

“Waste-pickers in the Global South, by developing low-tech processes to tackle odd materials, or by implementing co-management in recycling governance models, are reminding us that environmental sustainability is the flip side of social equity and economic justice.”

-Sebastian CARENZO

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Sebastian CARENZO
National University of Quilmes
Argentina

Is there room for waste-pickers in the circular economy transition in the Global South? Food for thought from Latin America

In the Global South, the recycling industry has become a strategic sectoral driving force for the transition to a circular economy by prompting innovations and disruptive business practices that challenge the business-as-usual linear mindset. However, inequalities and blind spots along its value chain could jeopardize these contributions. Waste-pickers provide, on average, up to 50-90% of the materials that feed into industrial recycling processes, but receive less than 5% of the income generated along the value chain.¹ Research also shows that up to 50-60% of discarded plastic materials are not recycled by local industries due to low profit margins.

Thus, ironically, circular and innovative business models are being built upon labor inequalities and market constraints against sustainability. These challenges have plagued the

linear economy since the industrial revolution and are likely to hamper the long-term sustainability of the recycling industry, weaken livelihood opportunities for waste-pickers, and reduce the range of materials to be processed and recycled. The COVID-19 pandemic has foreshadowed a disturbing dystopian scenario. During lockdowns in urban metropolises, the ban of informal curbside collection has badly impacted the supply of recyclables along the value chain, indicating its dependence on waste-pickers' labor.²

Further, it is becoming increasingly evident that providing a trained workforce to retrieve and classify recyclables from waste is not the sole value add by waste-pickers to the circular economy transition. Waste-pickers are developing new market niches and technological innovations to reuse and recycle odd materials that have remained "out of sight" for the recycling industry, such as post-consumer expanded polystyrene (EPS) which is widely used in food and home appliances packaging. Even when collected by waste-pickers, EPS is usually rejected by intermediaries and recycling manufacturers due to its costly logistics (i.e. negative weight-to-volume ratio) and the technical complexities in its transformation. Most post-consumer EPS ends up in landfills and dumpsites, worsening its environmental impacts.

This issue inspired an R&D process led by waste-pickers at the Recycling Dreams Cooperative in Buenos Aires, Argentina. This yielded new processes to transform post-consumption EPS into "EPS pearls", which are used for lightweight

concrete structures and insulation by the local building industry.³ While most commercial brands produce these pearls from virgin polystyrene, the Cooperative's product is made by reusing discarded EPS, thus converting the once-valueless waste into a sustainable alternative which is sold at USD 1.00 per kg on average. The Cooperative is currently producing up to 50 tons of recycled EPS pearls each month, making it a key income source for its 30 associates. It is also moving towards upscaling the process by involving another ten cooperatives which are part of a national federation of waste-pickers.

Overall, this innovation, derived from the waste-pickers' skills and experience, went beyond the designing and manufacturing of tangible artifacts and machinery, to intangible dimensions such as a circular conceptualization of EPS as waste and marketing strategies to monetize this output.

In parallel, the waste-pickers are also developing governance innovations to foster their contributions to the Circular Economy.⁴ Seven cooperatives located in the outskirts of São Paulo, Brazil have created a network called Coopcent-ABC to enable the collective commercialization of their products. This has allowed them to achieve greater volumes and therefore get better prices than selling directly to the recycling industry. This innovation has also helped involve the waste-pickers in the co-management of official reverse logistic initiatives with local governments, manufacturers' chambers and corporations. Since 2016, Coopcent-ABC has

established a contract with the Brazilian packaging industry for cleaning products, personal hygiene, perfumery and cosmetics (ABIHPEC). Coopcent-ABC collects and reintroduces packaging into the recycling market, thus helping ABIHPEC comply with their reverse logistics requirements; in turn, ABIHPEC provides funding to strengthen Coopcent-ABC's cooperatives and help develop new inclusive recycling programs.

Waste-picker organizations are therefore extending the circular economy framework beyond the mainstream, which focuses a great deal on industrial engineering, product design and marketing. By doing so, they have brought some unresolved dilemmas of the circular economy to the forefront, such as dealing with labor informality and social inequalities, and are providing insights into tackling these challenges.

As we have seen, whether by developing low-tech processes to tackle odd materials considered non-recyclables or by implementing co-management in recycling governance models, waste-pickers are reminding us that environmental sustainability is the flip side of social equity and economic justice. This is not limited to strengthening the livelihoods of socially marginalized groups. It is about daring to seriously account for their techno-cognitive skills as key assets and drivers as we move further into the transition to a circular economy in the Global South, and beyond.

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