



# Waste pickers' contributions to the transition towards a Circular Economy in the global South



Within the frame of Rede Verde Sustentável, Avemare cooperative representative signs a contract with Cicla Brasil, to strengthen the circular economy.  
Photo: Avemare Cooperative



Cleaning Nile perch's discarded frames and heads before drying it, Kambuta market, Kisumu, Kenya.  
Photo: John Chweya

## Author



### Sebastian Carenzo

CONICET/LabIEC-IESCT-CIC-BA,  
Universidad Nacional de Quilmes.  
E-mail: sebastian.carenzo@unq.edu.ar

## Executive summary

This policy brief provides guidelines for building a transition towards Circular Economy in the global South that embraces not only economic and environmental aspects, but also social and equity concerns. It highlights the benefits of designing and implementing circular loops and cascades that go beyond the internal corporate production processes and engineering-based solutions, to encompass all the actors along the recycling value chain, including informal recyclers. Drawing on first hand field work data derived from two joint international action-research projects, we identify and provide policy recommendations related to:

- Identifying market niches for inclusive business models focused on green jobs creation;
- Developing low-tech processes to transform and process odd materials with recycling potential;
- Implementing new waste governance models based on inclusive recycling at a local and regional scale.

The research evidence shows how waste pickers are widening the Circular Economy framework beyond the prevailing techno-economic core topics of the mainstream Circular Economy agenda.

## Introduction

In the global South the recycling industry is a strategic sectorial driving force for the transition to a Circular Economy. It prompts innovations and disruptive business practices, which challenges the widespread business-as-usual linear mindset. However, existing inequalities and blind spots along its value chain may hinder its contribution. For example, in the global South waste pickers provide on average of up to 50-90% of the materials which feed the recycling industry but they receive less than 5% of the income/revenues generated along the recycling value chain. Research also shows that up to 50-60% of the discarded materials are not recycled since the local recycling industry does not find profitability in their processing. These materials end



up being dumped in landfills even though they could be recycled and transformed and therefore contribute to reducing resource extraction and they would bring profits further along the value chain. Such issues threaten the recycling industry's long-term sustainability as they weaken the continuous supply of collected and sorted materials and narrow down the range of materials to be processed and recycled. By doing so they not only weaken the livelihood opportunities of the waste pickers but also lead to the continued global depletion of natural resources.

The purpose of this policy brief is to provide guidelines for building and maintaining an inclusive Circular Economy – an economy that embraces not only economic

and environmental aspects, but also social and equity concerns. It shows how waste pickers have developed key grassroots innovations to recycle discarded materials, which the industry considers not worth recycling due to technical and/or market limitations. The brief also highlights the benefits of strengthening private-social enterprise partnerships, as waste picker cooperatives, community-based organizations (CBOs) and small-scale businesses are all important circular waste management service providers. Finally, it concludes that fostering the transition towards a Circular Economy in the global South must go beyond mainstream visions focused on internal corporate production processes and engineering-based solutions, by developing extensive and inclusive loops along the whole recycling value chain.

## Methodology

This policy brief is based on empirical studies carried out in two international action-research projects: Recycling Networks and Waste Governance. These projects have examined grassroots innovations developed by waste picker organizations and networks in Managua (Nicaragua), Dar es Salaam (Tanzania), Buenos Aires (Argentina), São Paulo (Brazil) and Kisumu (Kenya). In each city, a local research team, including both waste pickers and scholars, conducted data collection through participant observation and in-depth interviews with key stakeholders (waste pickers, middlemen, corporate managers, government officials and NGO technicians) following a semi-structured interview guide. As a result, we identified a set of local grassroots initiatives in all cities we have worked with and will highlight examples from Kisumu, Buenos Aires and São Paulo in which in-depth case studies were conducted providing key insights for analyzing the intersections between Circular Economy and inclusive recycling. Local reports were shared, analyzed and discussed across the local teams at two international conferences (Kisumu 2018 and Dar es Salaam 2019). In these meetings, additional joint field work was carried out in dumpsites, at CBOs and with local waste entrepreneurs. A comparative analysis allowed us to develop policy recommendations to address the challenges of resource depletion, climate crisis, poverty and inequalities.



Members of Reciclando Sueños cooperative transforming discarded EPS chunks by using selfmade machinery. / Photo: Sebastián Careño



## Results and conclusions

Waste pickers provide a critical contribution to the transition towards a Circular Economy, in the global South and globally, as they collect and sort materials from waste and divert them into the recycling industry. However, their contributions go beyond retrieving and classifying recyclables.

First, they are developing new market niches and technological innovations to reuse and recycle materials which have remained out of sight for the recycling industry. In the city of Kisumu (Kenya) self-help women groups have developed novel, low-cost nutritious products out of the fish waste generated by local exporting industries by the Lake Victoria. Within the local Kambuta Market, these women's groups produce and sell a wide range of fish-waste products, including cooking oil (from fish fats), leather shoes, bags and handcrafts (from fish skins), and other food consumables (from fish cuttings, heads and Frames, and skins). By transforming fish waste that used to be dumped into products, these women groups have extended and expanded the fish value chain, creating a circular loop of what used to be a linear business-as-usual externality. This loop is highly inclusive as it includes low-income women in the innovation and production process and as it addresses the nutritive needs of low-income citizens and contributes to strengthening local food security. In the same vein, waste pickers of the Recycling Dreams Cooperative in Buenos Aires (Argentina) have developed new machinery to transform post-consumption (and seemingly “unrecyclable”) expanded polystyrene (EPS) into a novel material for the building industry: EPS pearls used in lightweight concrete structures. Both these cases show evidence of how grassroots innovations driven by waste picker groups have created circular loops by experimenting with waste materials previously defined as non-recyclable, and therefore valueless.

Second, waste pickers have also developed governance innovations to foster their contributions to the Circular Economy. In São Paulo (Brazil) ten cooperatives, with a total of approximately 500 members, created a network called Rede Verde Sustentável to enable the collective

commercialisation of their products. This network not only sells directly to the industry and gets better prices than those paid by middlemen, but also has become a counterpart in reverse logistics programmes in association with manufacturers chambers and organizations. Since 2016, Rede Verde Sustentável has established a contract with the Brazilian packaging industry for cleaning products, personal hygiene, perfumery and cosmetics (ABIHPEC), coordinated under the program “Giving hands for the future”. By collecting and reintroducing packaging into the recycling market, the cooperatives affiliated to this network help ABIHPEC to comply with their reverse logistics requirements. In return, ABIHPEC provides funding to strengthen the cooperatives and to develop new inclusive recycling programmes.

In doing all this, waste pickers are widening the Circular Economy framework beyond the prevailing techno-economic core topics of the mainstream Circular Economy agenda. By identifying and recognizing important Circular Economy benefits linked to the livelihoods of social marginalized groups, some still unresolved dilemmas linked to Circular Economy become visible. As for example, its role in fostering or inhibiting equity and job creation, informality and social inclusion. Furthermore, waste pickers and their organizations are providing key insights on how to bridge these challenges. Waste picker organizations collaboratively enrich design and innovation processes to widen the range of recyclables to be processed. By doing so, they also build larger loops across the recycling value chain, expanding its heterogeneity by linking formal enterprises with informal waste picker groups. Finally, by constituting local and regional networks they prompt peer-to-peer learning and sharing key innovations to strengthen their role towards the transition to Circular Economy.

Waste picker organizations collaboratively contribute with their extensive experience with discarded materials adding to design and innovation processes. They also share their results through peer-to-peer learning within networks based on a South-South perspective on Circular Economy.



## References and further reading



- Gutberlet, J. & Carenzo, S. (2020) Waste Pickers at the Heart of the Circular Economy: A Perspective of Inclusive Recycling from the Global South. *Worldwide Waste: Journal of Interdisciplinary Studies*, 3(1): 6, 1–14.

- Becerra, L.; Carenzo, S.; & Juarez, P. (2020) When Circular Economy Meets Inclusive Development. *Insights from Urban Recycling and Rural Water Access in Argentina*. *Sustainability*, 12, 9809.

- Gutberlet, J.; Carenzo, S.; Kain, J-H.; & de Azevedo, A. M. M. (2017) Waste Picker Organizations and Their Contribution to the Circular Economy: Two Case Studies from a Global South Perspective. *Resources* 6 (52): 1-12.

The authors recognize the vital input of the waste pickers to the research, as without their knowledge and critical experience we could not have conducted this research. We would also like to acknowledge the funding agencies that supported the empirical research: the Swedish Research Council VR, the Social Sciences and Humanities Research Council of Canada, the Formas Swedish Research Council for Sustainable Development, and from the Swedish International Centre for Local Democracy through the Grassroots Initiatives for a More Inclusive Governance project.

## Policy recommendations

**The transition from linear to the Circular Economy, adding a global South perspective must acknowledge, appreciate and support waste pickers' contributions in terms of:**

### 1. Identifying market niches for inclusive business models focused on the creation of green jobs.

The Kambuta Market case study shows the role of wider and more inclusive circular loops for green job opportunities targeting vulnerable groups, by reusing waste by-products into valuable goods. However, in order to maintain these innovations and to achieve a larger impact, grassroots initiatives must be strengthened by social entrepreneurship programs and labour policies, promoting collective forms of organization (cooperatives, community-based organizations, social enterprises, etc.).

### 2. Developing low-tech processes to transform and process odd materials with recycling potential.

Grassroots innovations play a key role in widening the range of materials diverted into circular loops. As the Buenos Aires waste pickers' case study shows, they contribute to the environment and local economy in ways that business-as-usual has not been able to do. As in other economic sectors, these innovations should be supported by targeted funding for Research and Development and through technical support of science and technology institutions to upscale their impacts.

### 3. Implementing new waste governance models based on inclusive recycling at a local and regional scale.

The collective commercialization strategy of waste picker cooperatives in São Paulo shows the importance of developing governance models to shape value chains that are both circular and inclusive. For grassroots level efforts succeed and to accurately remunerate the work of waste pickers as described for São Paulo, these initiatives need backing from national and subnational normative frameworks providing policy, technical and financial support, for example by implementing Extended Producers Responsibility, Reverse Logistics mechanisms (including deposit refund systems) and city contracts for selective waste collection and recycling.

### 4. Waste pickers' voices should be included when transforming waste management systems towards a Circular Economy.

A transversal recommendation deriving from all our case studies is that waste pickers provide valuable and indispensable grassroots knowledge and expertise on how to widen the Circular Economy framework not only towards an environmentally sound approach, but also as a socially just global program.

## Research team

Adalberto Azevedo / Sebastián Carenzo / Goodluck Charles / Jutta Gutberlet / Jaan-Henrik Kain / Michael O Oloko / Jessica Pérez Reynosa / Patrik Zapata / María José Zapata Campos

<https://www.gu.se/en/research/grassroots-for-sustainability/>

<https://www.lab-iec.org/>