

# Exploring Opportunities for Waste Pickers in EPR: SWaCH Cooperative's System for Multi-Layered Packaging

Lubna Anantakrishnan / June, 2021



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स्वच्छ पुण, सुंदर पुण  
हरित पुण !



# About this Brief

This brief is one of a series of case studies examining Extended Producer Responsibility (EPR) systems in various locations around the globe. Produced by the Global Alliance of Waste Pickers and WIEGO, this series looks at how the growing adoption of EPR policies and systems worldwide can either threaten or improve livelihoods for informal waste pickers who have traditionally been key players in recycling and reuse.

EPR systems come in many shapes and forms and can cover a range of materials. Their primary purpose is to hold producers responsible for the environmental and economic cost of the packaging and products that they put into the market. Some systems are mandatory policies, while others are voluntary initiatives led by companies or consortiums.

Waste is not just an environmental issue—it is a valuable commodity. For waste pickers, EPR systems can be controversial because they shift both power and profit to producers or other waste sector actors, often introducing new actors who compete for materials. But in places where waste pickers are organized, EPR can be a positive disruption that has the potential to finance new or existing waste picker activities. Thus, EPR can present both risks and opportunities for waste pickers and their organizations. Without a clear understanding of EPR in different contexts, however, it can be difficult for waste pickers and their organizations to know what to demand when an EPR system is being proposed or how an existing system should be changed.

This series aims to close that knowledge gap by sharing on-the-ground, lived experience of local waste pickers and their organizations in places where some form of EPR exists. Each study concludes with a set of recommendations for improving the system to better accommodate waste picker integration.

Local and national waste picker organizations were involved in the research and development of each brief. This case study presents the vision of India's SWaCH Cooperative based on its experience with a voluntary EPR arrangement with ITC.

## Acknowledgements

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**Cover photo:** SWaCH workers collect segregated waste from Pune's Ramnagar slum. **Photo credit:** Brodie Cass Talbott

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# Summary

India's 2016 Plastic Waste Management Rules include a legal mandate for Extended Producer Responsibility (EPR), though a framework for EPR for plastic packaging has not yet been finalized. In the meantime, some companies (producers) have taken it upon themselves to initiate voluntary EPR schemes and begin developing material recovery systems in anticipation of the eventual mandated EPR framework. This case study analyzes a voluntary partnership formed between the [SWaCH waste picker cooperative](https://swachcoop.com/)<sup>1</sup> and the corporation [ITC Ltd.](https://www.itcportal.com/)<sup>2</sup>, a major producer of plastic waste, for a parallel secondary collection system for multi-layered packaging (MLP). Until the COVID-19 pandemic, approximately 1,000 of SWaCH's waste pickers were collecting 130 metric tonnes of MLP per month across the city of Pune.<sup>3</sup> This amount is expected to increase in the future once COVID-19 lockdowns subside.

MLP is a difficult material to recycle, making it challenging to integrate its recycling with existing informal recycling systems. Due to the low value and unstable demand for MLP, this system would naturally operate at a financial loss, so ITC Ltd provides gap funding to help the system break even. The system, which generates modest additional income for waste pickers for sorting and marketing of MLP, is largely dependent on existing doorstep waste collection and sorting services that SWaCH provides under a contract with the Pune municipality. Most importantly, by focusing on MLP, a material that is currently absent in informal value chains, the system does not divert viable, high-value materials away from the informal economy under the guise of EPR. Ultimately, the presence of waste picker organizations like SWaCH is helpful to ensure that municipal waste management systems are inclusive of waste pickers.

Though the system has successfully reached almost 1,000 waste pickers, challenges remain. There are few recyclers to purchase the MLP collected, financial returns can be very low, maintaining financial systems and the flow of funding has proven difficult, and the system remains a transport-intensive, single-material, secondary collection system with a large carbon footprint.

## Basic Case Data

- **Location:** Pune, India
- **Scale:** Municipal
- **System type:** Voluntary
- **Materials included:** Multi-Layered packaging (MLP)
- **Average quantity of material recovered:** 130 MT per month
- **Material destination:** Recycling and plastic-to-oil
- **Number of organized waste pickers involved:** 1,000
- **Number of independent waste pickers informally engaging in the system:** Few

<sup>1</sup> <https://swachcoop.com/>

<sup>2</sup> <https://www.itcportal.com/>

<sup>3</sup> Pune is a city in the western Indian state of Maharashtra.

# Background: EPR in India

India currently does not have a formal Extended Producer Responsibility (EPR) policy in place, though a national EPR policy framework is being developed. The 2016 Plastic Waste Management Rules introduced EPR in the city of Pune. The rules require companies to 'collect back' plastic waste within a six-month period and phase out the use of non-recyclable MLP<sup>4</sup>. The 2018 Amendment to the Plastic Waste Management Rules weakened the law's position on MLP, allowing production of material that is 'energy-recoverable' or can be put to 'any alternate use'. This not only decreased the push towards eco-friendly material, but effectively encourages pyrolysis, waste-to-energy, co-processing,<sup>5</sup> and other end-of-life processing of plastic waste. The national legal framework under which EPR will be enforced is to be rolled out in 2021.

The EPR framework is likely to have three tiers – for small, medium and large producers – and will allow three models:

- a fee-based model, in which small manufacturers can pay a fee towards an EPR fund which will be used by the Urban Local Body (ULB);
- a Producer Responsibility Organization (PRO) model in which medium and large companies can outsource their EPR responsibilities to an organizing entity (the PRO); and
- a credit model in which companies will get credits for sending their waste to recycling or end-of-life processing.

## Context: SWaCH, Pune

SWaCH is India's first cooperative wholly owned by waste pickers. In 2008, the Pune municipality (called the [Pune Municipal Corporation](#),<sup>6</sup> or PMC) entered into a five-year contract with SWaCH for providing door to door collection services to the residents of Pune city. Now, SWaCH's 3,450 waste pickers provide daily doorstep collection services to over 800,000 households across the city. After collecting segregated waste, individual waste pickers recover the recyclable materials from the dry waste for sale to (mostly informal) scrap dealers. The non-recyclable dry waste and wet waste<sup>7</sup> is transferred to PMC secondary collection vehicles at 1,000 feeder points across the city. The wet waste is taken to biogas plants or composting units, while the non-recyclable dry waste is sent to the landfill or for Refuse Derived Fuel<sup>8</sup> processing.



Multi layered plastic being collected from a SWaCH waste picker at a feeder point. Photo credit: SWaCH

<sup>4</sup> According to India's 2016 Plastic Waste Management Rules, Multi-Layer Plastic (MLP) is "any material used for packaging and having at least one layer of plastic as the main ingredient in combination with one or more layers of materials such as paper, paper board, polymeric materials, metalized layers or aluminium foil, either in the form of laminate or co-extruded structure."

<sup>5</sup> Co-processing refers to processing waste by burning in cement kilns.

<sup>6</sup> <https://www.pmc.gov.in/>

<sup>7</sup> "Dry waste" is defined as non-hazardous waste that excludes organic wet matter; "wet waste" constitutes food and other biodegradable waste.

<sup>8</sup> A process that produces fuel using various types of waste. It is known to produce toxic ash and greenhouse gases.

## Pune Waste Characterization (conducted by SWaCH in 2018)

Type of waste	%
Organic	74.2
Paper	7.6
Plastic	8.3
Metal	0.3
Glass	2.5
Cloth	1.7
Shoes	0.5
Sanitary	2.4
Electronic	0.1
Other	2.4

The PMC does not pay the waste pickers a wage, but covers the administrative and coordination costs of the cooperative. Users pay a fee for the door to door collection of Rs. 70 (\$1 USD<sup>9</sup>) per household each month. Excluding waste pickers who operate their own motorized vehicles, an average pair of waste pickers covers 150-200 households per day. Covering 200 households yields around Rs. 14,000 (\$200 USD) in user fees each month. SWaCH does not own the waste as a cooperative; instead, waste pickers individually sell the recyclables they retrieve from the waste they collect. The user fees recovered from households provide a stable, supplementary source of income for SWaCH waste pickers.

Through this system, SWaCH handles a total of 2,000 metric tonnes (MT) of waste per day. Of that, waste pickers currently recover 350 MT of recyclables. About 4% of the waste generated in the city, or 80 MT/day, is MLP.

## MLP Collection and Recycling in Pune

Project Summary: Jan 2019 - Dec 2020	
Total MLP Collected	713 Metric Tonnes (MT)
Total MLP Processed	633 MT
Emissions reduction (tonnes CO <sub>2</sub> /year)	1,047

SWaCH collects post-consumer MLP and low-value plastics from waste pickers and diverts over 100 MT per month to recycling or end-of-life processing. The system is run by SWaCH in partnership with ITC Ltd (formerly India Tobacco Company Limited), the fourth largest plastic producer in the country. The project does not break even from the sale of recyclables, so ITC provides funding for the operations to cover the viability gap. As it stands at the time of this writing, this is a voluntary project by ITC.

## Principles of the SWaCH-ITC Agreement

SWaCH decided to work with ITC to collect MLP, as the partnership would address the environmental issues caused by one of the least valuable and most problematic forms of plastic waste, while simultaneously offering better returns for waste pickers. Within this system, market value is created for MLP, which adds to waste picker incomes and diverts MLP from the landfill. Most importantly, the system uses a material that is currently absent in informal value chains. Therefore, the system does not divert viable, high-value materials away from the informal economy under the guise of EPR.

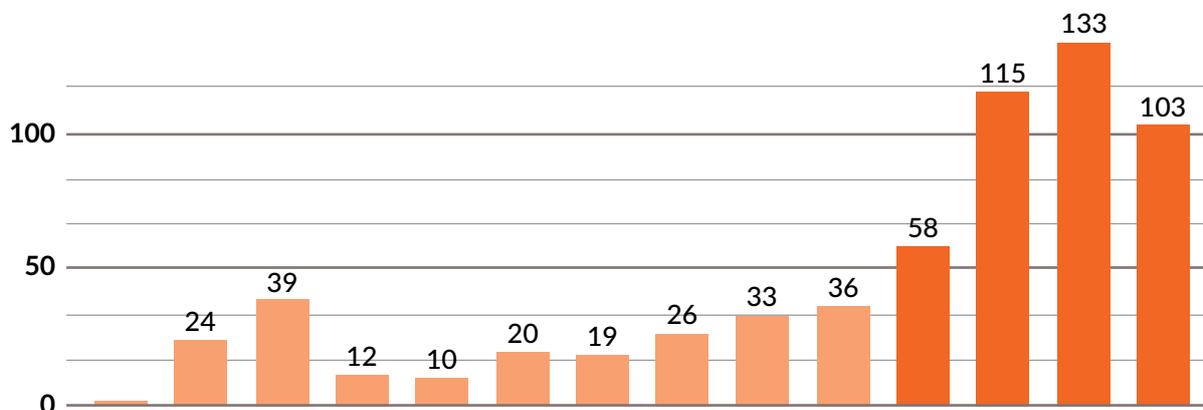
There are several inclusive elements within this EPR system. ITC's preference for recycling (and willingness to pay the premium) over end-of-life processing, co-processing and waste-to-energy was a welcome sign of their investment in the process. Since ITC partnered directly with SWaCH, the waste pickers' interests remained the focus of all project negotiations. Before the project was rolled out, SWaCH conducted a comprehensive study of plastic

<sup>9</sup> All Indian Rupee to United States Dollar conversions assume a rate of \$1 USD = 70 Rs.

waste, and insights were used to inform project planning. Focus group discussions were held with a stratified sample of waste pickers and scrap dealers to determine the price point that would incentivize collection of MLP and its integration into the existing informal scrap trade.

The system has been in operation since February 2019, and collected 130 MT of MLP per month, from 1,000 waste pickers across 13 of 15 wards in Pune city, just before the outbreak of the coronavirus pandemic. At full capacity, the system is expected to cover the entire city and a vast majority of the 3,450 SWaCH waste pickers.

### MLP Collection by Month (in Metric Tonnes)



In the initial Memorandum of Understanding between SWaCH and ITC, the following roles and systems were outlined. SWaCH (functioning as a pro-poor<sup>10</sup> Producer Responsibility Organization) is responsible for operating the collection and warehousing system.

Though the initial plan was to work with scrap traders, due to the lack of financial viability in trading of MLP, SWaCH set up an independent, parallel collection system. In this parallel system, SWaCH buys MLP from individual waste pickers who are members of its cooperative at a pre-fixed and mutually negotiated rate, creating market value for a material that previously had none, thus adding to waste picker income. SWaCH and ITC have agreed on a rate of 4 Rs/kg (\$0.06USD/kg) for MLP collection, which makes collection viable for the waste pickers without creating an artificially high and unsustainable market value. ITC insisted that this rate be lower at the start of the project, and a rate of Rs. 2.5/kg (\$0.035 USD/kg) was agreed as the minimum rate for MLP, to be increased based on mutual agreement.

SWaCH also operates a sorting and baling facility where the MLP is aggregated, sorted and baled for sale to processors. Both parties agreed on a monthly collection of 200 MT of MLP.

However, there is not always a market for MLP. When SWaCH must send MLP for disposal rather than recycling, it is sometimes charged a tipping fee.

In the absence of external funding, this collection system would run at a loss because of the high logistics cost and poor cost recovery associated with MLP. Within the SWaCH-ITC system, however, ITC covers the cost of this operational viability gap so that the system can financially break even. This accounting is done in a straightforward way, though operational challenges, discussed later, do exist. At the end of each month, SWaCH invoices ITC for the entire system cost on actuals (which includes direct payment to waste pickers, warehouse employee salaries, system coordinator costs, and transport and logistics costs), minus a discount equivalent to any payment received from sale of MLP.

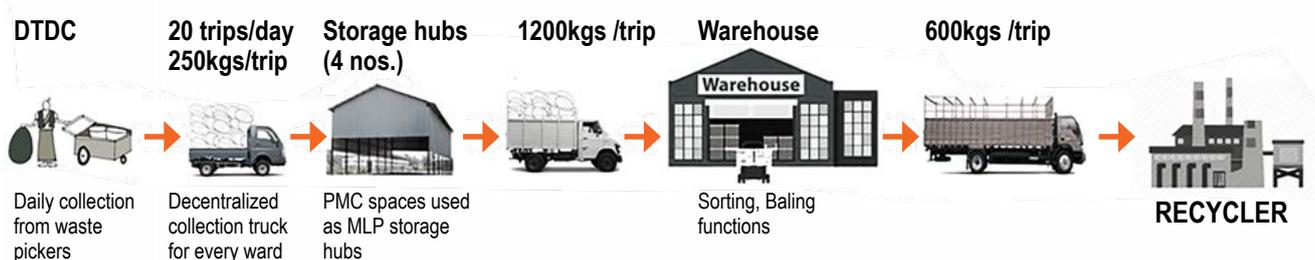
<sup>10</sup> "Pro poor" refers to a socially inclusive approach to public-private partnerships or solid waste management systems.

# System Design and Operation

Private vehicles operated by SWaCH collect MLP from the waste pickers at the secondary waste collection points used in the city's solid waste management system. At this point, the material collected is weighed and entered into a log. Once full, the vehicles unload at one of four decentralized storage hubs across the city. Material recovery facility spaces provided by the PMC are used as the MLP storage hubs. These hubs allow the optimization of routes and number of trips by the primary collection vehicles. All material is then transported to a SWaCH-run warehouse in Uruli Devachi.

At the warehouse, waste is segregated to remove other materials, baled, and then sent for recycling or end-of-life processing. SWaCH employs waste pickers from the cooperative as sorting and baling operators, and pays them a monthly wage. SWaCH directly sells MLP to processors and receives direct payment from the processor.

Increasing the rate of purchase of MLP from the SWaCH waste pickers, and subsequently surpassing expansion targets that had been set, was a big win. This convinced other producers that artificially increasing the value of material destined for waste pickers can directly increase the quantity of waste recovered.



## Operational Challenges

Without a strong mandate requiring polluters to pay a specified amount towards EPR, there is always pressure to cut system costs. The acceptable level of gap funding (defined as the difference between currently accessible funds and those required to continue operations) is effectively determined by the funder (producers). Although SWaCH and ITC make project operations decisions based on mutual agreement, cost is often a deciding factor for ITC. Further, the payment cycle to receive reimbursements from ITC is long and unpredictable. Offering such a long line of credit is difficult for an organization like SWaCH, which must borrow funds from other sources in the interim to sustain operations.

Recyclers for MLP are few. Pyrolysis, plastic-to-oil, and refuse derived fuel (RDF) plants that were set up for MLP have either shut down or have been unable to accept consistent, large quantities of MLP. The main recycler SWaCH was selling to (Shakti Plastics) has proved unreliable in making payments and eventually put a hold on incoming MLP. In the absence of an EPR mandate, stable processing options are limited and the responsibility of the producer in the system is minimal.

In the absence of a clear EPR mandate, the responsibility to locate a processor for MLP effectively lies with SWaCH. Additionally, the responsibility to recover payment for MLP lies with SWaCH, with no safeguard from ITC to prevent losses to SWaCH from recyclers who default on their payments. Furthermore, the cost recovered through sale for pyrolysis or recycling is low. Co-processing has zero (and sometimes negative) cost recovery. This makes it difficult to incentivize the recovery of MLP.



MLP is weighed on the collection vehicle at secondary collection points.  
Photo credit: SWaCH

Maintaining sufficient checks and balances for various parts of the system has been challenging. Ensuring that weighing is done correctly, including accurate recording of names and weights, requires literate and well-trained drivers, as well as regular re-training and spot-checking. At the storage sheds, there is currently no weighing of inward and outward material, thus opening up the potential for pilferage. While field coordinators are present and would notice significant losses in stock, small losses can easily be missed.

Disbursing payments to waste pickers has been a major operational challenge. Since transactions in the informal scrap trade happen in cash, the MLP system needed to make cash payments to make the system convenient and attractive to waste pickers, many of whom do not have bank accounts. However, as the project has grown, maintaining decentralized data records and making monthly cash payments has proven logistically challenging. To resolve this, SWaCH plans to integrate scrap shops into the MLP collection system so that scrap dealers can buy materials directly from waste pickers.

Finally, collection, storage, and baling of a single-material waste stream for MLP is unlikely to be financially viable or sustainable in the absence of a strong EPR mandate.

## Impact of the Coronavirus Pandemic

From March to May 2020, India was in a strict lockdown due to the coronavirus pandemic. While waste pickers continued daily doorstep collection during the lockdown, the closure of processing plants, and restrictions on inter- and intra-city travel, led to a temporary suspension of MLP collection in Pune. With the easing of restrictions in June, SWaCH was ready to restart MLP operations.

Shakti Plastics, however, was unwilling to resume work with ITC, and by extension with SWaCH, thus creating the challenge of locating a new processor with the ability to absorb large volumes of MLP. Further, the lockdown severely affected the reimbursement payment cycles for ITC, leaving several months of reimbursements unprocessed. Despite SWaCH's readiness to resume operations in June, the project was unable to restart due to the absence of a recycler and the severe payment delays. Despite these obstacles, SWaCH has continued buying MLP through two waste picker-owned scrap shops in Pune. They are currently exploring partnerships with other scrap shops in the city.

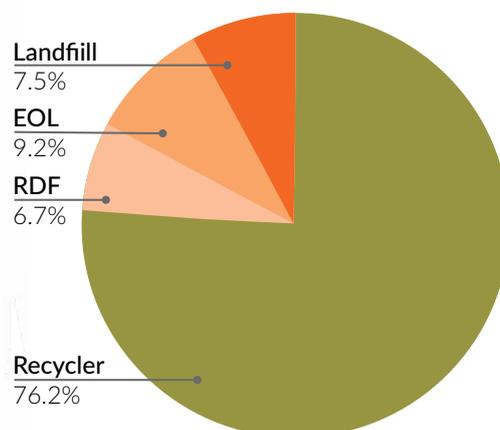
## Financial Transparency

Since the system is voluntary, ITC limits financial transparency with third parties. ITC has provided SWaCH with an advance for expenses to run the system. On a monthly basis (soon to be bi-monthly), SWaCH files for reimbursement against expenses made, accounting for proceeds from sale to the recycler. Waste pickers are paid monthly by SWaCH against material purchased. Reports of project statistics (collection, waste pickers covered, environmental impact, etc) are made available to the PMC periodically, and shared with other parties on request.



Transporting baled MLP. Photo credit: SWaCH

### MLP Processing



# Environmental Justice

Though the system has successfully reached out to almost 1,000 waste pickers, it remains a transport-intensive, single-material, secondary collection system with a large carbon footprint. It involves three layers of transport, including a 250km road journey to the recycling facility. To address this, SWaCH is working on adding other materials to the MLP collection system, as well as exploring the potential to add MLP into the existing informal recycling sector by once again attempting to involve scrap dealers.

The government's impending three-tiered EPR framework puts only the financial responsibility of end-of-life processing on the producers and does not (as of now) have any incentives/requirements for reducing waste generation or changing to eco-friendly packaging. Furthermore, reports about the expected framework make no distinction between recycling, waste-to-energy, co-processing in cement kilns, etc. EPR for MLP is likely to encourage incineration/pyrolysis/waste-to-energy, since recycling technology for this material is new and rare. Due to their toxic emissions, including greenhouse gas emissions, such technologies carry negative implications for communities situated in close proximity to these facilities, as well as the surrounding (and global) environment.

Under the EPR framework, producers could enter the market for specific types of material and may be unwilling to subsidize/finance the collection of other materials, which could potentially fragment waste collection systems. The light, voluminous properties of MLP, coupled with its low market value, make MLP a challenging material to integrate with existing informal recycling systems.

## Inclusive Opportunity and Protection of Waste Picker Interests

Waste picker MLP earnings: Jan, 2020	
Waste pickers covered	993
Average monthly earnings	Rs. 601 (\$8.6 USD)
Median monthly earnings	Rs. 361 (\$5.2 USD)
Maximum monthly earnings	Rs. 8,956 (\$128 USD)

Since the expected EPR framework essentially makes EPR an added cost for producers, it is likely to encourage larger scale, financially viable systems with fewer actors. Even where waste pickers are not cut out entirely, the framework may encourage polluters to invest in recycling higher value materials and divert them away from the informal sector. In Pune, the presence of SWaCH and its pre-existing integration in the city's solid waste management system enabled waste pickers' inclusion in an EPR system. In cities without waste picker organizations, protecting the interests of waste pickers and integrating them into EPR systems is likely to prove extremely challenging.

The benefit of the EPR system developed by SWaCH and ITC for MLP is that it has created value for material that had none, and diverted material away from the landfill and towards processing, without disrupting the rest of the informal sector. On average, this has added Rs. 600 (\$8 USD) to waste pickers' individual monthly income. An analysis of waste picker earnings from the sale of scrap over the year of 2019 found the current sale of MLP adds 11% to monthly incomes on average. This amount is expected to grow as waste pickers increase the regularity of MLP sales.

# Recommendations for a Sustainable, Inclusive System

- **Minimize financial and environmental costs through integration** – Although *pro rata*<sup>11</sup> costs steadily declined over 2019, cost reduction remains the highest priority for SWaCH's corporate partner ITC. The financial viability of this system can be improved by adding higher value materials to the system, which will cross-subsidize lower value materials like MLP. One way to do this is for corporations to invest in setting up fair-trade scrap shops, which will have longer term and broader benefits to waste pickers than investing in single material collection systems.



Tracking MLP data. Photo credit: SWaCH

Another option is working with existing informal scrap traders to encourage them to buy materials like MLP, thus integrating the scrap traders into EPR systems. Under the SWaCH-ITC model, partnerships with existing scrap shops are being explored.

Integrating this EPR model into the existing system will cut down the duplication of transport systems, thereby reducing the overall carbon footprint of the process. Further, this will allow a cash economy at the scrap shop level, eliminating the need for maintaining monthly payment records and logistically simplifying the payment process.

- **Help establish local recyclers who have the technology and capacity to accept MLP** – Beyond its work with ITC, SWaCH is independently working towards setting up more waste picker-owned cooperative scrap shops in Pune. Setting up stable, reliable, local recyclers who have the technology and capacity to accept MLP is another crucial piece towards ensuring system sustainability.
- **Legislate that the onus is on producers** – A strong EPR mandate should ensure that the onus for making sure materials are viable for recycling lies squarely with the producers. This would include setting up local recycling facilities, discouraging undesirable processes such as incineration and pyrolysis, and bearing the losses when processors default on payments.

<sup>11</sup> equal portions or in proportion

### ABOUT GLOBAL REC

The Global Alliance of Waste Pickers is a networking process supported by WIEGO, among thousands of waste picker organizations with groups in more than 28 countries covering mainly Latin America, Asia and Africa. Visit [www.globalrec.org](http://www.globalrec.org)

### ABOUT WIEGO

Women in Informal Employment: Globalizing and Organizing (WIEGO) is a global network focused on empowering the working poor, especially women, in the informal economy to secure their livelihoods. We believe all workers should have equal economic opportunities, rights, protection and voice. WIEGO promotes change by improving statistics and expanding knowledge on the informal economy, building networks and capacity among informal worker organizations and, jointly with the networks and organizations, influencing local, national and international policies. Visit [www.wiego.org](http://www.wiego.org)

### ABOUT SWaCH

SWaCH Pune is India's first wholly owned waste picker cooperative, with a current membership of 3,540 waste pickers. SWaCH aims to engage an entrepreneurial workforce of waste pickers into an efficient, responsive and accountable organization and work in partnership with the municipal system to transform the SWM situation in Pune. Since 2008, SWaCH has a memorandum of understanding with the Pune Municipal Corporation to provide door to door collection of waste in the city, on user fee recovery basis. SWaCH currently covers more than 850,000 households for door to door collection and provides allied activities like composting for housing societies.

Visit <https://swachcoop.com/>

