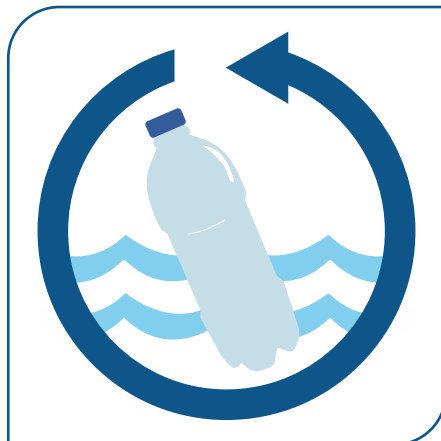


CLOSING THE LOOP

Innovative partnerships with informal workers to recover plastic waste, in an inclusive circular economy approach



PUNE, INDIA CASE STUDY



Acknowledgements

This case study was produced under the Closing the Loop initiative of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). The initiative is gathering evidence in cities in the Asia-Pacific region in search of opportunities to return plastic resources to the production cycle by linking informal and formal waste processes. The case studies in Pune (India) and Bangkok (Thailand) were produced in close partnership with the Stockholm Environment Institute (SEI) Asia Centre and Kashtakari Panchayat – the local partner of Women in Informal Employment: Globalizing and Organizing (WIEGO) in Pune.

Lead authors: Harri Moora (SEI) and Harshad Barde (KKPKP/SWaCH)

Contributing authors and editors: Solene Le Doze, Natalie Harms, Omar Siddique and Alexander Vougioukas (ESCAP), Diane Archer and Oliver Johnson (SEI) and Malati Gadgil (KKPKP/SWaCH)

External reviewers: Sonia Dias and Taylor Cass Talbott (WIEGO)

Copy editor: Karen Emmons

Design and layout: Jeff Williams

Infographics: Mallory Bellairs

Photos: Omar Siddique and Natalie Harms

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Abbreviations

HDPE	high-density polyethylene
KKPKP	Kagad Kach Patra Kashtakari Panchayat trade union
MOU	memorandum of understanding
PET	polyethylene terephthalate
PMC	Pune Municipal Corporation
SWaCH	Solid Waste Collection and Handling cooperative

1. Introduction

Management of recyclable waste in Pune, India follows a hybrid model involving informal workers and is widely considered a success story in this sector. One important factor in understanding this achievement is the city's history of informal workers' rights movements and civil society participation. This case study retraces plastic waste streams in the city of Pune, identifies contributions by informal economy workers to the recovery, sorting and recycling of plastic waste and provides policy insights that aim to harness the environmental benefits of a more inclusive and productive waste management model. Related data were collected from June to July 2018 by researchers with the Kagad Kach Patra Kashtakari Panchayat trade union and the Solid Waste Collection and Handling (SWaCH) cooperative and were then validated at a city workshop in Pune in August 2018.

KEY MESSAGES

- Systems for separation, collection and recycling of waste (including plastic waste) already exist in many Asia-Pacific cities, like Pune.
- The experience of the Pune municipal waste management model (SWaCH model) shows that informal waste workers are active and effective in recovering and valorising resources, and this workforce-based approach can have positive economic, social and environmental impacts.
- The Pune informal waste management model undertakes plastic waste collection and recycling activities at a much lower cost than conventional or formal mechanized and centralized waste management approaches. The informal waste pickers save an estimated 900 million rupees (US\$12.5 million) each year in labour, transportation and processing costs. This amount represents 46% of the entire capital budget of Pune's solid waste management system. This equates to the PMC having to budget 2.7 billion rupees (US\$39 million) over three years in the absence of the informal waste picker driven SWaCH Model.
- The Pune model also achieves considerable plastic waste segregation and high recycling levels, with an estimated 30,000 tonnes of plastic material annually collected and sent for recycling by the SWaCH waste pickers, diverting 52 per cent of the plastic waste in Pune from landfills. The annual greenhouse gas reduction from plastic waste diversion and recycling is estimated to be approximately 50,000 tonnes of CO₂ equivalent. This is comparable to removing more than 10,000 passenger cars from the roads.
- It is important that state and regional authorities understand the role that waste pickers and other informal actors have in the development of a more circular plastic economy. Decision-makers should further recognize and legitimize the current informal worker-based waste management model – building on the existing system rather than dismantling it. It is important to ensure that long-term political and financial support are provided to the informal workers and SWaCH.
- It is important to support the positive contributions of the model and address the need for improving plastic waste collection, recycling and reduction of the plastic leakage to the environment (by increasing awareness, providing space for waste pickers to sort and store their materials, motivating the informal workers to register without fear and punishment, and motivating the informal actors to follow the procedures that reduce the plastic leakage to the environment, etc.). This would help identify further development pathways that leave no one behind in the transition to more circular economies.

2. Policy context

Pune is India's ninth-most populous city and the second-largest urban agglomeration in Maharashtra State. It is one of the fastest-growing cities in the country, increasing in population at an annual rate of 4.1 per cent since 2001 (see also box 1 for more details).¹ Pune has struggled with the growing levels of municipal solid waste since the early 1990s, when its waste collection system – as in many cities in India – consisted of public containers in which citizens deposited their solid waste daily and which informal waste pickers would sort through to find recyclable items

Box 1. Pune at a glance

- Pune city is part of the Pune Urban Agglomeration, which has a population of more than 5 million persons, according to the 2011 India Census data.²
- Pune city has a population of 4 million persons. There are 1.2 million residential, commercial and institutional properties spread across the city.³
- Urban sprawl is taking place – population density in Pune in 2011 was 170 persons per hectare, decreasing at an average annual rate of -4.8 per cent since 2001.⁴
- Pune city occupies around 331 square kilometres and is under the jurisdiction of the Pune Municipal Corporation, established in 1959.⁵
- Some 25 per cent of Pune city's properties are located within declared (recognized) slums, housing almost 40 per cent of its population.⁶
- The average literacy rate is 95 per cent for men and 87 per cent for women, according to the 2011 India Census data.⁷
- Average per capita income is 111,637 rupees (US\$1,600) per annum.⁸
- The estimated daily waste generation in Pune is 2,000 tonnes (730,000 tonnes per year).⁹
- Per capita waste generation is approximately 145 kg across economic classes.¹⁰

Poor, illiterate, voiceless, ignored and even despised by some, the city's marginalized waste pickers came together to express their right to dignity and a safe livelihood by forming their own union, called Kagad Kach Patra Kashtakari Panchayat (KKPKP) in 1993. Initially motivated by a desire to counter harassment by police and municipal authorities, the movement expanded to demand recognition for waste pickers by the local municipal government for their contribution to the city's environmental and financial well-being through increased recycling and the reduction of waste going to landfill. They also sought the preservation of their livelihood through secured access to waste and being integrated into the city's formal municipal solid waste management system.

In coalition with other civil society organizations active in city-level environmental issues, the KKPKP developed a sustainable municipal solid waste management strategy, created basic communication materials and worked closely with municipal commissioners to advocate for their decentralized solid waste management model. KKPKP leveraged a combination of research, policy and political support to make the case that the Pune Municipal Corporation (PMC) should recognize waste pickers as workers

providing critical urban environmental services. KKPKP effectively worked with PMC to be authorized to formally perform primary waste collection services. The KKPKP efforts were a success, and Pune became one of the first local governments in India to provide waste pickers with identity cards and cover their health insurance payments, both of which were significant achievements, considering that the PMC had no direct employer-employee relationship with waste pickers.

2.1 National changes in the municipal solid waste management landscape

In 2000, the country's national policy radically changed as a result of public interest litigation filed against the Government regarding poor municipal solid waste management in large cities. The Planning Commission formed a committee to suggest improvements to solid waste management practices. KKPKP and other network organizations were represented in the consultations that were conducted, and the committee ultimately recognized waste pickers' role in municipal solid waste management. The Supreme Court then passed a landmark judgment that led to the passing of the national Municipal Solid Waste (Management and Handling) Rules 2000. The Rules mandate urban authorities to collect waste door to door, to promote waste segregation at the household level and to divert waste away from landfills and into recycling and processing systems.

The introduction of mandatory door-to-door waste collection through a local municipal authority was proposed to reduce littering. But the removal of waste containers directly would affect waste pickers' access to recyclable items across the city. PMC, not having the sufficient human resources to undertake such a collection, was set to outsource doorstep collection to labour contractors, thereby further reducing waste pickers' access to waste and enriching private contractors in the process. To counter this potential threat to their livelihood, KKPKP waste pickers sought to alter their access to recyclable waste by encouraging conscientious citizens to give their waste to waste pickers directly from their doorsteps for a small user fee, instead of depositing it in containers or handing over to the municipal system. Thus, instead of foraging for recyclable items from the streets and containers, waste pickers began providing a doorstep collection service, radically improving their working conditions and introducing an additional source of income in the form of waste-collection user fees. A pilot project marginally supported by the local body through appeals to citizens and provision of basic equipment, such as pushcarts and buckets, enabled KKPKP to establish a door-step collection system for almost 50,000 properties across the city.

Box 2. Supportive national and state legislation

1993: Pune waste pickers form their union, Kagad Kach Patra Kashtakari Panchayat (KKPKP).

1995: The report of the High-Power Committee on Solid Waste Management in India, constituted by the Planning Commission, calls for integration of waste pickers into the municipal system; formation of cooperatives for door-to-door collection of waste; waste segregation; ward-level recovery centres; incentives for recycling; and composting and other waste treatments.

2000: The Municipal Solid Waste (Management and Handling) Rules introduce mandatory doorstep collection, promote waste segregation at source, and the recycling of dry waste and diversion of waste away from landfills.

2002: The Maharashtra Government Water Supply and Sanitation Department Resolution addresses the allocation of work of door-to-door collection of waste generators through a cooperative of waste pickers on a user-fee basis.

2006: The Maharashtra Non-Biodegradable Solid Waste (Proper and Scientific Collection, Sorting and Disposal in the Areas of Municipal Corporations) Rules provides safe sorting spaces (material recovery facilities) for waste pickers, which enable the diversion of recyclable items through the informal sector.

- 2007:** The Urban Development Department of Maharashtra sets a deadline of December 2007 for each city to submit an action plan for implementing the Municipal Solid Waste Rules 2000, including 100 per cent door-to-door collection.
- 2008:** The Pune Municipal Corporation (PMC) authorizes the Solid Waste Collection and Handling (SWaCH) cooperative to provide door-to-door waste collection and other waste management services for five years.
- 2012:** The Central Ministry of Urban Development Circular requires recognition of waste pickers, including identity cards and personal protective equipment for them, and integration of waste pickers into the formal municipal solid waste management system.
- 2013:** The first memorandum of understanding between the PMC and SWaCH ends, at a time when more than 390,000 properties are being serviced.
- 2014–2015:** The SWaCH model continues in absence of PMC administrative support.
- 2015:** KKPKP represents informal waste pickers in the Government's drafting committee for the updated Solid Waste Management Rules (to be released in 2016).
- 2016:** The Solid Waste Management Rules continue to acknowledge informal waste pickers, waste collectors and recyclers as a crucial element of solid waste management and introduce requirements for registration and involvement of waste pickers in the formal municipal solid waste management system; local authorities are required to recognize the workers and provide them with an identity document to be formerly registered; setting up material recovery facilities and providing space for sorting; free and easy access to recyclable items from source or the material recovery facilities; directing waste generators to hand over segregated recyclable waste to waste pickers; and provide training and personal protection equipment to all workers handling solid waste.
- 2016:** The PMC renews its contract with SWaCH for another five years.
- 2016:** KKPKP represents informal waste pickers in the Government's drafting committee for the Solid Waste Management Rules 2016.
- 2018:** SWaCH expands to cover 640,000 properties with some 3,000 waste-pickers.

2.2 Transforming the Pune municipal solid waste management system

A possibility for the PMC to develop further collaboration with informal workers collecting waste arose in 2007. The Urban Development Department of Maharashtra State set a deadline of December 2007 for cities to each submit an action plan for implementing the Municipal Solid Waste Rules 2000. This included achieving 100 per cent door-to-door collection by the set date. Preference was to be given to cooperatives of waste pickers for undertaking the waste management, with a user fee for the door-to-door collection. It was in this context that PMC took the opportunity presented by KKPKP to launch a new PMC–SWaCH cooperative model, which led to transformative changes in the city's municipal solid waste management system.

SWaCH is India's first cooperative owned by self-employed waste pickers. In 2008, SWaCH was authorized by the PMC to provide door-to-door waste collection and other allied waste management services for a period of five years. The waste pickers receive the service fee, and SWaCH is accountable to residents as well as the PMC; it must comply with the performance indicators specified in the memorandum of understanding (MOU) signed with the municipality. The recyclable items collected at source are sorted and sold by the waste pickers, and all the income generated from this activity is retained by them.

All persons in SWaCH are working members, not merely shareholders, with the portion of women at more than 80 per cent. SWaCH also includes representatives from Kothi Councils, which are geographical administrative units at the neighbourhood level, and with persons from the city-level Representatives Council. The Council consists of elected representatives from neighbourhood Kothi Councils across the city who meet monthly to facilitate workers' participation in operations and decision-making processes.

The SWaCH model provides multiple benefits of sustainability, inclusion and efficiency. While SWaCH provides the workforce, the PMC recognizes the waste pickers and provides access to waste, supplies equipment and covers the administrative costs of the cooperative. The SWaCH waste pickers collect waste door to door, segregate the recyclable material and dispose the remaining waste at designated points in the secondary waste collection system. Coordinators at the *kothi*, or neighbourhood, level ensure that user fees are collected, complaints are addressed and value-added services (such as composting and e-waste collection) are provided. The waste pickers fill an important gap by reclaiming recyclable waste and providing raw material for the formal recycling chain.

In 2013, at the end of their first MOU with PMC, 2,200 members of SWaCH serviced more than 390,000 properties in Pune. For the next two years, the SWaCH model continued in the absence of any administrative support from the PMC but was unable to expand its services. It continued with a skeletal team of 14 coordinators and administrative staff. Recognizing the sustainability of the model, the PMC renewed its contract with SWaCH in 2016 for five years. As of August 2018, approximately 640,000 properties were serviced by 3,076 waste pickers.

The pioneering work of KKPKP and the SWaCH model's sustainability resulted in the trade union being asked to represent informal waste pickers in the Government's drafting committee for the Municipal Solid Waste Rules 2016. The impact of this inclusion can be seen in the various provisions of the Rules that support the recognition of waste pickers and their integration into the formal municipal solid waste management system of cities. Cities are now required by law to recognize informal waste pickers, provide them with identity cards and to integrate them into doorstep collection, thereby preserving their livelihood. At the local level, KKPKP was involved in the drafting of the PMC Public Health and Sanitation by-laws, covering every aspect of waste (solid waste, e-waste, biomedical waste and plastic waste), which explicitly provide for better recognition and stronger involvement of waste pickers.

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