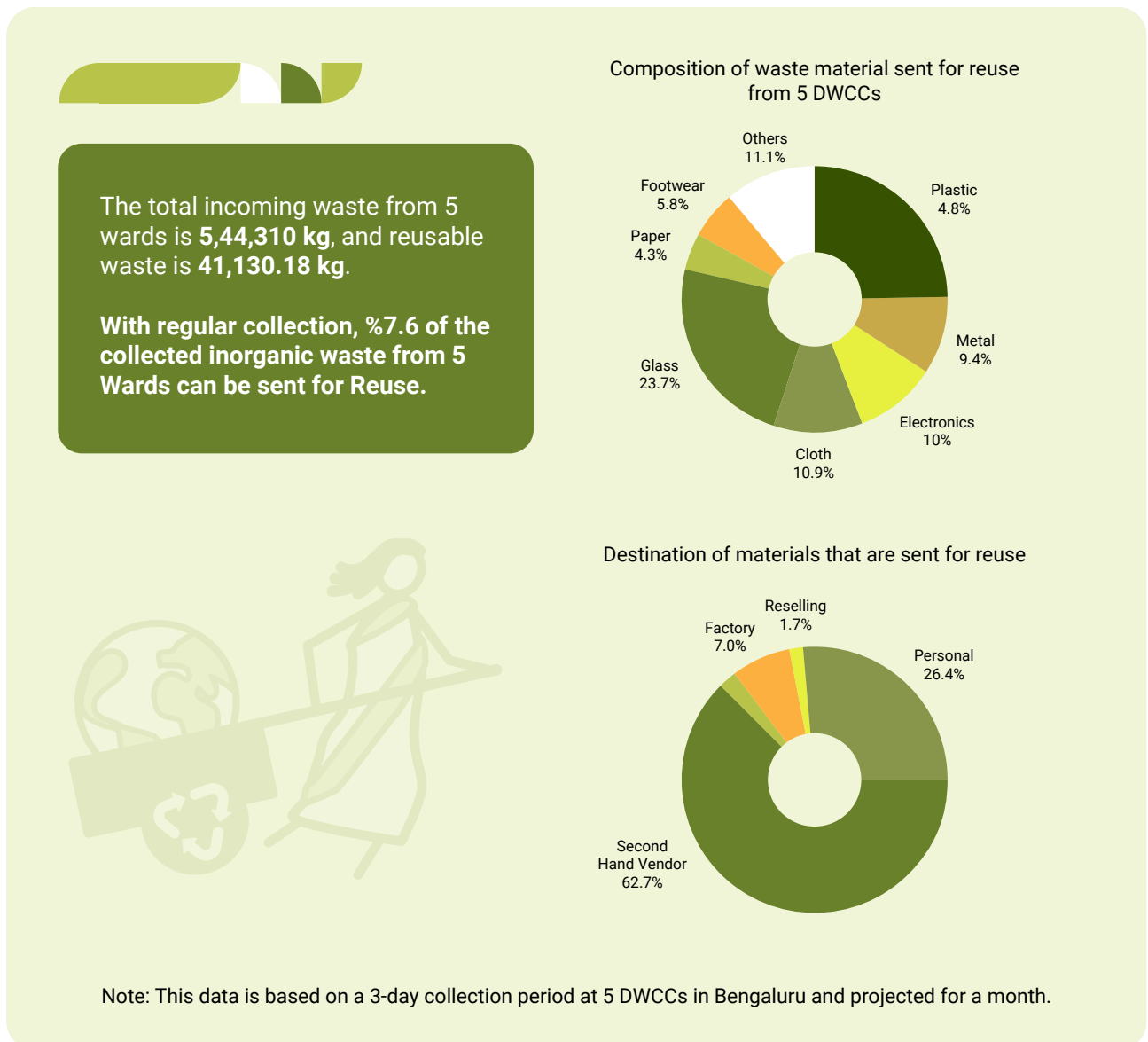
5.5. Lessons learned from an analysis of HD's reuse centres

Against the background of the negotiations for a Global Plastics Treaty and the increasing global push towards reuse and refill systems as an alternative to plastics production and recycling, HD undertook a study to highlight the role of waste pickers and understand the scope of integrating them in the informal reuse ecosystem. Spanning the last quarter of 2024, the study examined how the Dry Waste Collection Centres (DWCCs) managed by waste pickers supported reuse systems and explored avenues for further promoting reuse in the city. Five DWCCs were analysed to get an item-wise understanding of type of materials that are or can be sent for reuse, the network of informal

actors and waste workers who are engaged in reuse, and spaces and opportunities for waste picker integration into reuse models.

The following key findings were presented in the study:

- Around 5 to 7 percent of the total materials coming in comprised reusables. At an average of 30 to 65 metric tonnes per month per DWCC, this translated to a total of 75 metric tonnes of reusables being handled by HD each month.
- The break- up of the materials coming in is fairly consistent across the DWCCs.



- The scope of reuse vis a vis recycling within the DWCC is relatively low as they primarily receive low quality, pre-filtered and mixed material. Poor and varying source segregation behaviour of consumers result in contamination of the material that does come in. Citizens often sell, repurpose, or give high-value items to scrap shops, online platforms, or directly to others. A large network of informal and indigent players, including housekeeping organisations and their staff, also access this material while handling the wet waste, diverting it before it can reach a DWCC.
- The reuse market for the materials such as household goods, electronics, textiles, furniture etc entering the DWCCs is also relatively underdeveloped, or has been systematically decimated in the course of urban gentrification. The newer DWCCs operators have not yet developed sufficient market linkages with existing

vendors or created a network of newer potential retail vendors who can source the material and make a livelihood selling it. Thus, even if the per unit item for material is higher, they are often not viable for reuse as the market demand is inconsistent, and the material quality cannot be guaranteed.

- Recycling offers more consistent, reliable demand despite lower rates of sale for the material, making it a preferred option over reuse. The low-value, mixed-material items align better with recycling, which is seen as a more practical, sustainable and viable choice. Items made of metal, footwear, textiles and hair, which have a reuse value, often end up getting recycled. The existing scrap trade network focuses on recycling and neither encourages retrieval nor offers better rates for good, reusable materials. Given the relatively smaller quantity of reusables, this often means that they too make their way to the recycling chain, as negotiating with separate vendors for each item is a challenge.
- The limited space within DWCCs makes storage of bulky reusable items with uncertain markets an additional logistic as well as financial challenge.
- DWCCs located near low-income informal settlements in their wards got hardly any reusables as people reuse many items or buy them off within the community itself.
- Some enterprising DWCC operators like Indumati work with separate vendors for handling reusable and recyclable materials, tailoring the sales approach to each market with glass and metal items retained for self-use by workers, textile waste going to the Textile Recovery Facilities and reusable items such as clothing, furniture, and cooking utensils sold to scrap shops and weekly Sunday bazaars. She has established in-house practices for repurposing items, such as refilling and labelling bottles, which creates small-scale job opportunities for waste pickers.
- The Sunday Bazaars where items are sold directly, leveraging the high customer footfall of around 50,000 a day, also presents logistical challenges due to intense competition and police scrutiny. Waste pickers themselves are also often unfamiliar with marketing techniques and reluctant to occupy these newer spaces without some guarantees of income

5.6. Spotlight on the reuse potential of textiles

The enormous quantity of textiles coming into the DWCCs, the innate entrepreneurial spirit of some of the DWCC operators, the urgent need to create newer livelihood opportunities, and a passion to ensure maximum diversion from the landfill, have been the driving forces for HD to foray into the reuse of textiles.

Indumati, a waste picker turned entrepreneur, is supported by HD to run a Textile Recycling Facility (TRF) at Hirandahalli. This functions as a hub and spoke model, with the TRF buying off the rejected textiles from 16 DWCCs. After sifting through the material and taking the good quality, sellable stuff, DWCCs sell the residue to the TRF at between 2.50 and 5 Rupees per kg. The collection is done at the cost of the TRF. Indumathi also runs the thrift store Naajeevana (or New Life) and encourages waste pickers to buy textiles off her at fixed whole rates and sell it in weekly flea markets. Her rate card announces jeans priced at 15 rupees each, sarees between 50 and 80 rupees etc and waste pickers sell the items at retail rates, keeping the margins for themselves. Although this is a relatively nascent activity, the 8 waste pickers associated with this report a net profit between 5000 and 16000 per day. However, none but one have given up their daily waste work so far, and use these markets to augment their monthly incomes.

Indumati sorts the fabric according to the colour, quality and type of material, and typically around 10 percent of it is reusable. 13 upcyclers convert the small pieces of fabric into tote bags, pouches and other accessories. The addition of tailors to mend and alter the clothes adds another 5 percent of fabric to the basket of reusables. The rest of the material is sold for recycling.

As of March 2026, the TRF has handled a whopping 750 Metric Tonnes of textiles with a steady inflow of 50 metric tonnes each month. With a single TRF of around 650 square feet already creating jobs for between 10 and 15 urban poor, a more systematic expansion is projected to create 360 jobs over the next 2 years. The main advantage is that the raw material is essentially coming free, and several layers of informal sector workers are filtering the textiles, making their own incomes off of it.

However, competition in this space by private entrepreneurs motivated with a profit motive potentially dents the numbers of livelihoods that can be created. Apart from the risk of shrinking the spaces available to very vulnerable and marginalised communities, by focussing on higher value materials, such enterprises fragment the potential recovery, reuse and recycling sector. Like with the scrap trade, the diversion of highly priced materials like cotton fabric instead of polyblends, whites over coloured fabric, and industrial waste over post-consumer waste, leaves behind large volumes of residual material that are not viable to trade in, or recover.

In a bid to preclude this kind of enterprise, HD has asked the urban local body, BBMP, for exclusive rights to collect bulky waste and textile waste from citizens and spaces for decentralised collection, sorting and sale. This is currently being negotiated as the municipality may be inclined to promote such collection, but in the absence of spaces and an appropriate policy framework protecting the sector for erstwhile waste pickers, they are likely to be marginalised by private entrepreneurs.

A more thorough estimation of the total textile waste generation in Bengaluru would allow a deeper understanding and projections of the potential and requirements of this sector.

5.7. Lessons learned from reuse centres

Decentralised thrift stores contribute very significantly to GHG emission reduction, with each metric ton reused responsible for 4 times more reduction compared to recycling.

Erstwhile itinerant buyers, already bring in the knowledge, skill, experience and connections to transit into this reuse-based livelihood. A little support in transportation, access to capital, and infrastructure can ensure a stronger institutional framework for their sustenance, and the creation of an equal number of green livelihoods in more structured settings involving sorting, arranging, displaying and packing.

The work of handling reusable waste, unlike organic and recyclable waste, is less strenuous, cleaner and greener. The margins the market offers also ensure that it can conform to fair payment and profits for the workers and entrepreneurs.

Traditional, informal thrift systems have continued to exist in modern India despite unfavourable factors. Ensuring the workers have continued and easy access to reusable materials, under flexible and easy credit terms, can ensure their survival in the changing times. SWaCH data indicate that each Metric Tonne of reusable material, selling at an average rate of INR 30,000 (USD300) constitutes one livelihood.

Both HD and SWaCH recognise the value in developing and growing the Reuse/ Thrift Store initiative, investing dedicated staff for outreach, sorting, inventorising, sale (retail and wholesale) and repair.

5.8. Enabling Policies for Reuse Centres

The following recommendations can support reuse centres such as the ones from HD and SWaCH that hold great potential to foster a reuse-based livelihood for waste pickers:

Policy, financial, infrastructure framework: Effective outreach, infrastructure, advocacy and an appropriate policy framework can significantly increase the potential of this activity, serving the multiple benefits of reduced waste to the landfill, meaningful consumption, sensitive donation and fair sales.

Infrastructure Support: Protected ear-marked spaces for decentralised reuse and thrift stores, can serve the dual purpose of drop off points for citizens wishing to discard consumables and retail purchase stores for urban poor. This could involve centralised and decentralised Material Recovery Facilities (MRF) linked internally for administration, revenue, storage and stock inventorisation. As the material is available at no cost, while revenue from retail sale can be diverted towards the costs for formal workers engaged in sorting, repair and sale, wholesale rates can be offered to entrepreneurial itinerant buyers, generating a larger number of livelihoods per ton of reusables, whilst reducing waste and offering refurbished products at reasonable rates.

Outreach for Source Segregation: Urban local bodies should conduct dedicated awareness and education campaigns targeting local residents, apartment complexes, and housing societies to donate reusable items directly. By establishing dedicated collection days and educating households on segregation, high-quality materials can be diverted for reuse rather than recycling, creating a more sustainable waste management ecosystem. Consistent public engagement will promote sustainable consumption practices and regularise the process of donating materials, thereby strengthening the role of waste pickers in the reuse economy.

Monitoring: Governance and enforcement through penalties for poorly or unsegregated reusable material entering waste streams would complement the policy outreach efforts and ensure minimal contamination and destruction of reusables.

Licensing and Training: Regularising and formalising the sector would involve legitimising and institutionalising reuse markets and reducing scrutiny, enabling operators to engage confidently in public and street markets and increase the profitability of the enterprises or individual vendors, by furthering their linkages to retail and wholesale vendors.

Promote Repair: Dedicated spaces, capacity building and certification programmes for Repair services allied with Reuse markets will add value to reusable garments, footwear, electronics and appliances before resale, creating, protecting or enhancing livelihood opportunities for workers, with relatively low capital and minimal barriers.

Foster Public-Private Partnerships and Track Reuse Impact: Corporate and community sponsors can be encouraged by Urban Local Bodies to support reuse initiatives by funding infrastructure improvements or organising “reuse days” where residents can donate or purchase items. Impact can be systematically tracked with reuse metrics like landfill waste reduction and income generated for waste pickers, to guide continuous improvements and encourage further investment in reuse activities.

Promoting better textile waste management: The growing consumption and generation of textile waste warrants segregated collection systems. Currently collection costs between INR 7 and 9 (USD0.07 and 0.09) per kilogram and unless systems for collection are set, there is a good likelihood of such materials reaching kerbsides, bins, the waste streams and ultimately the landfills, straining an already burdened solid waste management system. Decentralised spaces need to be reserved and allocated for collection, drop off, storage and sorting of textiles to ensure they neither contaminate other waste streams nor get contaminated by them. Emerging discussion on the environmental impact of poly blends and chemical dyes and the need to contain their usage, needs to be backed with robust research. An overall review of poly blend materials, and lifecycle assessments to determine their environmental impact, potential reuse and recycling is critical. Systematic behaviour changes will ultimately be needed. This may involve incentivising or taxing consumers, and ensuring extended producer responsibility especially with respect to difficult to recycle fabrics. Appropriate pricing mechanisms should ensure the burden of managing the waste is placed on the polluter both industry and consumers. Waste pickers and their organisations should be accorded first priority in accessing textile waste.



Photo credit: Kashtakari Panchayat

6. Key recommendations and conclusions on inclusive reuse systems



Photo credit: Kashtakari Panchayat

The case studies of the waste picker organisations in Pune (SWaCH/KKPKP) and Bengaluru (Hasiru Dala/HDI) offer critical insights across four reuse models: refill-on-the-go, reusable event ware, festival material diversion, and thrift stores. Several cross-cutting themes emerge when it comes to lessons learned and recommendations for successful implementation of inclusive reuse models that are both beneficial to the environment by reducing the use of plastics and the creation of waste in the first place, but also to society by integrating waste pickers into the systems and making sure that a reuse-based livelihood is possible for them.

6.1. Lessons learned from the case studies

Reuse must be designed for inclusion from the outset

Small-scale, app-based, or boutique reuse pilots consistently exclude waste pickers due to entry barriers, like digital literacy, driving licenses, inflexible hours, and upfront capital. The refill-on-the-go model failed in both cities not only because of low consumer uptake, but because the jobs it created were structurally inaccessible to the very workers a "just transition" should prioritise.

Consumer behaviour change is extremely difficult without policy mandates

Across all models, voluntary shifts in consumer habits proved unreliable. The refill pilots collapsed because consumers prioritised brand choice and delivery convenience over environmental benefits. In contrast, the Nirmalya (Ganesh festival) initiative succeeded precisely because it operated within a court-mandated policy framework, backed by municipal infrastructure and sustained civil society coordination.

Open-loop systems outperform closed-loop pilots for inclusivity and scale

Open-loop reuse, where packaging enters the general waste stream and is recovered by waste pickers (as with glass bottle returns), integrates informal workers without disrupting existing livelihoods. Closed-loop or semi-closed models, by contrast, often bypass waste pickers entirely or require consumer behaviours that don't materialise.

Standardisation is essential for viability

The historical success of glass beer bottle reuse depended on standardised bottle designs. When India's multi-trip bottle standard was archived, recovery rates collapsed. Restoring and enforcing packaging standards across product categories would revive scalable reuse systems and protect waste picker livelihoods.

Thrift stores and textile reuse offer the most immediate, scalable opportunity

Reuse of household goods and textiles is already viable, generates significant employment (roughly one livelihood per metric tonne of material), and requires relatively low capital. SWaCH's thrift store now handles over 30 Metric Tonnes monthly with consistent profitability. The challenge is securing decentralised space, formalising the sector, and preventing private entrepreneurs from cherry-picking high-value materials.

6.2. Cross-Cutting Policy Recommendations

Embed just transition principles in all reuse policy

- Mandate employment vulnerability assessments before rolling out reuse systems.
- Require minimum hiring quotas for waste pickers in new reuse operations.
- Fund capacity building, upskilling, and placement pathways for affected workers.
- Establish independent oversight bodies to track livelihood impacts.

Implement binding national standards for reusable packaging

- Require standardised, interoperable packaging formats across product categories.
- Ensure safe material composition that protects workers at all handling stages.
- Enforce clear labelling protocols to improve sorting accuracy.

Prioritise and incentivise open-loop reuse systems

- Offer preferential permitting and tax benefits for firms that integrate informal collectors.
- Rationalise taxation on recyclable and reusable materials to improve price realisation for waste pickers.
- Reserve decentralised spaces for collection, storage, and cleaning within city plans.

Strengthen policy enforcement for events and festivals

- Ban single-use plastics at events above a threshold size, mandating reusable or compostable alternatives.
- Impose penalties on non-compliant organisers.
- Reserve new livelihood opportunities in washing, cleaning, and event waste management for waste pickers.

Allocate infrastructure and space for thrift and textile reuse

- Designate protected, decentralised spaces for thrift stores and textile recovery facilities.
- Conduct public awareness campaigns to promote source segregation and donation of reusables.
- Regularise and license reuse vendors, reducing police scrutiny and enabling confident market participation.
- Provide low-interest loans and subsidies to waste picker organisations for infrastructure investment.

Hold producers accountable

- Extend producer responsibility to cover the true cost of reuse systems, including fair wages, environmental protection, and social security for workers along the value chain.
- Require businesses in the green economy to prioritise waste picker inclusion in supply chains.

6.3. Final conclusion

Reuse systems hold real promise for reducing plastic waste and creating green livelihoods, but only if designed with inclusivity, standardisation, and strong public governance at their core. Piecemeal pilots that ignore existing informal economies risk displacing the very workers who have long sustained circular material flows. A just transition demands that waste pickers are not merely accommodated, but centred, in the design and governance of reuse systems.

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