

Grassroots innovations for an inclusive and sustainable waste governance

This policy brief focuses on how local governments can develop a more inclusive, democratic and sustainable environmental governance by partnering with, and strengthening the role of, grassroots waste picker organizations (WPO) and networks. Informed by action-research in Argentina, Brazil, Kenya, Nicaragua, and Tanzania it shows how WPOs present resilient forms of organizing which facilitate environmental education, advocacy for more sustainable waste management solutions and development of grassroots innovations that contribute to a clean and healthy environment, as well as to more inclusive economies and decent work.

Introduction

Millions of waste pickers collect household waste daily in cities around the globe to earn a living. Through their everyday work they develop new technical solutions, engage in novel ways of organisation and management, and induce innovative policies and governance arrangements through inventive forms of participatory co-production of environmental services. By so doing, these innovations support the implementation of several of the UN Sustainable Development Goals. They contribute significantly to creating jobs and income among the poor (SDGs 1 and 8), to improving environmental conditions and health of low-income residents (SDGs 3 and 11), to decreasing the carbon footprint of cities (SDG 11), to reducing resource extraction by recovering resources from waste (SDG 12), and to shaping partnerships for sustainable development (SDG 17).

Waste pickers are increasingly forming different types of grassroots organisations, called waste picker organisations (WPO): self-help groups, youth-groups, cooperatives, micro-enterprises or other forms of community-based organizations (CBOs). Many of these have expanded their reach from the community to city-wide, regional and global scales, involving other waste pickers but also public, private and civil society organizations.

The purpose of this policy brief is to present the most relevant findings and policy implications of two action research projects examining the livelihood practices and grassroots innovations of WPOs: Recycling Networks and Waste Governance. The projects are informed by the study of WPOs in seven cities; Buenos Aires, Dar Es Salaam, Kisumu, Managua, São Paulo, Montreal and Vancouver, located in the continents of Africa, South America and North America. They show how recycling movements, despite emerging from some of the most vulnerable urban collectives, have realized considerable achievements in local, national and global environmental governance, resisted detrimental market-driven incineration practices as well as uncontrolled privatization of environmental services, campaigned for policies fighting climate change, contributed towards environmental education and advocated for more sustainable waste management solutions resulting into valuable circular economy innovations from below. Learning from the emerging and growing role of grassroots waste picker networks shows how inclusive environmental governance can be built up through new forms of association that are more deeply democratic and green, along with new opportunities to rethink global and local challenges, such as those related to natural resource depletion, plastic pollution and the climate crisis.

Methodology

The study is informed by a survey conducted with more than 100 WPOs in the involved countries. The survey examined the history and characteristics of the organizations, their governance structures, funding and equipment situations, types of work conducted, characteristics of the workers and their working conditions, network relations, challenges and innovations of the WPOs. The study also included 100 in-depth interviews with a selection of WPO members, as well as with key informants in local governments and other waste governance actors. At two international workshops held in Kenya (2018) and Tanzania (2019), the findings were analyzed and discussed by researchers and WPO representatives from Argentina, Brazil, Canada, Chile, Kenya Nicaragua, Sweden and Tanzania, and also by Kenyan and Tanzanian municipal officers and politicians working with environmental and waste management. The purpose of these workshops was to co-create knowledge and to conceptualize solutions and policy recommendations.

Results

The research results provide important insights on the nature of the innovations, networks, governance environments, alliances, peer-to-peer knowledge development and resilience of WPOs. They provide an understanding of the different roles that local governments can play in supporting a more inclusive, sustainable and efficient waste management system.

1. Grassroots innovations and policy frameworks

The work of waste pickers showcases sparks of hope, creativity and innovation. WPOs create 'extreme' niches of innovation at the margins of the formal city, economy and waste management systems, and of orthodox science and innovation. Operating in contexts of scarcity, they experiment with waste materials previously defined as non-recyclable, making valuable environmental contributions and creating new markets. These transformations require developing new technologies, such as the case of the Recycling Dreams Cooperative in Buenos Aires who developed technology to process previously discarded expanded polystyrene. This innovation is now part of waste management services provided to corporations, and is enabled by new waste regulation in the Buenos Aires metropolitan region, whereby WPOs can provide certified environmental services to large waste generators. In Brazil, influenced by the National Waste Pickers Movement (MNCR), reverse logistics policies have been introduced, that oblige companies to show the destination of their residues, which opens a new market segment for WPOs. These examples show how elaborated grassroots innovations can be scaled up to reach their full societal benefits when local governmental arrangements are introduced that sanction and support them.

However, the fruits of innovations do not always remain with the innovators. In the Kambuta fish market in Kisumu, hundreds of women have innovated on how to turn fish industry by-products into a variety of low-cost products targeting low-income customers' needs. As wealth began to accumulate through these innovations, local men started to place themselves as chairmen of the women groups and later as powerful intermediaries in collusion with the fish industries, skimming off a significant part of that wealth; an informal and hidden policy framework sustained by the fish industries and some of the local grass tops. The women ended up reduced to just providing labour instead of benefitting from their entrepreneurial and innovative skills. The Kambuta market showcases the importance of governmental support to protect and monitor the ownership and access of women groups to the innovations they have initiated and developed.

2. WPO networks and the development of vital self-knowledge

Our studies also show how waste pickers are well organized, increasingly connecting with each other through city, regional and global WPOs and networks worldwide. In the last decades, wider waste picker networks have been established in Latin America, for example the MNCR in Brazil, the Nicaraguan Waste Pickers Network (RedNica) and the Latin American and Caribbean Network of Waste Pickers (RedLacre). In East African countries, the young age of the WPOs, their more precarious economic situation, and the absence of institutional support have so far hindered the creation of such broader networks. However, as a result of the activities and meetings facilitated by the Recycling Networks and Waste Governance projects, new local networks in Kisumu (e.g. Kisumu Waste Actors Network) and Dar es Salaam have been initiated and strengthened. The creation of an East African WPO is also under discussion.

These grassroots networks, regardless of their sophistication and the scale at which they operate, have developed techniques for data collection linked to parameters for membership (e.g. regarding enumeration). However, this is also about generating self-knowledge, for example how they can and should characterize themselves, how to quantify and make visible the scope of activities developed by grassroots groups, or how to measure their exact environmental contribution in terms of saved CO² emissions. By so doing, first, they develop fundamental knowledge in a field about which even local governments lack systematic data. Second, this self-knowledge is a powerful scientific evidence to be used when negotiating environmental and waste management policies with local governments. And, third, through maintaining their own enumeration, WPOs create more powerful networks with representation deeply embedded in their respective territories, for example within the city of Kisumu and its informal settlements, outside the dumpsites of the city of Managua, in the metropolitan region and the interior of the state of São Paulo, and on another scale level, across all Latin American and Caribbean countries. Through such data and networks, WPOs are on their way to create a deep green democracy; a vital bridge between local governments and informal communities in support of inclusive and sustainable environmental and economic policy making.

3. Collaboration in open and diverse alliances

Collaborations between WPOs, governmental organizations, civil society organizations, corporations and academia can lead to a productive co-creation of knowledge and up-scaling of grassroots innovations. WPOs in all the studied settings engage in different types of such collaborative alliances, at times with apparently opposed actors. One example is provided by RedNica. While some cooperative members were collaborating with the Nicaraguan Trade and Cooperatives Ministry to sell their recycled products at a trade fair for social entrepreneurs, the materials used to produce these items were collected illegally from the municipal landfill, where the police were persecuting the same waste pickers who participated in the fair. RedLacre also illustrates this strategy through its pragmatic participation in the Initiative for Inclusive Recycling together with large multinational corporations and international agencies who, at the same time, are not trusted by waste pickers.

So even though WPOs incessantly struggle to preserve their autonomy from attempted co-option by large corporations, development agencies, local governments, states and environmental organizations, they simultaneously work with strategic alliances to achieve their goals.

4. Peer-to-peer knowledge exchange and development

The Recycling Networks & Waste Governance projects are in themselves examples of the multi-stakeholder partnerships for sustainable development described above. Our action-research enabled meetings between waste pickers, researchers, CBOs, public officers as well as politicians, and sparked peer to peer knowledge exchanges between WPOs from the different countries. This led to activities of technology transfer between WPOs in Latin American and East African countries for the design, fabrication and testing of several low-tech innovations, e.g., a push cart, a paper manual press and a biogas plant, developed by WPOs and adapted to local needs, available materials and competences. We conclude that knowledge sharing and peer-to-peer technology transfer are successful for developing appropriate technology, low-cost solutions when grassroots organizations are given free space to research and innovate according to their contextual problems, assets and solutions.

5. Crisis and resilience

Our comparative study shows how WPOs in Latin America engage with a higher diversity of clients, services and materials, and have developed stronger local, national and regional networks than WPOs in East African countries. These differences are explained, first, by the widespread poverty that forces the most vulnerable groups in informal settlements in Kenya and Tanzania to operate with narrow market niches of recyclables that generate small revenues and make them vulnerable. Second, Latin American WPOs have received more support during their start up, presently have higher levels of legal recognition and have operated generally in a more favourable institutional and public policy contexts. Drawing on the Brazilian experiences, our research provides evidence regarding the importance of local governments support to East African WPOs' resilience through more inclusive public policies.

During the COVID-19 pandemic, in the countries with more established networks, WPOs have drawn on these policies to communicate with their members, to report about their situation, and to share critical knowledge regarding health prevention and economic reactivation measures. WPOs have also mobilized support from their collaborative alliances with other actors. For example, in Brazil, the municipal Public Urban Cleaning Company in São Paulo implemented a financial aid for registered waste pickers. In Argentina, waste picker organizations were classified as essential service providers and therefore exempted from lockdown measures. This categorization also entailed their inclusion in state programs to access financial, health and sanitation support. At the local level, CBOs in the informal settlements of Kisumu, such as the Manyatta Residents Association have mobilized help from external actors, for provision of hand sanitizers and access to drinking water.

Furthermore, WPOs have developed strategies to confront the waste-to-incineration industry lobby, that has become more active during pandemic lockdowns, through the mobilization of supportive networks with universities, NGOs and other actors.

Policy recommendations

A clean and healthy environment is the responsibility of the local authorities and they would benefit greatly from supporting WPOs in assisting them to fulfil this mandate. Support to WPOs should be seen by local governments as a matter of sound public investment in environmental management and innovation, at the same time counteracting stigmatization and labour exploitation by valuing the environmental services provided by waste pickers. In

other words, strengthening grassroots and the co-production of services and infrastructures also means strengthening the local government. Far from encouraging the retreat of the public sector, it builds capacities and structures in both civil society and local government, and makes governance more inclusive and democratic, provided it is carried out in a deliberate and careful manner.

Informed by the results of this research, these are our policy recommendations for local governments to support the contribution of waste picker grassroots organisations:

1. **Local knowledge.** Do not reinvent the wheel! When planning for waste management and other environmental services, take advantage of existing activities and WPOs in the communities. For example, engage waste pickers in policy making through *community research* building on their own local knowledge. It is easier for WPOs than municipal officers or researchers to collect data among themselves, in informal settlements and on waste dumps. Make sure to actively involve the most vulnerable groups (e.g. women, youth, lower-income waste pickers) and not only the grassstops.
2. **Training and education.** WPOs and networks are resilient forms of organizing with substantial locally-based knowledge about waste management. However, they need to be supported through *training* (e.g. internal governance, management challenges, equity, inclusion, technologies, accounting). Training in further democratization and transparency is fundamental to strengthen the representation and inclusion of these grassroots organizations, to avoid clientelism, corruption and inequalities, to evade the loss of their human capital and knowledge. Assist vulnerable WPOs with secure and just access to *markets and fair prices*.
3. **Facilities.** Given the low-income levels of many waste pickers and the high cost of waste management facilities, *support* to WPOs should provide and facilitate sharing of both physical and human resources in recycling centres or waste transfer stations in informal settlements. The physical resources include; space for daily operations, equipment, workshop repair tools, recycling facilities and sanitation, while human resources are technicians, accountants and occupational health advisors.
4. **Separation at source.** Support selective collection systems with separation at the source, in collaboration with WPOs and waste generators. Waste pickers work at the household level and can help educate household members towards clean material separation at the source. This will improve recycling rates, public health and cleanliness, as well as waste pickers income. It will also significantly reduce the amount of waste going to dump sites and landfills.
5. **Decentralized governance capacity.** Bring *governance structures closer to the communities* by strengthening the lowest tiers of local governments (e.g. by providing staff and professionalization, and establishing frequent communication and collaborative channels between government representatives, public officers and inhabitants). These low tiers of government act as boundary spanners, ensuring the reach and impact of grassroots innovations into local governments.
6. **Participatory and inclusive governance.** Involve WPOs in *inclusive policy making and implementation*, for example, by establishing spaces of dialogue between waste pickers and the municipality, or by including WPOs in participatory budgeting processes. Develop *inclusive waste management policies and legal frameworks*, that acknowledge grassroots organizations as important waste actors to support their innovations (e.g. allowing urban composting and farming, biogas production, repair and upgrading services, etc).

- *Avoid outsourcing* of municipal waste collection services to large corporations seeking high profit at the expense of both the environment and long-term economic viability.
 - *Avoid incineration technologies*. They are expensive, impact negatively on recycling rates, pollute nearby communities and the environment, diminish the health of the population and dispossess waste pickers from their livelihoods.
7. **Inclusive circular economies and innovations**. Recognize, valorize, safe guard, promote and sustain *grassroots innovation* sites as critically important environments for a transition towards a circular economy from below. With support from local governments, grassroots innovations can be scaled up into inclusive value chains in the recycling industry. Protect innovations originating from vulnerable groups against exploitation by more powerful actors, and promote a *gendered approach* to counteract male appropriation at the expense of female innovators. Promote *appropriate technology innovations*, as they expand the scope of recycling streams and bring economic returns to low-income groups.
 8. **Waste is a common resource**. Recognition of waste pickers' *rights to access waste* as a source of livelihood and a common good. This means that waste needs to be seen as being neither a state nor a market good.
 9. **Co-production and co-management**. Work in institutionalised and consolidated *partnerships* with WPOs for the co-production of household, business and industrial waste collection and recycling services. There are many successful examples of such partnerships for household waste collection and recycling, in managing recycling centers and transfer stations, and in finding more appropriate and safer forms of resource recovery than end-of-pipe recycling at landfills or waste dumps. The most vulnerable waste pickers forced to work inside landfills/dumps should be supported to transition to improved modes of waste picking. *Recognition* of the services waste pickers provide to local municipalities is essential to ensure that they are adequately enumerated, supported and protected, as in some cities in Brazil (e.g. Santana de Paraiba) and Argentina (Buenos Aires), where local governments pay WPOs for the environmental services they provide.

Authors

María José Zapata Campos, associate professor in Business Administration at the School of Business, Economics and Law, University of Gothenburg, Sweden, mj.zapata@handels.gu.se

Jaan-Henrik Kain, professor of Urban Transformation at the Departments of Architecture and Civil Engineering at Chalmers University of Technology, Sweden, kain@chalmers.se

Patrik Zapata, professor in Public Administration at the School of Public Administration, University of Gothenburg, Sweden, patrik.zapata@gu.se

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