Ouroboros Consolidated Ventures (OCV) **Pvt Ltd**
formerly **Ouroboros Waste Management (OWM)**
***Head Office*: 6A, Block L Sir Syed Road, Gulberg 2 Lahore Pakistan**
***Registered Address:* 97 A Model Town, Lahore, Pakistan**
SECP Company Registration Number: 112561 (CUI)
Year of Incorporation: 2017
info@ouroboroscv.com, https://ouroborosx.com

Ouroboros (WM)

Ouroboros Waste Management

Living Income Study Lahore Pakistan
Fair Circularity
Sama Verte & Systemiq

September 2025

LAHORE CASE STUDY REPORT

Study location	*Lahore, Punjab Pakistan*
Organization that developed the case study	*Ouroboros (WM) Pvt. Ltd.*
Dates	*July, 2025 to September, 2025*

Introduction to the document:

Context

In 2024, the study "A living income for the informal waste sector" piloted a methodology with local NGOs to assess the concept of a "living income" for informal waste workers with the goal to create a practical methodology to promote the provision of a living income within Pakistan's urban centers. The Lahore case study was conducted in July – September 2025 **and is one of three urban case studies undertaken, alongside Karachi and Peshawar.** Its purpose was twofold: first, to measure whether current incomes of waste pickers are sufficient for meeting decent living such as food, housing, healthcare, education, and safe working conditions; and second, to identify most pronounced self-identified systemic barriers that constrain their ability to secure stable and dignified livelihoods.

Waste picking in Lahore sustains thousands of urban and peri-urban poor households who remain outside the reach of formal employment systems. Unlike sanitation workers employed by the Lahore Waste Management Company (LWMC) under contractual protections of the Punjab Minimum Wage Act, informal waste pickers work without contracts, protective equipment, or access to social security. They operate across the city in parallel with municipal waste management, covering transfer stations, dumpsites, neighborhood streets, and household-level door-to-door collection. The absence of job security and safety standards exposes them to hazards ranging from waste-borne infections to volatile fluctuations in the recycling value chain. Yet, despite these risks, they provide an indispensable environmental service, diverting large volumes of recyclables from landfills and filling critical gaps in municipal coverage, which still extends to less than 70% of Lahore's daily waste (PBS, 2023).

For this case study, a total of 76 respondents were surveyed, representing four typologies of workers: 32 street pickers, 22 door-to-door household collectors, 18 dumpsite workers, and 12 engaged at transfer stations. In organizational terms, 41 respondents identified as independent workers, collecting and selling recyclables on their own, while 35 were part of *informally organised groups*. These groups included both semi-structured arrangements at transfer stations and door-to-door collectors operating as small-scale service providers with defined household routes. No *formally organised* cooperatives or associations were identified in Lahore, reflecting the absence of legally registered waste picker organisations in the city.

All respondents in this survey were men, which is consistent with wider evidence that, while women and children contribute significantly to sorting within junk shops or household spaces, their participation in street-level, door-to-door, or transfer station collection is highly constrained. Cultural norms and safety considerations explain this gender skew, a pattern also documented in previous studies of Pakistan's urban waste economy (World Bank, 2018). The study was conducted using structured questionnaires aligned with the Systemiq toolkit and supplemented by Cost of Decent Living (CDL) modules, enabling detailed analysis of income sources and household expenditures across food, housing, healthcare, education, and decent work costs. Enumerators also incorporated field observations on working conditions and interviewed key stakeholders, including local contractors, junk shop intermediaries, and municipal officials. This mixed-methods approach ensured that the analysis reflected both the quantitative realities of waste picker earnings and the qualitative dimensions of their livelihoods within Lahore's broader recycling economy.

A – Current Waste Picker Earning[1]

Earnings among Lahore's waste pickers demonstrate clear disparities by typology and organisational status. Independent workers reported average monthly incomes of PKR 46,670, while informally organised groups—which in this report also include door-to-door household collectors and structured transfer station groups—earned slightly higher at PKR 48,377. Both groups earn approximately 25–30% more than Punjab's statutory minimum wage of PKR 40,000/month (Punjab Minimum Wages Board, 2024), yet still fall 23–26% short of the living wage benchmark of PKR 60,434/month required to secure a decent standard of living in Lahore (Anker Research Institute, 2025). The relative advantage of informally organized groups reflects the partial benefits of coordination: stronger buyer relationships, pooled transport or resources, and, in the case of household collectors, supplementary income from service fees. Fieldwork confirmed that many door-to-door collectors strategically operate in higher-income neighborhoods such as Defense (DHA), Model Town, and Gulberg, where waste streams are richer in recyclables and households are willing to pay monthly collection fees, creating a more predictable revenue stream alongside material sales (WWF Pakistan, 2023).

All respondents in Lahore sold materials exclusively to junk shops, which remain the central link in the recycling value chain. This reliance means waste pickers act largely as price-takers, with limited flexibility to negotiate. Payment patterns also varied: 63 workers received payment daily, four weekly, seven monthly, and two on irregular schedules. Sixteen respondents reported debt obligations linked to buyers, which tied them into advance arrangements where repayments were deducted from earnings over time. While these advances provide short-term liquidity, they also limit pickers' ability to retain full value from their sales, reinforcing dependency. The absence of social protection, limited access to formal credit, and insecure working conditions further compound their vulnerability, leaving many exposed to occupational, financial, and social risks (ILO, 2020).

Material mix emerges as the single strongest determinant of earnings and highlights how different groups experience sharply divergent outcomes despite similar working hours. Across the 76 respondents, plastics were the backbone of income, though their contribution was disproportionate to actual volumes. PET bottles made up 17% of kilos collected but 32% of income, while rigid plastics such as HDPE accounted for just 9% of kilos but contributed 14% of income. Flexible plastics represented 8% of kilos and 7% of income. By contrast, paper and carton dominated volumes at 22% but yielded only 14% of earnings, while glass, at 10% of volumes, contributed a mere 3%. Metals demonstrated the highest value-to-weight advantage: aluminum cans (4% of kilos) contributed 5% of earnings, and tinplate and other metal packaging (8% of kilos) added 13%. Non-packaging metals such as electronics formed 2% of kilos and income. Meanwhile, "other materials" made up 21% of volumes but only 10% of income, reflecting how bulky, low-value recyclables weigh heavily on labor without translating into livelihood security.

Typology Analysis – Lahore[2]

Transfer Station Pickers

Transfer station pickers represent one of the strongest earning groups among Lahore's waste collectors, primarily because of their preferential access to aggregated waste streams. Transfer stations act as filtering nodes in the city's waste system, where materials are already concentrated and partly sorted, reducing contamination and bulk handling. As a result, workers in these locations disproportionately

[1] Government of Punjab. (2024). *Minimum rates of wages notification, Punjab 2024–25.* Labour & Human Resource Department. Retrieved from https://labour.punjab.gov.pk
Government of Punjab. (2025). *Unskilled minimum wage 2025–26.* Retrieved from https://sessi.gov.pk/Unskilled%20Minimum%20Wage%2025-26.pdf
Government of Sindh. (2025). *Minimum wages notification.* Retrieved from https://labour.punjab.gov.pk/minimum-wages-notification

[2] Check Table 1 in references for full definitions of our typology.

access high-value recyclables such as PET bottles, rigid plastics, and metals, which command better resale prices than bulkier low-value fractions like paper or glass. Their income profile reflects this structural advantage: transfer station workers reported monthly earnings often exceeding PKR 70,000, placing them well above Punjab's minimum wage of PKR 40,000 but still below the living wage benchmark of PKR 60,434/month (Anker Research Institute, 2025). Nevertheless, their position remains dependent on continued access to these sites, which is often mediated by community elders or intermediaries who coordinate entry and relationships with junk dealers. These arrangements stabilise access but can also impose entry fees or restrictions, meaning the gains of aggregation are not equally distributed (World Bank, 2023).

Dumpsite and Landfill Pickers

At the other end of the spectrum, dumpsite and landfill workers face the harshest conditions and the weakest material mix. Their collections are dominated by paper/carton and miscellaneous "other materials," both of which carry low resale values. Although they occasionally retrieve PET bottles, aluminium cans, or scrap metals, the inconsistency of these finds leads to unstable income flows. On average, landfill workers earned well below PKR 50,000/month, which keeps them above the earnings of agricultural labourers (PKR 24,233/month) and construction workers (PKR 22,166/month) but still below both Punjab's statutory minimum wage of PKR 40,000 and the living wage threshold of PKR 60,434 (World Salaries, 2024; Punjab Minimum Wages Board, 2024). These deficits illustrate the inequity of waste livelihoods: landfill workers often handle the largest volumes of material by weight, yet the predominance of bulky, low-value fractions prevents these volumes from translating into higher incomes. Moreover, landfill work exposes workers to acute health risks from leachate, medical waste, and hazardous materials, further reducing effective earning capacity by limiting the number of days they can work (ILO, 2020).

Street Pickers

Street pickers occupy a middle position in Lahore's waste economy. Their work involves combing neighborhood streets, bins, and markets to gather scattered recyclables. Their material mix is characterized by rigid plastics, which contribute up to 55–60% of their income, while "other" low-value fractions such as textiles and mixed waste account for around 18–20%. This reliance on lower-value materials reduces their overall returns and leaves them vulnerable to daily price fluctuations. Although junk dealers remain the sole buyers, their role is not uniformly negative, they provide the only accessible channel for sales and often extend credit or advances, but these arrangements also reduce the prices waste pickers ultimately receive. Average monthly earnings for street pickers ranged between PKR 46,000 and PKR 48,000, placing them slightly above the minimum wage but still about 20–25% below the living wage benchmark (Anker Research Institute, 2025). These figures highlight how exclusion from aggregated, high-value streams structurally depresses incomes even when street pickers work the longest hours, often 8–10 per day, six days a week.

Household / Door-to-Door Collectors (Informally Organized)

Door-to-door collectors constitute a distinct sub-group within the informally organized category. They operate outside municipal contracts but maintain semi-structured arrangements with households, deriving about 70% of their income from service fees and 30% from recyclables. Their material profile is narrower than other typologies, dominated by rigid plastics and paper/carton, with negligible contributions from PET bottles or metals. Importantly, those who strategically target higher income neighborhoods such as Defense (DHA), Model Town, and Gulberg reported relatively higher incomes, as households in these areas pay more reliable service fees and generate richer recyclable streams. Evidence from the Ouroboros operational teams across the two provinces and recent market studies such as IFC 2022 and NPAP 2024, confirms that the earnings of household waste pickers are directly linked to neighborhood affluence, with service fees and recyclables both rising in wealthier localities. On average, household

collectors earned PKR 71,394/month, nearly double the statutory minimum wage, though still 15–20% below the living wage threshold. Their relative stability derives from diversifying income streams, which provides insulation against market volatility. However, their income ceiling remains lower than that of transfer station pickers, who access bulk high-value streams at aggregation nodes.

Taken together, these typologies underscore that material access and organizational arrangements, not effort or hours worked, define economic outcomes in Lahore's waste economy. Transfer station workers and household collectors achieve the most stable or relatively higher incomes due to privileged access points and structured service relationships, while street and landfill pickers remain trapped in low-value material cycles. This stratification mirrors findings from UN-Habitat (2010) and the ILO (2020), which demonstrate that integration into organized systems, whether through cooperatives, neighborhood-level service contracts, or municipal partnerships, transforms waste picking from survival labor into a pathway toward dignified work. The Lahore findings also expose a vulnerability: heavy dependence on plastics, particularly PET and rigid fractions, leaves incomes tied to the volatility of global scrap markets (WWF Pakistan, 2023). Unless interventions enable broader access to high-value streams across all typologies, most waste pickers will remain locked below the living wage despite their indispensable role in sustaining Lahore's recycling chain.

Thus, the Lahore material mix analysis highlights both opportunities and vulnerabilities. The opportunity lies in strengthening organizational capacity and creating direct access to high-value streams for those currently excluded. The vulnerability lies in the heavy dependence on plastics, especially PET and rigid fractions, which exposes waste pickers to volatility in global plastic scrap prices (WWF Pakistan, 2023). Unless systemic reforms integrate all typologies into higher-value channels, their incomes will remain trapped near or below subsistence, despite the critical role they play in sustaining Lahore's recycling economy.

Working conditions compound income insecurity. Thirty-two workers reported no vehicle access, seven used bicycles, thirty-three relied on motorbikes, and four had loader rickshaws. Limited transport prevents access to larger or distant waste streams. Food security findings confirm the precariousness of livelihoods: 41% of respondents worried about food insufficiency, 46% lacked access to nutritious diets, 75% consumed monotonous diets, and 29% had to skip meals. Despite average reported household food expenditure of PKR 36,199/month, nutritional insecurity persists because household sizes are large (average 6.8 persons) and only 1.53 members contribute full-time incomes. Housing quality is similarly inadequate: only 51% reported acceptable structures, while just 47% had safe sanitation or proper ventilation. These structural deficits reveal that even where earnings slightly exceed minimum wages, they are insufficient to guarantee dignity.

The most frequently cited barriers to increasing earnings were lack of investment, limited mechanical resources, limited education, insecure legal status (for migrants), and heavy competition. Time restrictions, buyer monopolies, and harassment from local guards or authorities also limited access to waste. These constraints echo broader patterns in South Asia's informal economy, where structural exclusion and lack of credit perpetuate poverty traps (World Bank, 2023).

B – Living Income Estimate

The Anker methodology was applied to calculate the cost of a decent standard of living for waste picker households in Lahore. Household size was estimated at 2 adults and 4.8 children (6.8 members in total), consistent with Punjab's urban demographic profile (PBS, 2023). With 1.53 full-time equivalent (FTE) earners per household, the monthly living income requirement was PKR 92,465 per household, which translates to PKR 60,434 per FTE worker. This equates to approximately USD 904 in PPP-adjusted terms (Anker Research Institute, 2025). The following cost components provide a breakdown of this benchmark.

B1 – Healthy Diets

Food remains the single largest household expense, requiring PKR 52,139/month, or 56% of the total cost of living. This aligns with FAO (2024) findings that low-income households in Pakistan often allocate more than half of their budget to food. Survey data revealed that 41% of Lahore's waste pickers worried about insufficient food, 46% reported being unable to eat nutritious meals, and 75% relied on monotonous diets. Larger household sizes exacerbate this challenge, as incomes spread thinly across many members. Even minor shocks—such as illness, inflation, or reduced daily earnings—translate into skipped meals and nutritional insecurity, highlighting how fragile household food budgets are.

B2 – Decent Housing

Housing costs were estimated at PKR 12,200/month, or 13% of the living income. This figure includes rent and utilities in low-income urban settlements, based on PBS urban expenditure data (PBS, 2023). Yet, the quality of available housing falls far short of adequacy. Only 51% of respondents reported living in structures built with durable materials, and less than half had safe sanitation or proper ventilation. Informal settlements remain the main option for most pickers, were overcrowding and insecure tenure compound financial and social vulnerability. Thus, while the benchmark reflects minimum rent and utility costs, it understates the housing insecurity faced in practice.

B3 – Healthcare Costs

Healthcare expenditure was estimated at PKR 4,831/month (5% of the living income). This estimate reflects WHO (2023) data that 60% of Pakistan's health spending is borne directly by households through out-of-pocket payments. Waste pickers face higher-than-average health risks due to long hours of physical labor, exposure to waste-borne pathogens, and lack of protective equipment. Many reported delaying or avoiding treatment due to affordability, while others depended on low-cost private clinics with limited facilities. For Afghan-descended migrants, lack of CNIC documentation restricted access to public healthcare entirely. These realities suggest that even the benchmarked figure underestimates the true health burden on waste picker households

B4 – Education Costs

Education costs were estimated at PKR 7,200/month, representing 8% of the living income. This figure includes tuition, uniforms, transport, and books, consistent with PSLM survey findings (PBS, 2023). However, survey data showed that children often contributed to waste picking, particularly in landfill and street-based families. Schooling is frequently deprioritized, not only due to costs but also because of household dependence on child labor to supplement income. This substitution of education for labor creates intergenerational poverty traps, as families forgo long-term returns from schooling in exchange for immediate income from waste picking (ILO, 2020).

B5 – Costs of Decent Work

Costs of decent work, including safe transport, fuel, and minimal protective gear, were estimated at PKR 7,688/month (8% of the living income). Field observations showed that 32 workers had no access to any vehicle, while others relied on bicycles, motorbikes, or loader rickshaws. Transport is essential for reaching high-value waste streams, but many workers walk long distances or borrow money to cover fuel costs, which eats into daily earnings. Protective equipment was nearly absent, leaving workers vulnerable to cuts, infections, and respiratory problems. This gap between benchmarked costs and lived realities explains why many workers face reduced productivity and higher health-related income losses.

B6 – Savings

Savings were estimated at PKR 8,406/month (9% of the living income), calculated as 10% of other costs plus a contingency margin. In practice, however, almost none of Lahore's waste pickers reported having savings. Many were indebted to junk dealers or intermediaries, with 16 respondents admitting to loan obligations that reduced their bargaining power. Advances from buyers provided short-term liquidity but entrenched cycles of dependency. This absence of savings underscores the fragility of livelihoods: most households live hand-to-mouth, with no buffer against illness, seasonal shocks, or price volatility.

This cost structure shows why most of Lahore's waste pickers remain unable to reach a dignified standard of living. Independent workers earned on average PKR 46,670/month, and street pickers ranged between PKR 46,000–48,000/month, leaving both about PKR 12,000–14,000 short of the benchmark PKR 60,434/month. Informally organized groups averaged PKR 48,377/month, only marginally higher. Door-to-door collectors, the most stable group due to service fees, reported PKR 71,394/month, exceeding the living wage threshold by around 18%. However, this relative advantage stems less from material recovery and more from their ability to target higher-income neighborhoods such as Defense, Model Town, and Gulberg, where households both generate richer recyclables and pay directly for services. In sum, while a small subset of door-to-door collectors cross the living wage threshold, the majority of Lahore's waste pickers remain 20–25% below it. This reinforces that access to high-value waste streams and service-based income, rather than sheer effort, determines whether livelihoods can approach or exceed a dignified standard.

C – Comparable Incomes or Minimum Wage

Benchmarking waste picker earnings against other occupations provides perspective on their relative position within the labor market. Punjab's statutory minimum wage currently stands at PKR 40,000/month (Punjab Minimum Wages Board, 2024). Agricultural workers earn on average PKR 24,233/month, while construction workers earn around PKR 22,166/month (World Salaries, 2024). Sanitation workers employed under the Lahore Waste Management Company (LWMC) are typically paid close to the statutory minimum, which therefore represents the lower wage floor in Lahore's urban labor market.

Against this backdrop, independent waste pickers earned PKR 46,670/month on average, while informally organized groups, including household collectors, earned slightly more at PKR 48,377/month. These figures place both categories 15–20% above the minimum wage and significantly higher than agricultural (+90%) and construction (+110%) workers. However, they remain approximately 23–26% below the living wage benchmark of PKR 60,434/month required for a decent standard of living (Anker Research Institute, 2025). Door-to-door collectors, a distinct subgroup within the informally organized category, performed better due to their service-fee model and their ability to strategically target higher-income neighborhoods such as Defense (DHA), Model Town, and Gulberg. Their average monthly incomes of PKR 71,394 exceed the living wage threshold by about 18%, offering a rare pathway to stability in an otherwise precarious sector.

The comparison highlights a clear structural inequity. While waste pickers generally earn more than workers in agriculture and construction, this advantage is largely eroded when set against the higher household costs captured in the living income methodology. Their apparent wage premium over other informal occupations is insufficient to lift families into a position of financial security. The gap between door-to-door collectors and other typologies demonstrates that income sufficiency is not determined by effort alone but by organizational arrangements and access to high-value waste streams. Recognizing collection and sorting services within urban waste management systems could allow waste pickers to be compensated not just for recyclables, but also for the essential service functions they provide. This reframing would help to move their work from survival-based activity toward dignified, sustainable employment.

Key Learnings and Recommendations

The Lahore study underscores that while waste pickers are indispensable to the city's recycling system, their livelihoods remain deeply insecure. Independent pickers earn PKR 46,670/month, and informally organized groups average PKR 48,377/month, leaving both segments about 23–26% below the living wage threshold of PKR 60,434/month. Door-to-door collectors stand out with average monthly earnings of PKR 71,394, surpassing the living wage benchmark due to their ability to combine service fees with recyclables and their strategic targeting of high-income areas (Haq et al., 2021). This divergence highlights that earnings are primarily shaped by access to more profitable waste streams and semi-structured service models, not by the intensity of labor.

The analysis further shows that organization, even in semi-formal forms, can transform livelihoods. Door-to-door collectors benefit from collective arrangements, neighborhood-based service contracts, and stronger buyer networks that shield them from volatile market prices. Evidence from international cases also supports this: where waste pickers are recognized for their service functions, such as collection and segregation, incomes and working conditions improve significantly (UN-Habitat, 2010; ILO, 2020). Integrating these functions into Lahore's urban waste management could therefore ensure that waste pickers are compensated fairly for their contributions, beyond the resale value of recovered materials.

Material mixes differences across groups reinforce the need for typology-specific strategies. Transfer station workers benefit from concentrated high-value plastics, though they remain dependent on access arrangements often controlled by intermediaries. Dumpsite and landfill workers collect bulky low-value fractions such as paper and mixed waste, keeping their incomes depressed despite high collection volumes. Street pickers fall in between, relying on dispersed plastics but burdened by large shares of low value "other materials," which reduces bargaining leverage at junk shops. These structural inequalities underline that waste pickers' relative vulnerability is tied to their position in the value chain, not effort or working hours.

Opportunities to improve livelihoods begin with access to capital and organization. Interventions such as micro-credit for vehicles, provision of protective gear, and cooperative pooling could significantly raise incomes. Pilot programmes that contract neighborhood door-to-door services through municipalities would provide stable income flows while reducing competition for low-value streams. Government action is critical: integrating waste pickers into Lahore's municipal waste framework through registration, ID cards, or subcontracting would not only ensure minimum wage equivalence but also enhance recognition and service quality. Examples from Brazil's National Solid Waste Policy demonstrate that such integration can simultaneously raise recycling rates and improve worker incomes (UN-Habitat, 2010).

The private sector also has a role to play. Pakistan's emerging Extended Producer Responsibility (EPR) frameworks provide a platform for corporations, FMCGs, and recycling companies to engage directly with waste pickers. Establishing transparent buy-back centers, guaranteeing minimum price floors, or forming inclusive procurement partnerships could reduce reliance on volatile junk shop markets. Similar approaches in Latin America have stabilized incomes while advancing corporate sustainability goals (ILO, 2020). In Lahore, scaling such partnerships could create stronger alignment between sustainability targets and fairer livelihoods.

In conclusion, while door-to-door collectors demonstrate the potential for waste picking to reach living wage standards under certain conditions, most of Lahore's waste pickers remain structurally locked below this threshold. Bridging this inequity requires systemic reforms that combine municipal integration, semi-formal organization, and private sector partnerships. Without such coordinated interventions, waste picking will remain survival labor rather than a dignified pathway to secure and sustainable work, even as these workers continue to underpin the city's recycling economy.

Ouroboros Matrix Typologies of Waste Pickers and Guidance

Table 1: Typology of waste pickers in Pakistan based on formality and organizational structure, illustrating independent, informally organized, and formally organized groups. Sub-categories are included to capture variations in operational scale, coordination, and bargaining strategies within each group, reflecting the diverse socio-economic and institutional contexts of waste collection.

Ouroboros Fair Circularity Living Income Waste Picker Typology Matrix Pakistan and Spectrum				
Category	**Definition**	**Sub-categories / Spectrum**	**Notes**	**Comments**
Independent Waste Pickers	Individuals who collect recyclables on their own, without affiliation to any group or organization.	- Casual/Part-time: Collect occasionally for supplemental income. - Full-time: Rely solely on waste collection for livelihood.	Flexible, work across areas, income highly variable.	
Informally Organized Waste Pickers	Groups of waste pickers who collaborate loosely, often community-based, collaborating to improve efficiency, bargaining, or safety.	- Neighborhood Cooperatives / Family Networks: Families or local groups collaborating for collection, sorting, and selling recyclables. Transfer Station Groups: Collectors working at transfer stations, often organized along ethnic or social lines, appointing an elder as representative for negotiation with authorities, police, or buyers.	Moderate coordination: benefits include shared collective / stronger bargaining	
	Structured groups of waste pickers without formal registration, often entrepreneurial	- Door-to-Door waste collection service providers: Operate as small-scale service providers, collecting and sorting waste on the go, often with defined routes.	Structured coordination, efficient and flexible business/service model, yet lack legal recognition.	
Formally Organized Waste Pickers	Waste pickers recognized by municipalities, NGOs, or private companies, typically under cooperative, association, or contract frameworks.	- Registered Cooperatives / Associations: Legally registered entities negotiating contracts or service agreements. - Public-Private Partnership Workers: Employed or contracted by municipalities or private firms.	Stable income, formal recognition, better access to equipment and social protection.	

Acknowledgements:

1. *Sama Verte, Study Partner and Sister Concern of Ouroboros (WM).*
2. *Lahore Waste Management Company – LWMC.*
   - 2.1. *Dumpsite and Landfill Manager*
   - 2.2. *Zone 1,2,3 Manager and Supervisor*
   - 2.3. *Zones- Transfer Station / Temporary Collection Point Supervisor*
3. *Institute of Architects Pakistan President, Ex-President and Peshawar Chapter Lead*
4. *President EAROPH International*
5. *Private Firm Paper Recycling Manufacturer - Punjab.*
6. *Ouroboros Materials Circularity Team (Recycling & Manufacturing) – Peshawar/Lahore (Paper, PP, PET and HDPE)*
7. *Ouroboros Recycling Vendor Glass Recycling and Collection.*

References

Anker Research Institute. (2025).
Living Wage and Living Income Estimates Database.
https://www.ankerresearchinstitute.org/ari-country-index

Government of Punjab. (2024). *Minimum rates of wages notification, Punjab 2024–25.* Labour & Human Resource Department.
https://labour.punjab.gov.pk

Food and Agriculture Organization (FAO). (2024).
Cost and Affordability of Healthy Diets – Pakistan Country Profile.
https://www.fao.org/platform-food-loss-waste/monitoring/healthy-diets/en/

Pakistan Bureau of Statistics (PBS). (2023).
Pakistan Social and Living Standards Measurement (PSLM) Survey 2022–23.
https://www.pbs.gov.pk/content/pakistan-social-and-living-standards-measurement

World Health Organization (WHO). (2023).
Global Health Expenditure Database – Pakistan.
https://apps.who.int/nha/database

International Labour Organization (ILO). (2020).
Cooperatives and the World of Work: Role of Waste Picker Cooperatives.
https://www.ilo.org/global/topics/cooperatives

UN-Habitat. (2010).
Solid Waste Management in the World's Cities: Water and Sanitation in the World's Cities 2010.
https://unhabitat.org/solid-waste-management-in-the-worlds-cities

Chikarmane, P. (2016).
Informal Economy Monitoring Study: Waste Pickers in Pune, India. Women in Informal Employment: Globalizing and Organizing (WIEGO).
https://www.wiego.org/publications/waste-pickers-pune-india-informal-economy-monitoring-study

World Bank. (2018).
What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050.
https://openknowledge.worldbank.org/handle/10986/30317

World Salaries Database. (2024).
Average Salaries for Agricultural and Construction Workers in Pakistan.
https://worldsalaries.com/pakistan

WWF Pakistan. (2023).

Extended Producer Responsibility (EPR) in Pakistan: Policy and Practice.
https://www.wwfpak.org

Punjab Minimum Wages Board (2024).
Government of Punjab Minimum Wage Notification.
https://pwwb.punjab.gov.pk/minimum_wages

Anker Research Institute (2025).
Country living wage & living income benchmarks (Pakistan).
https://www.ankerresearchinstitute.org/ari-country-index

Pakistan Bureau of Statistics (PBS) (2023).
Pakistan Social and Living Standards Measurement (PSLM) Survey.
https://www.pbs.gov.pk/content/pakistan-social-and-living-standards-measurement

World Bank (2018).
What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050.
https://openknowledge.worldbank.org/handle/10986/30317

World Bank (2023).
South Asia Urban Informal Economy Report (informality & livelihoods).
https://www.worldbank.org/en/region/sar/publication/south-asia-economic-focus

World Salaries (2024).
Average monthly earnings by occupation in Pakistan.
https://www.worldsalaries.com/pakistan-salary

Food and Agriculture Organization of the United Nations (FAO) (2024).
Cost and affordability of a healthy diet – Pakistan country data.
https://www.fao.org/faostat/en/#data/CAHD

World Health Organization (WHO) (2023).
Global Health Expenditure Database – Pakistan health spending profile.
https://apps.who.int/nha/database

International Labour Organization (ILO) (2020).
Cooperatives and informal workers: Pathways to formalization.
https://www.ilo.org/global/topics/cooperatives/publications/WCMS_747946/lang--en/index.htm

UN-Habitat (2010).
Solid Waste Management in the World's Cities: Water and Sanitation in the World's Cities 2010.
https://unhabitat.org/solid-waste-management-in-the-worlds-cities

WWF Pakistan (2023).
Extended Producer Responsibility (EPR) and plastic waste management initiatives in Pakistan.
https://www.wwfpak.org/our_work/forests/plastics/

Chikarmane, P. (2016).
Integrating Waste Pickers into Municipal Solid Waste Management in Pune, India.
https://www.wiego.org/publications/integrating-waste-pickers-municipal-solid-waste-management-pune-india

Ouroboros Consolidated Ventures (OCV) **Pvt Ltd**
formerly **Ouroboros Waste Management (OWM)**
Head Office: **6A, Block L Sir Syed Road, Gulberg 2 Lahore Pakistan**
Registered Address: **97 A Model Town, Lahore, Pakistan**
SECP Company Registration Number: 112561 (CUI)
Year of Incorporation: 2017
info@ouroboroscv.com, https://ouroborosx.com

Annex A: Ouroboros Comparative of Typologies of Waste Pickers

Stages	Stream	Actors/Type of Waste Pickers	Activities
Source	Segregated /Mix	Waste Picker as Collection Service Provider	Collect waste from different sources, separate the saleable components, and sell them to scrap/junk dealers.
Source	Segregated Waste Stream	Barterers	Exchange saleable waste components for goods.
Source	Segregated Waste Stream	Itinerant Buyers	Purchase separated waste from the households and other sources and sell it to middle dealers
Source, streets	Segregated /Mix	Permanent Contracted Waste Picker	Sweep or/and collect waste from different sources, separate the saleable components, and sell them to scrap/junk dealers. Permanent contracted waste-pickers are also identified as sanitation workers[20] and employed or contracted by municipalities or private waste management or recycling companies.
Source, streets	Segregated /Mix	Waste Pickers as Daily Wager	Work as daily wage workers, sweep, collect waste, separate the saleable components, and sell them to dealers.
Source, streets	Segregated /Mix	Contracted/Salaried Waste Pickers as Temporary Worker	Work as temporary workers hired by contractors or the municipality, sweep, collect waste, separate the saleable components, and sell them to dealers.
Streets/ Open Spaces	Mix	Street Waste Picker	Separate the saleable waste components from the waste on streets, alleys, and public spaces and sell them to their group leaders or dealers.
Transfer Points	Mix	Waste Pickers at Transfer Station	Separate the saleable waste components from the waste at transfer points and sell them to their group leaders or dealers.
Landfills	Mix	Landfill Waste Picker	Separate the saleable waste components from the waste at the landfill and sell them to their group leaders or dealers.

Figure 1 Ouroboros Summary Of Actors and Activities in waste picking Landscape Report 2024

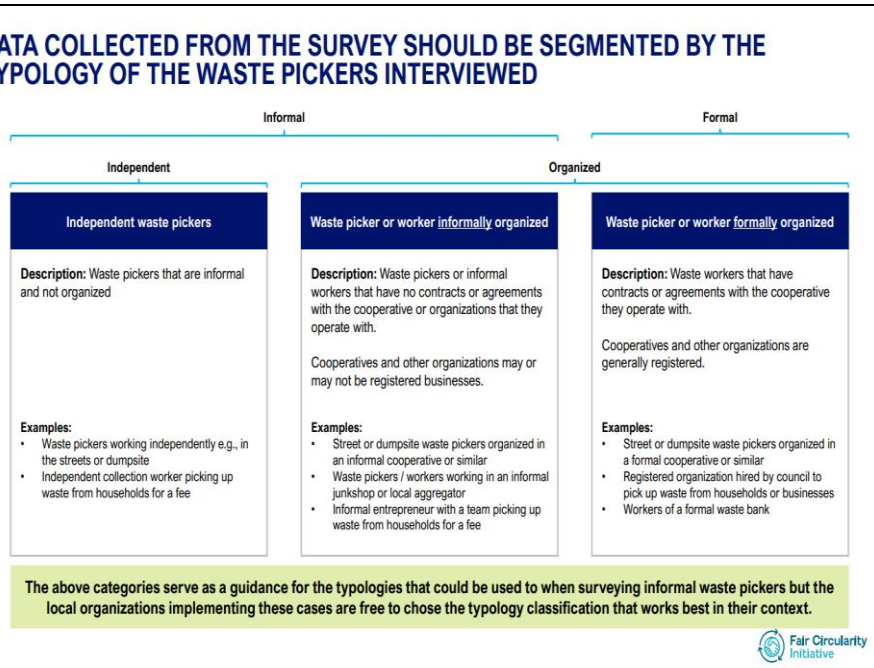

Figure 2 Categories for Waste Picker Typology

Ouroboros Consolidated Ventures (OCV) **Pvt Ltd**
formerly **Ouroboros Waste Management (OWM)**
***Head Office*: 6A, Block L Sir Syed Road, Gulberg 2 Lahore Pakistan**
***Registered Address:* 97 A Model Town, Lahore, Pakistan**
SECP Company Registration Number: 112561 (CUI)
Year of Incorporation: 2017
info@ouroboroscv.com, https://ouroborosx.com

Ouroboros (CV)

Consulting & Advisory

Waste Collection & Recovery

Materials Circularity

Where Sustainability Meets Innovation. Powering Endless Cycles