



Inter-Agency Task Force on
Social and Solidarity Economy

Waste picker social economy organizations addressing the Sustainable Development Goals

Jutta Gutberlet
University of Victoria
Canada

April 12th 2019

Draft paper prepared in response to the
UNTFSSSE Call for Papers 2018

Implementing the Sustainable Development Goals: What Role for Social and Solidarity Economy?

Presented at UNTFSSSE International Conference in Geneva, 25-26 June 2019

The responsibility for opinions expressed in this document rests solely with their author(s), and availability on the SSE Knowledge Hub for the SDGs (unsse.org) does not constitute endorsement by the United Nations Inter-Agency Task Force on Social and Solidarity Economy (UNTFSSSE), or its institutional members, partners or observers, of the opinions expressed in it. No publication or distribution of this document is permitted without the prior authorization of the author(s), except for personal use.

This document is made available on the SSE Knowledge Hub for the SDGs in the form and language in which it was received.

Abstract

The paper links measurable impacts towards tackling SDGs through the work of organized waste pickers involved in resource recovery. There is a large structural heterogeneity among organized waste pickers, which directly affects the working conditions, the level of income and productive outcomes and the sustainable development potential of waste pickers. The Social and Solidarity Economy (SSE) plays an important role in successfully organizing waste pickers and supporting their infrastructure and capacity building. The political will of local governments to establish selective waste collection and recycling contracts with waste picker organizations is crucial to allow these groups to thrive and address the SDGs. The empirical findings show how these cooperatives and associations are addressing key social, economic and environmental challenges, build resilience and reduce vulnerabilities. The study reveals some of the mechanisms through which the SSE provides a means of implementation for the SDGs and discusses challenges and the possibility for scaling up or replicating some of these innovative grassroots initiatives. The findings contribute towards transformative policy changes.

Keywords

waste pickers, cooperatives, SDGs, waste governance, Brazil

Bio

Jutta Gutberlet is a Professor in Geography at the University of Victoria, Canada, engaging in community-based, participatory action research geared towards a social and environmental justice agenda. Recently, she has published the book *Urban Recycling Cooperatives: Building Resilient Communities*, with the Routledge Taylor & Francis Group.

1. Introduction: Waste picker organizations and the social and solidarity economy

In the absence of proper formal waste management services, the environmental situation, especially in informal settlements, has become deplorable and unhealthy. Millions of informal waste pickers seize the opportunity to daily collect recyclable household waste in cities around the globe to earn a living. In doing so, they make significant contributions to reducing the carbon footprint of cities, recovering resources and reintroducing them into the circular economy, improving environmental conditions and health, particularly in low-income residential areas and to generating income among the poor. These innovative grassroots initiatives and networks encounter many challenges in their livelihood practices. Waste pickers play an important role in coproducing city services and thus addressing several of the UN SDGs.

Waste picker organizations fall under the definition of social and solidarity economy (Moulaert and Ailenei, 2005). They are mostly bottom-up initiatives, offering services that create synergies between local authorities, private enterprises, state and citizens. What most social and solidarity economy (SSE) experiences have in common, is the recognition and underpinning of the values related to cooperation, sharing and reciprocity in these forms of organizations. Autonomy and self-determination are also key values to their members, becoming a driver for social innovation, from an institutional (governance, social relations, empowerment), economic (satisfaction of needs) and social (collaboration, solidarity, social capital) perspective. Truly democratic social economy businesses require decentralization with the transfer of power, responsibility and deliberation to its members (Moulaert and Nussbaumer, 2005). What differentiates their praxis from the mainstream economy, is a work and business ethics of collaboration and solidarity rather than primarily profit orientation. The government plays an important role in facilitating the *“public sphere of communicative action and deliberation in which, according to a more or less supportive institutional framework, the process of political opinion and will formation take place”* (Gerometta et al., 2005, p. 2017).

This paper will discuss preliminary results about the ways in which the activity of waste pickers, organized in cooperatives, associations and networks, contributes to achieving some of the SDGs. The research to support this argument was conducted with 21 waste picker organizations (20 cooperatives and 1 association) in the metropolitan region of São Paulo, in 2018. An in-depth socio-economic survey was applied to these 21 groups, complemented with short interviews with the leaders. During a separate workshop, conducted in December 2018, a short questionnaire was applied to 10 leaders of waste pickers cooperatives, asking about specific social benefits from working in cooperatives. The author has been working with waste picker cooperatives in the region for over ten years, which allowed for the necessary level of trust and support by these groups. This study is part of a larger research consortium, titled ‘Recycling Networks and Waste Governance’, an international partnership with universities in Argentina, Brazil, Canada, Kenya, Nicaragua and Tanzania and in collaboration with grassroots recycling networks (waste picker cooperatives, associations and other forms of community-based resource recovery initiatives)¹.

In Brazil, SSE is promoted since the early 2000s, as an alternative path to the exploitive, competitive and commodified social and work relations that characterize capitalism. The National Secretary of Solidarity Economy has actively supported these other forms of production, that are based on collective principles. The *“main protagonists of SSE are the workers, seen as historical subjects in social transformation, defending in a militant way a new mode of production and wealth distribution. Self-management and the productive character are essential features of the initiatives. In addition, it is also close to unions and the labour movements”* (Marques, 2014, p. 5). Inclusive deliberation becomes a challenging process in

¹ The program is formed by a consortium of the two projects: the ‘Mapping Waste Governance’ project, funded by the Social Sciences and Humanities Research Council of Canada and the ‘Recycling Networks’ project, supported by the Swedish Research Council.

participatory governance, particularly in the case of waste picker organizations working towards the emancipation and inclusion of those individuals who oftentimes are excluded. From the SSE perspective, civil society's role in governance is seen as a valuable contributor to building better communities and the social economy provides the space for public deliberation.

This research is framed through a situated urban political ecology (UPE) perspective (Gandy, 2006; Lawhon et al., 2014; Rigg, 2007; Swyngedouw, 2004), which draws the attention to social and environmental justice issues, many of which are also addressed in the SDGs. Critical social theory through specific post-colonial and global South lenses allow for a contextualized interpretation and understanding of cities as complex metabolisms, with actors and processes involved in local solid waste systems. UPE draws our attention to questions of social and environmental justice, inequality, and the connection between the political economies and everyday material lives in the city.

This paper will focus on the work of organized waste pickers, particularly those that organize as cooperatives and 2nd degree cooperatives in Brazil. These workers provide many contributions to society, discussed as economic (SDG # 1: End poverty, SDG # 8: Productive employment and decent work), social (SDG # 5: Achieve gender equality) and environmental (SDG # 11: Make cities and human settlements inclusive, safe, resilient and sustainable and SDG # 12: Ensure sustainable consumption and production patterns) impacts.

2. The work of waste pickers intersecting with SDGs

The following section will contextualize the contributions of waste picker organizations linked to specific SDGs. The discussion is based on theoretical insights and introduces empirical data collected in Brazil, in the context of the *Recycling Networks and Waste Governance* research consortium, in 2018.

2.1 Productive employment and decent work

Waste picker cooperatives are autonomous and participatory organizations, based on values of self-help, self-responsibility, democracy, equality, equity and solidarity. Their members believe in the ethical ideals of honesty, transparency, openness, social responsibility and caring for others. They provide livelihoods for millions of people around the world. While not all cooperatives follow the economic practice of self-management, where the workers are the owners of production and decisions are made collectively, many of them strive for participatory governance, the support of democratic practices and social inclusion. Cooperatives place emphasis on job security, improved working conditions, fair wages, and often they provide services to their neighbouring communities as they also struggle to support each other and enhance service provision to members. Cooperatives have also shown resilience in face of the economic crises. With these characteristics, cooperatives are per se well-placed to support the achievement of the sustainable development goals. According to the ILO, cooperatives that are formally established as legal entities are considered part of the formal sector (ILO, 2013). While worldwide, most waste pickers are not organized and the majority of recycling cooperatives are not legally established, there are excellent examples in many countries, where waste pickers have already achieved a high level of organization and formalization into worker owned cooperatives.

The ILO has contributed significantly to advance the understanding and recognition of the multifaceted actors, activities, and contexts in the informal economy, endorsing the strive for decent work, defined as “... *productive work for women and men in conditions of freedom, equity, security and human dignity. Decent work involves opportunities for work that is productive and delivers a fair income; provides security in the workplace and social protection for workers and their families; offers better prospects for personal development and encourages social integration; gives people the freedom to express their concerns, to organize and to*

participate in decisions that affect their lives; and guarantees equal opportunities and equal treatment for all” (ILO, 2008, p. VI).

The target ‘decent and full productive work’ is framed under the SDG # 8. The engagement with this target means creating employment and developing enterprises, guaranteeing social protection, standards and rights at work and a governance structure that fosters social dialogue. Unemployment is a global challenge, particularly to the countries in the global South, with a wide-based population pyramid, reflecting a young and rapidly growing population. Brazil as a transition country with a large urban population showcases the problematic related to high youth unemployment (15 to 24 years and neither in school, nor in formal work), high female unemployment and unemployment concentrated mostly among African descent, (particularly black) individuals (IBGE and PNAD, 2009). Coincidentally the map of violence for Brazil also illustrates that the highest rate of homicides falls between young, black men (Waiselfisz, 2012).

Lack of decent work corrodes the well-being of the present and future society as a whole. The ILO recognizes that youth employment is particularly strategic on the public policy agenda, given its importance to producing social cohesion and safeguarding the wellbeing of the people (ECLAC/ILO, 2012). In order to move towards ‘decent work’ conditions, the ILO has developed a framework of ‘*seven essential securities*’, which are often refused to informal workers (2002). These seven securities are *labour market security* (ensured by macroeconomic policies); *employment security* (related to mostly to employment stability); *job security* (the opportunity to develop a “career”); *work security* (for example, protection against accidents and illness at work); *skill reproduction security* (opportunities to gain and retain skills); *income security* (adequate income); and *representation security* (representation through independent trade unions and employers’ organizations, for example) (ILO, 2002, p. 3). Applied to the working situations of waste pickers in the global South, this framework highlights main deficiencies and some solutions underway. In the following section, the data will call attention to the structural improvements waste pickers operating in cooperatives, supported by the SSE, have emphasized. Brazil’s solidarity economy crowns the re-emergence of alternative economic development and has gained momentum over the past twenty years, with concrete experiences and policies supporting waste picker groups. Solidarity economy centres on the agency of individuals and organizations through increased democratization, thus promoting systemic transformations in society.

The pathways towards decent work is addressed by the social and solidarity economy (SSE) as alternative concept to the current market and consumption driven, capitalist economies. The SSE conceptualizes and provides practical instruments for the transformation of informal work into decent working conditions. In Brazil, the SSE has achieved constitutional and legal recognition and the Government has created structures to implement specific policies that facilitate the emergence of community-based social enterprises and cooperatives (Caruana and Srnc, 2013). The recycling cooperative sector in Brazil fits under this umbrella and has been able to benefit from institutional support of the SSE, which reflects in an increase in the number of waste picker organizations.

Coopermare is the oldest cooperative in São Paulo and was formalized in 1989. Another long-term established cooperative is Cooperlimpa in Diadema, which was formed in 1999. Comparing the other cooperatives from the total pool of 21 organizations studied in the metropolitan region of São Paulo, indicates that 6 cooperatives were created between 2000 and 2005, 5 were formalized between 2005 and 2011 and another 7 cooperatives were formalized in 2012 or later. These developments clearly relate to a strong support of the SSE from the federal government, creating a total of 747 work posts. 4 of these 21 cooperatives are large, with respectively 128, 115, 82 and 72 members, while the majority has a membership between 48 and 30 individuals. 3 cooperatives are very small with only 6 to 9 members and 6 cooperatives have between 15 to 27 members. Applying the aforementioned ILO (2002) lens on the seven securities, underscores the importance of a national SSE strategy, as pursued by the Brazilian government, in recent years, particularly in order to increase *labour market security* and to

further enhance *job security*. Specific funding made available by the Government to the waste pickers (e.g. the *Pro-Catador* programs), are aimed at increasing *work security* and *skill reproduction security*.

2. 2 Eradicating extreme poverty

There is a close link between ‘being able to provide productive employment and decent work’ to the SDG # 1 to eradicate extreme poverty and hunger. The ILO estimates that there are approximately 15–20 million informal waste workers worldwide with very low incomes, often living below the poverty level. For Latin America and the Caribbean, estimates suggest up to 3.8 million waste pickers, most of them working independently (Terraiza and Sturzenegger, 2010).

In Brazil, the numbers of waste pickers are high, between 400,000 and 600,000, depending on the information source (IPEA, 2013; MNCR, 2012). According to IBGE census data, 38.6% of the waste pickers in Brazil work in formalized organizations, 66.1% of the total waste pickers involved in the census inquiry, declared being Afro-descendant and 20.5% illiterate, while 24.6% had only completed basic education (IBGE, 2012a). The monthly income of waste pickers varies significantly, depending on whether they are organized or work independently, depending on the location where they work, the access to infrastructure and technology, as well as the quality and quantity of materials, and level of collective organization of the waste picker groups in the hierarchy of the commercialization of their materials. In most cases waste pickers earn a higher income when they are organized and work collectively. Waste picker cooperatives provide a livelihood to many deprived individuals, suffering from hunger, extreme income poverty, discrimination and exploitation

Several international agencies, including the United Nations, the International Labour Organization, and the International Co-operative Alliance, have declared that “*the cooperative enterprise is the type of organization that best meets all dimensions of reducing poverty and exclusion*” (Wanyama, 2014, p. 59). This has to do with the collective and value-based approach cooperatives take, that often empowers the disadvantaged to fight for their rights and interests, and provides security (e.g. job security) given their collective and solidarity-based way of operating.

10 of the 21 cooperatives have established a contract with the municipality for the service of selective waste collection. The payment the cooperatives receive varies between R\$527 per ton to R\$746 per ton of recycled material and some of the groups only receive R\$220 per ton of material. The remuneration varies according to the negotiation power the waste pickers have. Those who have been supported by regional networks (2nd degree cooperatives) are usually in a better position.

While the members in 11 cooperatives earn more than R\$ 1000.-/month (2 of them earning between R\$1750 and R\$1800.-/month), 5 cooperatives still make less than a minimum salary per month (R\$937.-) and are facing extreme economic hardship. In most cases waste picker cooperatives have to struggle persistently, to become part of the municipal formal collection of recyclables. It is also not a given that an existing contract with the city will continue in the future. These spaces need to be constantly defended and re-conquered by the waste pickers.

Those waste picker organizations that have established contracts are able to improve their working conditions and earn for the services of collection and waste diversion. These municipal contracts are a path towards providing *income security*. However, without the support of the local government, and without paying a fair price for the work of waste pickers the aim of eradicating poverty will not be reached. In addition to *income security*, the ILO (2002) underlines the necessity for *representation security* for decent work conditions. The better the representation, e.g. by the national waste pickers movement (Movimento Nacional dos Catadores de Materiais Recicláveis), or regional networks, the more powerful waste pickers are in negotiating contracts with the Government.

2. 3 Gender equality

The organized work of waste pickers also contributes towards the SDG # 5 to achieve gender equality. The cooperative space attracts more women than men. It is an environment that affirms collective female identities, allowing them to value themselves, develop personal self-esteem and provide opportunities for personal growth through leadership development. A regional study identified 56% cent of the organized waste pickers as women (INSEA Instituto Nenuca de Desenvolvimento Sustentável, 2007) and asserted that the number of women employed as waste pickers in associations and co-operatives was increasing, from 18% in 1993, to 55% in 1998 (Dias, 2002). Many of the cooperative leaders are women. The empirical research results confirm the predominant female work force in waste picker organizations. Out of the total of 747 organized waste pickers in 21 cooperatives that took part in the research, 63% are women. While in most cases more women than men were involved in the governance of the cooperative, 12 out of the 21 cooperatives had a female waste picker as president of the cooperative. There is a distinct female leadership in organized waste picker organizations in Brazil.

Participating in a cooperative or association enables women to become a leader and to develop their skills. The collective work allows them to exchange ideas, discuss everyday problems and engage in political decision making. To them the cooperative is a space that generates collective consciousness. Women value the social relations within the working space, avoiding alienation. Gambina and Roffinelli (2013) talk about the relations between workers, bosses, employers and the products generate as a process of alienation, in which the employees often feel outside the job, where they do not see the utility of their work. The self-management (*autogestão*) of the cooperatives changes the relation with work and it empowers specifically the women. Women waste pickers who have experienced leadership, affirm how important collective working practices are for them.

The cooperative can also be a space where women can ‘escape’ from the subordinated conditions and where they grow awareness and discuss human rights and social justice issues. Recycling cooperatives have a great potential for creating social assets, given the transparency, trust and reliability which is encouraged among the members. The cooperatives also provide emotional support for members who suffer from exclusion, discrimination, violence or loneliness (Sentama, 2009). The number of members that are single parents is large in waste picker cooperatives. 7 out of the 10 cooperatives that participated in the questionnaire, confirmed the social role cooperatives play in supporting its members, being solidary and providing specific help when needed.

Cooperatives contribute towards gender equality, not just by increasing female membership and providing them with an income, but also by expanding the opportunities for women to empower themselves, to engage in capacity development and life-long learning as well as expanding their leadership skills and to help other women.

2. 4 Building better communities

Cities and their surroundings are dense spaces of material consumption and waste generation. Particularly in the global South, cities suffer from deficiencies in their solid waste management system, which is often fragmented or insufficient with hazardous waste accumulation, specially, in informal settlements. In addition, governments are challenged by poverty and high unemployment rates. It turns out that it is often the effort of informal and volunteer groups that contribute to community building, making neighborhoods more livable. In many cases these communities end up depending on individual waste pickers, recycling groups or community-based organizations for cleaning, collection, and recycling services (Gutberlet et al., 2017).

SDG # 11 is about making cities and human settlements inclusive, safe, resilient and sustainable. Adequate waste management is important, particularly in densely populated areas. The goal specifically targets the reduction of the adverse per capita environmental impact of

cities, also by paying special attention to air quality and municipal and other waste management. This goal puts emphasis on the removal and the adequate disposal of waste, waste reduction, recycling and reuse.

There are many ways in which resilience has been defined. It consists of “*the capacity of linked social-ecological systems to absorb recurrent disturbances such as hurricanes or floods so as to retain essential structures, processes, and feedbacks*” (Adger et al., 2005, p.1036). Resilience, moreover, “*reflects the degree to which a complex adaptive system is capable of selforganization ... and the degree to which the system can build capacity for learning and adaptation*” (Adger et al., 2005, p. 1036). Finding adequate strategies by which systems can better address uncertain, new or overpowering stressors is at the forefront of making our communities more resilient and sustainable.

Waste picker organizations provide social support to their members. Waste pickers are among the most excluded and often stigmatized sector of society. The cooperative plays an important role of support. All 10 cooperatives surveyed in this research (out of 21 organizations) confirmed that at least one or more members were or had been in a situation of extreme vulnerability (being a single parent, having an addiction problem or suffering weak health). In all cases the respondents highlighted that the cooperative helped accommodate such situations; either by finding institutional help, accompanying the individuals during visits to supportive agencies, sharing resources to pay for required services or medicine, or by taking the time to listen and speak to the affected member. Sometimes the children of the members get sick, which requires the parent to be absent from work. The costs involved are then shared by all members or voluntarily by some members of the cooperative. Each cooperative builds their own ways of supporting their members. Often the adopted strategies are to have an open dialogue with all members, to be able to help, when needed.

One group mentioned that stress and anxiety is frequently related to income insecurity. Hence the cooperative needs to focus primarily on increasing the salaries, by establishing a contract with the city for the collection service they provide, getting better prices e.g. by selling collectively and making the work processes more efficient, e.g. by reorganizing the work space or introducing appropriate technology. Some groups also recognize that they have no real structured plan to deal with the level of social vulnerability they experience in their cooperative. In order to foster inclusion one cooperative mentioned educational campaigns, that were regularly conducted at local schools and in the community, to raise the awareness of the waste pickers’ work. Besides social and economic support, the cooperative also provides the benefit of increased self-esteem to its members, a fact that waste pickers considered as very important.

Many responses reaffirmed the multiple services provided by waste pickers, helping built better communities, in terms of health, education and environmental awareness building. One female waste picker put it as: “*we are in a struggle to make our world better and we need to do much more, future generations depend on this*”. Another member mentioned “*the social benefits the cooperative provides to society are very important, it is an environmental service*”. “*We know of the importance of our work in terms of the environment, but we are not always recognized in our community where the cooperative is located. We perceive that there is less waste in the streets and less flooding have occurred since we carry out door-to-door collection. We also have created greater job opportunities for those interested in joining the cooperative*”. Another member spoke to the “*continuous positive social and environmental outcomes in the short, medium and long term. Nature reacts to our actions, whether positive or negative, it depends only on us*”.

In sum, the waste pickers are well aware of their contributions to building better communities, tackling SDGs # 11. Finally, another waste picker alerts: “*there are many environmental assets involved in our work: benefits offered to the municipality by the cooperative, such as: social inclusion, ... strengthening / valuing self-esteem, contributing to the quality of life in the municipality and an increase in the life of the landfill*”. These findings speak to the required

representation security that also builds decent working conditions. Those waste pickers organized in cooperatives or associations benefit from *representation security*.

2. 5 Changing consumption and production patterns

The social facets of waste need to be taken into consideration in waste governance. Waste pickers are also environmental stewards who perform the service of material recovery from waste, making the city environments cleaner. Driven both by the desire to maintain a clean and healthy environment and the need for jobs, in many cities, residents initiate and support activities focused on the provision and improvement of critical waste collection services. The activity creates low barrier jobs for those who otherwise would fall through the cracks, because they lack the skills or required level of education for other jobs. The waste recovery sector holds important opportunities for making cities more resilient. Recovering materials from the waste stream addresses climate change by curbing greenhouse gas emissions, saving energy and preserving natural resources through material recycling, ultimately impacting on the resilience of urban systems (Mitlin, 2008; Wilson et al., 2008; King and Gutberlet 2013; Zaman and Lehmann, 2011).

Urban populations are the main consumers of materials, energy, water and food, and consequently are also an important generator of GHG emissions associated with climate change (Satterthwaite, 2009). In a transition, away from wastefulness, towards resource recovery, ensuring sustainable consumption and production patterns, as outlined in SDG # 12, inclusive solid waste management, involving waste pickers, addresses the objectives of a low-carbon, resource efficient, resilient and socially inclusive economy and of a society with greater social cohesion. The social and environmental dimensions of inclusive waste governance (e.g. including waste pickers in waste management) are important in the pursuit of a genuinely resilient future for cities worldwide.

Several processes directly and indirectly related to municipal solid waste generation and management emit greenhouse gases. The principal climate-relevant GHG generated through solid waste are: methane (CH₄), carbon dioxide (CO₂), and nitrous oxide (N₂O) (Gentil et al., 2009). These emissions occur both upstream and downstream of the municipal solid waste management system. A change in society's consumption patterns and a reduction in the amount of solid waste generated contributes to mitigate these burdens from waste.

Diverting waste towards the circular economy, as waste pickers do in their everyday activity, reduces GHG emissions. Carbon crediting is an instrument to visualize resource recovery and to value the socioeconomic and environmental benefits of recycling (King and Gutberlet, 2013). Recognizing the work of waste pickers as a Clean Development Mechanism, would help economies to fully meet their CDM commitments for sustainable development (IPEA and IBGE, 2004; United Nations, 2011). However, the national and supranational bodies governing carbon finance and waste management must do more to encourage projects focused on resource recovery by waste pickers. Such environmental and socioeconomic outcomes would be in line with SDG # 11, in addition to targeting poverty eradication. Many urban policies around the world now aim at zero waste, involving CBOs, small-scale waste entrepreneurs, and organized waste pickers in the material collection, separation, commercialization, and transformation (Bartl, 2013; Zaman and Lehmann, 2011, 2013). King and Gutberlet (2013) have created a calculator to estimate GHG emission reduction and energy savings from recycling, adapted to the circumstances of a waste picker cooperative in the metropolitan region of São Paulo. The present research provides data for 18 of the 21 cooperatives on the amount of materials recovered and commercialized every month (a total of 2,320.5 tons), which can be translated into environmental benefit created by the cooperatives.

3. Conclusion

Solid waste is a visible result of growth-oriented production and consumption and, it is a major urban challenge worldwide, with a myriad of impacts on the environment, public health and economy of local communities. There is increasing recognition that continuous growth cannot be reconciled with the environment and that current economic and productive relations as well as identities need to be re-conceptualized away from economic growth-oriented thinking. A focus on the SDGs through the lens of waste and those who reclaim and reintroduce recyclable materials into material flows, opens new potential opportunities for achieving progress on some of the targets set under the SDGs and for urban transitioning towards greater sustainability.

Worldwide waste pickers organize and retrieve recyclable materials, for reuse and further industrial processing. These groups re-imagine their production and economic activities in terms other than those made available by capitalism, but following the logic of the Social and Solidarity Economy. Their everyday actions produce democratic spaces centered on solidarity and the care of others, and also seeking to reclaim citizenship. The collective practices of recycling cooperatives generate social, economic and environmental benefits, which are not yet widely perceived as such. Most waste pickers are also not yet fairly remunerated for the social and environmental services they provide. Governmental arrangements created for the co-production of waste collection services calls for regular and long-term relationships where network and partnership arrangements are integrated in governance structures (Joshi and Moore, 2004; Gutberlet, et al., 2016) and policy and legal national frameworks (Aparcana, 2017). Many new waste picker organizations have been established over the past decades under the SSE, in Brazil. Engaging in participatory waste management, establishing service contracts with waste picker organizations and maintaining funding / capacity building opportunities for waste pickers are fundamental to make a difference and to more effectively advance the SDGs.

The paper has discussed different social, economic and environmental roles the waste pickers play in waste management. The case study results from a mixed methods approach, applied to waste picker cooperatives in the metropolitan region of São Paulo, provide first glimpses of the important responsibility these cooperatives, associations and networks have in fighting poverty, improving working conditions, building better neighborhoods and contributing to climate change mitigation, by reducing GHGs and energy consumption. We are able to measure the contribution of reducing the material footprint per capita by calculating energy savings and CO₂ reductions from resource recovery (King and Gutberlet, 2013). The SSE has facilitated the organization and strengthening of waste picker cooperatives. Translated into public policies these research findings will favor the inclusion of organized waste pickers in waste governance, so that the full potential of waste pickers to promote sustainable consumption and production patterns can be enjoyed.

A key recommendation from this research to policy makers is to strive for participatory waste governance, inviting local stakeholders in waste management to the table to negotiate, plan and implement partnerships in waste management. This means recognizing the skills and knowledge organized waste pickers have (which is built on everyday experiences with resource recovery, reuse and recycling) and acknowledge the social and environmental services they provide to cities and their communities, for which they need to be fairly remunerated. An inclusive political agenda on waste management will not only provide more opportunities to achieve the ILO proposed *seven essential securities*, necessary for decent work (SDG # 8) but there is also the potential to address several other SDGs, including: poverty reduction (goal # 1), gender equality (goal # 5), inclusive, safe, resilient and sustainable cities and human settlements (goal # 11) and sustainable consumption and production patterns (goal # 12). It should be the highest priority of policy makers to invite waste picker organizations and their representations into the debate of urgently addressing our waste problems and to establish fair contracts with these organizations for the payed service of collection and separation of recyclable waste among other tasks.

3. References

Adger, W. N., Hughes, T.P., Folke, C., Carpenter, S. R., Rockström, J. (2005) Social-Ecological Resilience to Coastal Disasters, *Science* 309 (5737), 1036-1039.

Aparcana, S. (2017) Approaches to formalization of the informal waste sector into municipal solid waste management systems in low- and middle-income countries: Review of barriers and success factors. *Waste Management* 61 (2017), 593–607.

Bartl, A. (2013) Barriers towards achieving a zero-waste society. *Waste Management*, 31 (12), 2369–2370.

Caruana, M. & Srncic, C. (2013) Public policies addressed to the social and solidarity economy in South America. Toward a new model? *Voluntas*. 24 (3), 713–732.

Dias, S. M. (2002) *Construindo a cidadania: avanços e limites do Projeto de Coleta Seletiva em parceria com a ASMARE*. Dissertação (Mestrado em Geografia) - Instituto de Geociências, Universidade Federal de Minas Gerais, Belo Horizonte.

Economic Commission for Latin America and the Caribbean (ECLAC) and International Labour Organization (ILO) (2012) *The employment situation in Latin America and the Caribbean*. Oct. 2012, (7): 27 pp.

https://repositorio.cepal.org/bitstream/handle/11362/37582/ECLAC-ILO-Bulletin7_en.pdf;jsessionid=D6F313C916322E432D02CC29F84EE6CE?sequence=1

Gambina, J. & Roffinelli, G. (2013) Building Alternatives Beyond Capitalism. In Piñero Harnecker, C. (Ed.) *Cooperatives and Socialism, A View from Cuba*, (pp. 46-59). Palgrave Macmillan.

Gandy, M. (2006) Urban Nature and the Ecological Imaginary. In Heynen, N. C., Kaika, M. and Swyngedouw, E. (eds) *The Nature of Cities: Urban Political Ecology and the Politics of Urban Metabolism*. Questioning cities series. Abingdon: Routledge, pp. 62–72.

Gentil, E., Christensen, T. H. & Aoustin, E. (2009) Greenhouse gas accounting and waste management. *Waste Management & Research* 27 (8), 696–706.

Gerometta, J., Haussermann, H. & Longo, G. (2005) Social Innovation and Civil Society in Urban Governance: Strategies for an Inclusive City. *Urban Studies* 42 (11), 2007 – 2021.

Gutberlet, J., Kain, J.-H., Nyakinya, B., Oloko, M., Zapata, P., & Zapata Campos, M. J. (2017) Bridging Weak Links of Solid Waste Management in Informal Settlements. *The Journal of Environment & Development*. 26 (1): 106-131. <http://doi.org/10.1177/1070496516672263>

IBGE (Instituto Brasileiro de Geografia e Estatística) (2009) *Pesquisa Nacional por Amostra de Domicílios 2009*. Rio de Janeiro: IBGE. <https://ww2.ibge.gov.br/home/estatistica/populacao/trabalhoerendimento/pnad2009/default.shtm>

IBGE (2012) *Pesquisa Nacional por Amostra de Domicílio 2012*. Rio de Janeiro: IBGE. https://ww2.ibge.gov.br/home/estatistica/populacao/trabalhoerendimento/pnad2012/default_sintese.shtm

INSEA (Instituto Nenuca de Desenvolvimento Sustentável) (2007) *Perfil sócio-econômico dos catadores da rede CATAUNIDOS – 2007*. Belo Horizonte: INSEA/UFMG/FELC, p. 31 Relatório.

ILO (International Labour Organization) (2008) *Toolkit for mainstreaming employment and decent work - Country level application*. United Nations System Chief Executives Board for Coordination. Geneva, International Labour Office, 1st edition.

https://www.ilo.org/pardev/partnerships/partnerships-and-relations/ceb-toolkit/WCMS_172612/lang--en/index.htm

ILO (International Labour Organization) (2013) *The informal economy and decent work: a policy resource guide supporting transitions to formality*. International Labour Office, Employment Policy Department, Geneva, International Labour Office.

IPEA (Instituto de Pesquisa Economica Aplicada) (2013) *Situação Social das Catadoras e dos Catadores de Material Reciclável e Reutilizável*, Brasil. IPEA, Brasilia. 68 pp.

IPEA (Instituto de Pesquisa Economica Aplicada) & IBGE (Instituto Nacional de Geografia e Estatística) (2004) *Millennium Development Goals: Brazilian Monitoring Report*. Brasília: IPEA & IBGE. http://planipolis.iiep.unesco.org/format_liste1_en.php?Chp2=Brazil

King, M. & Gutberlet, J. (2013), Contribution of Cooperative Sector Recycling to Greenhouse Gas Emissions Reduction: A Case Study of Ribeirão Pires, Brazil, *Waste Management* 33 (12): 2771–2780.

Lawhon, M., Ernstson, H. & Silver, J. (2014) Provincializing urban political ecology: Towards a situated UPE through African urbanism, *Antipode*, 46 (2), 497-516.

Marques, J. S. (2014) *Social and Solidarity Economy Between Emancipation and Reproduction*. UNRISD (United Nations Research Institut for Social development), Occasional Paper 2: Potential and Limits of Social and Solidarity Economy.

Mitlin, D. (2008) With and beyond the state — coproduction as a route to political influence, power and transformation for grassroots organizations, *Environment and Urbanization*, 20 (2), 339–360.

MNCR (Movimento Nacional dos Catadores de Materiais Recicláveis) (2012) *Declaração de princípios e objetivos do MNCR*. www.mncr.org.br/

Moulaert, F. & Ailenei, O. (2005) Social Economy, Third Sector and Solidarity Relations: A Conceptual Synthesis from History to Present, *Urban Studies*, 42 (11), 2037–2053.

Moulaert, F. & Nussbaumer, J. (2005) Defining the social economy and its governance at the neighbourhood level: A Methodological reflection. *Urban Studies*, 42 (11), 2071-2088.

Rigg, J. (2007) *An Everyday Geography of the Global South*, London: Routledge.

Satterthwaite, D. (2009), The implications of population growth and urbanization for climate change. *Environment and Urbanization*, 21 (2), 545–567.

Sentama, W. (2009) *Peacebuilding in Post-Genocide Rwanda: The Role of Co-operatives in the Restoration of Interpersonal Relationships*, PhD Thesis (Gothenburg University: School of Global Studies, 2009).

Swyngedouw, E. (2004) *Social Power and the Urbanization of Water: Flows of Power*, Oxford: Oxford University Press.

Terraza, H. & Sturzenegger, G. (2010) *Dinámicas de organización de los Recicladores informales: tres casos de estudio en América Latina*, Banco Interamericano de Desarrollo, Sector de Infraestructura y Medio Ambiente. Nota Técnica No. 117. <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=35325785>

UNFCCC (United Nations Framework Convention on Climate Change) (2011) AMSIII. Recovery and Recycling of Materials from Solid Wastes – Version 3.0. UNFCCC. <http://cdm.unfccc.int/methodologies/DB/I09S4G8NFK11QYSD4O9FTGM18K9NYK>

Wanyama, F. O. (2014) *Cooperatives and the Sustainable Development Goals: A contribution to the post-2015 development debate*. Geneva: ILO.

Waiselfisz, J. J. (2012) *Mapa da Violência: A cor dos homicídios no Brasil*. Rio de Janeiro: CEBELA, FLACSO; Brasília: Secretaria de Políticas de Promoção da Igualdade Racial da Presidência da República/Paraná (SEPPIR/PR). http://mapadaviolencia.org.br/pdf2012/mapa2012_cor.pdf

Wilson, D. C, Araba, A. Chinwah, K. & Cheeseman, C. (2008) Building recycling rates through the informal sector, *Waste Management*, 29, 629–635.

Zaman A. U. & Lehmann, S. (2011) Urban growth and waste management optimization towards ‘zero waste city’. *City, Culture and Society* 2 (4), 177-187.

Zaman, A. U. & Lehmann, S. (2013) The zero waste index: A performance measurement tool for waste management systems in a ‘zero waste city’. *Journal of Cleaner Production*, 50 (1), 123–132.