

The solidarity economy of cooperative recycling:
Transition towards ecological economy? ¹

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Abstract:

Climate change as well as current environmental, financial and social crises underscore the failure of a prosperity model based on economic growth and continuously increased levels of consumption. Notions of de-acceleration and post-growth economic development claim to address these concerns at their roots. Focus on the global South brings to mind additional social and environmental layers of complexity, as societies in these countries are often not yet facing population decline, consumption saturation, resources scarcity or high standards of living and quality of life. Populations in the global South are at large still struggling with low or now income, unsanitary living conditions, extensive homelessness, environmental degradation, lack of access to formal education and health care among other constraints. From the perspective of the communities in the South, there seems to be a need for growth in order to prompt a better quality of life. How could the transition from growth towards sufficiency materialize in the global South? This paper discusses inclusive solid waste recycling as a key strategy towards achieving resource recovery and zero waste and points towards social, economic and environmental benefits from inclusive recycling models. The paper builds on the experiences of a long-term research project with organized and informal recyclers in the metropolitan region of São Paulo, Brazil. Action-oriented, participatory research, supported by a social and environmental justice framework and political economy theory allowed for data collection by way of participant observation, taped and video taped in-depth and key-informant interviews, as well as meetings and workshops with recyclers and government agents. The empirical findings and theoretical understandings underline the claim that cooperative recycling as a participatory waste management method has the potential to become a vector for a shift towards the transition into a post-growth and green economy. Finally the paper also discusses some of the most serious political and cultural barriers still to overcome at the individual, local, regional and international level.

Keywords: ecological economy, social economy, recycling cooperatives, Brazil

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1. Introduction: Challenges to our economic development model

Current civilizations encounter numerous cumulative negative social, economic and environmental impacts resultant of the prevailing economic development, which in the case of the western capitalist system is rooted in neoclassical economic theory. This economic model is grounded in mathematical functions of supply and demand, where individuals respond to price signals and decisions are based on cost-benefit analysis (Söderbaum, 1992). Continuous growth in consumption and the expansion of markets are major driving forces behind the current economy, a system which operates on such perverse ideas as programmed obsolescence and the externalization of ecological and social cost. The current economic system generates unbalanced outcomes and creates uneven development with consequent unequal concentration of wealth. Large corporations in the agro-industry, food and non-food industry determine the prevailing extractive economic development model. In addition, mass consumption also generates great amounts of waste, for which often no proper disposal is in place.

Neoclassical economics is critiqued for being reductionist and mechanistic in its approach and analysis, with assets being expressed in the form of capital and valued in monetary factors (Shmelev, 2012). Particularly a developmental perspective evidences the fact that economic indicators insufficiently describe the complexity related to issues of quality of life, human needs or sustainability. The predominant economic development model follows a neoliberal economic understanding, which maintains that development is best achieved by way of free capitalist markets, emphasizing governmental deregulation, privatization, and market liberalization. In Latin America as in many other places of the world, this

model of development has created pervasive outcomes; generating social and economic inequalities, a particular feminization of poverty and an unprecedented environmental destruction based on ruthless resource extraction, often regardless of social, cultural or ecological parameters.

The artificial correlation between consumption and wellbeing is discussed in the works of Daly (1996), Layard (2005) and Victor (2008), just to mention some, in the context of the analysis of possible correlations between wealth and happiness. The authors alert to the current systems crisis generated by the doctrine of unlimited economic growth and yet manifested in persistent poverty rates and increasing levels of global environmental degradation and collapse of life systems in certain parts of the world. To tackle these social and environmental justice issues an increasing number of authors voice the necessity to oppose growth and to promote „non-economic growth“, or „qualitative growth“ (Schmidt & Ibsch 2009). In the social justice literature it is widely acknowledged that growth also generates unbalanced distribution of wealth. Therefore a differentiated analysis for the so-called global North and the global South is required. While in the North a halt on growth is imperative and does not necessarily reduce the quality of life of its citizens, certain forms of „qualitative“ growth are still needed in the global South in order to eradicate poverty and create equity. As Victor (2008: 98) advocates: *“Growth should be concentrated where it can do the most good, that is to raise the living standards of the poorest people on the planet, most of whom live in developing countries”*. Miller (2001) also advocates that consumption per se is not a bad thing, particularly for the poor who have been excluded from consumption. However, I want to emphasize that the „quality“ aspect of consumption and of growth need to be in the forefront, in order to not jeopardize sustainability. Qualitative growth means growth that takes into consideration all social and ecological implications involved in the production, transportation, consumption and final destination of a product or service. Fair trade and concomitantly sustainably produced items, which have a long life span, may be reusable and are recyclable, and thus closing the circle

could be in the forefront of qualitative growth, provided that social justice is also guaranteed during this cycle.

Growing and ubiquitous solid waste predicaments epitomize the wastefulness and destructive nature of 'business as usual', where environmental harms continue to be externalized. A wasteful society has originated out of an economic development model based on unlimited quantitative growth and unrestricted natural resource availability. Once disposed, materials are perceived by its generator as something without value, something to get rid off. Most consumers do not think about the destiny of their discard and hence there is also little concern about generating less waste. The prevailing disconnection between the final product and its embedded resource value, energy or labor input generates a purely utilitarian relation between the consumer and the product. Products are purchased for their attractive price, appearance or function and at the same time considerations that take into account the level of the carbon footprint during production and consumption are not made. Once the product life is considered to be over, it gets thrown away. The *habitus* of disconnection enables the consumer to discard unwanted products. Current waste management options, and particularly waste incineration, more recently termed as "waste to energy", facilitate this *habitus* by taking away the responsibility for the environmental impacts caused by the waste generated by the producer and the consumer. These circumstances require attention. The following sections of this paper will discuss some of the negative implications of the generation of waste and the various forms of final destination of solid waste. A different understanding of discarded materials, where there is no such thing as waste, can bring significant positive social transformation. I will discuss examples from the global South demonstrating the challenges and achievements made in stepping into this direction.

Yet, it is important to reiterate that there are significant social and economic differences between the global North and the global South when focusing on

development and which reflect as well on the specific waste management system in place. In the global South, usually population growth is still large (> 2%); economic disparities between the rich and the poor are great, coupled with a lack of basic necessities among parts of the population; and the predominance of 'wild' capitalistic resource extraction, production and consumption model are some of the characteristics in the global South.

2. The complementing nature of eco and social economy

Diverse voices and theories underline the need for a different development approach, away from the dominant, rigid economic development model towards an emphasis on the social, the cultural and the ecological wellbeing. In political economy these approaches are categorized under the term 'heterodox economies', which encapsulates a variety of economic theories that differ from neoclassical economic orthodoxy (Gibson-Graham, 2006; Lawson, 2006).

Social and environmental justice are key concerns under new paradigm proposed by social and eco-economy, where de-growth, sufficiency and the idea of transition into sustainable community development are key ideas in reshaping economy (Callari & Ruccio, 2008). Particularly these facets are missing in our current understanding of economy. Neoclassical economics postulates that the environment is yet another part of the economy and that natural capital only serves as an input in the production cycle, while the ecosystem is seen as recipient of the waste resulting from extraction, production and consumption. Theory of ecological economy addresses environmental ethical inquiry and analyses different forms of engaging with economy, in harmony with the social and the ecological systems (Shmelev, 2012). Ecological economics emphasizes the local and community scale, focuses on sustainability and equity and uses a systems analysis, as opposed to the current orientation towards short-term, efficiency, cost-benefit and global markets (Paech, 2009; Rankin, 2008; Nunes &

van den Bergh, 2001). Social and solidarity economy bring social justice and its underlying values, such as cooperation, redistribution and reciprocity, into the economy (Fisher and Ponniah, 2003).

'Solidarity economy designates all production, distribution and consumption activities that contribute to the democratization of the economy based on citizen commitments both at a local and global level' (Fraisie, Ortiz & Boulianne, 2001, 4). This form of doing business creates synergies between actors (such as local authorities, private enterprises, the state, citizens), it generates workplaces by offering new services and new ways of production, and it alters consumer behaviors towards more ethical and sustainable consumption. Because of the focus on communities and social wellbeing, social economy has the potential to also counteract growing unemployment, by generating workplaces.

A community-based enterprise is defined as *'... community acting corporately as both entrepreneur and enterprise in pursuit of the common good'* (Peredo & Chrisman 2006, 310). This type of entrepreneurial arrangement is becoming increasingly popular in forestry, agriculture, small-scale industries and services. Social economy is considered an innovative form of tackling poverty and exclusion—an alternative to conventional bureaucratic and economic approaches, which have been unable to resolve or mitigate the situation of the poor. This approach involves institutional innovation, which can mean new governance arrangements and decision-making mechanisms, as well as an innovative understanding of economy as a sector, which has primarily a social purpose.

Solidarity economics is a theory that seeks to combine economic discourse with social, cultural, and environmental values (Berk-Clark & Pyles, 2012). Fundamental principles under solidarity economy are plurality, trust, deliberative democracy, reciprocity, and respect. These values are currently practiced in isolated forms as redistribution, fair trade and cooperativism. According to

Dacheux & Goujon, 2012) solidarity economy allows for a participatory development understanding, founded on an understanding of democracy as deliberation.

Cooperatives as well as community, neighborhood and interest associations are essential players in social and solidarity practices (Portes & Moreira, 2004). Innovative ways of producing and doing business are arising in many locations in Brazil and in other parts of the world. In Brazil a 'parallel' economy has advanced significantly under the previous and current federal government. The government has implemented significant institutional changes with the creation of the national secretariat (*Secretaria Nacional de Economia Solidária*) and the national council for solidarity economy (*Conselho Nacional de Economia Solidária*), in charge of fostering these new alternatives. There is also the national forum for solidarity economy (*Fórum Nacional de Economia Solidária*), a tool to promoting cooperation and sharing on a national level. Several networks are in place here, to cooperate in production and commercialization, so that local products can reach local consumers more quickly (Singer 2003).

3. Inclusive resource recovery

The solidarity economy is allowing for inclusive development to set a precedence with the emerging social movement and cooperative network (Singer, 2003). In Latin America and particularly in Brazil cooperative recycling of household and industrial solid waste is widely practiced. In many cases informal recyclers form associations or cooperatives to collect, classify and sell recyclable materials to recycling industries. In some cases, these organized groups have been integrated into official municipal solid waste management programs and sometimes the recyclers are able to add further value to the transformed recyclable materials.

Estimates suggest that approximately 800,000 to one million people perform the service of collecting, separating and selling recyclable materials in Brazil. Most of the resource recovery activity remains informal and stigmatization and social exclusion among the recyclers linger as key challenges. Nevertheless, some cooperatives have already formed regional networks, facilitating the scope and scale of resource recovery. These groups operate within a collective and solidarity framework and contribute to the forming of social capital. Cooperative members benefit from the opportunities arising with capacity development and increased income from collective commercialization. Society at large gains from the act of recovering materials, which would otherwise be directed to landfills or incinerators, reiterating environmental health impacts. Recognizing the recyclers as environmental stewards and promoting their involvement with environmental education contributes to the prospect of societal transformation towards a post-growth economy. Continuous and critical learning is crucial to further develop the capacity of the recyclers as community agents focusing on the transition towards eco-economy and concepts such as sufficiency in consumption. As such the recyclers are the important link between community and waste management, leading household members towards reduction, reuse and clean recycling.

Inclusive resource recovery means participatory waste management, which stands for:

- Having community input and responsible participation in selective waste collection. This puts the community also in greater control of their urban environment, and strengthens their resources and assets to improve the community's quality of life.
- Improved waste management in the hands of strengthened co-operative enterprises.
- Involving cooperative members in the decision-making processes on local waste management and thus having them contribute to the policy shaping that affects their work and their lives.
- Directing research efforts towards participants.
- Improved environmental knowledge, more responsible consumption, and habits in favor of waste reduction.

For inclusive waste management practices to work, there needs to be political will and support in the municipality, otherwise selective waste collection and recycling remain an activity of the underprivileged and the cycle of poverty that traps these people will be perpetuated. Government support means adequate public policy to secure remuneration for the service the recyclers are doing, so that the recyclers can perform the activity in an autonomous and self-determinant fashion. Often the recyclers opt to organize themselves in cooperatives or associations, to strengthen their cause. Several assets are generated through cooperative recycling, including social and human development opportunities for the members and the strengthening of the community. Coop recycling also bears the prospects to serve as an eco-economic development model. The recyclers and cooperative members are active environmental stewards, promoting zero waste attitudes and clean resources separation. The recyclers perform environmental education, which contributes to building better communities, more prepared for the required adaptation to the changes that come with an eco-economic development model, which includes resource recovery.

4. The prospects for coop recycling as an eco-economic development model

The inclusive approach to waste management builds environmental stewardship and tackles the environmental problems created with production and waste generation. Further, inclusive waste management is about community engagement. It is a strategy to recover citizenship and enable livelihoods. There is an opportunity to engage with those individuals that are usually the most socially and economically excluded and stigmatized section of our society, a possibility to change the life of these people and to end poverty and exclusion.

Recyclers are able to work safer, more efficiently and get better value for their work when they are organized in coops, associations or social enterprises. Over

the past years several networks have been set up in Brazil, as part of the solidarity economy (Singer 2003). Organized recycling also provides the opportunities for education and training (human development) and facilitates the access to information to the usually excluded population. It further challenges the ability for collective organization and action. Participants have a saying in decision-making processes within their co-ops, in stakeholder meetings to negotiate with government or business and during public events, such as conferences and exhibitions organized by the recyclers' movement and other collaborators. These practices empower the recyclers, build citizenship and open new avenues for human development (Gutberlet 2009).

Thus organized recycling creates social assets, by incorporating those into meaningful work, who would otherwise be socially excluded. This approach expands social cohesion among the recyclers and those with whom they interact and ultimately creates a stronger community. The recyclers' contact with the community presents an opportunity to increase environmental and social awareness because they act as disseminators of information regarding waste reduction and resource recovery. There are opportunities for partnerships between the recyclers with household members or businesses. The recyclers contribute to effective resource recovery, which creates environmental benefits and reduces the waste of resources. The benefits even translate into the reduction of greenhouse gases and the mitigation of climate change. This occurs through recovering what would otherwise end up in landfills, generating detrimental gases and leachate (Sunil et al. 2004). There is an additional contribution because reuse and recycling also reduces the pressure on virgin materials, diminishing environmental damage and contamination. And finally resource recovery is also an opportunity to reduce energy expenditures during the product cycle, because for most materials recycling is less energy intense than producing new items from virgin materials.

Throughout the global South new innovative experiences are emerging with cooperative recycling. Organized cooperatives, associations and social enterprises have the potential to diminish environmental degradation and to generate income for the poor (Gutberlet 2008). A case study from a municipality in Brazil follows to highlights some of the opportunities that derive of inclusive recycling.

The city of Diadema, located in metropolitan region of São Paulo in the southeast of Brazil, has almost 400,000 inhabitants and a population density of 12.6 hab/km², primarily of working class background (view Figure 1).

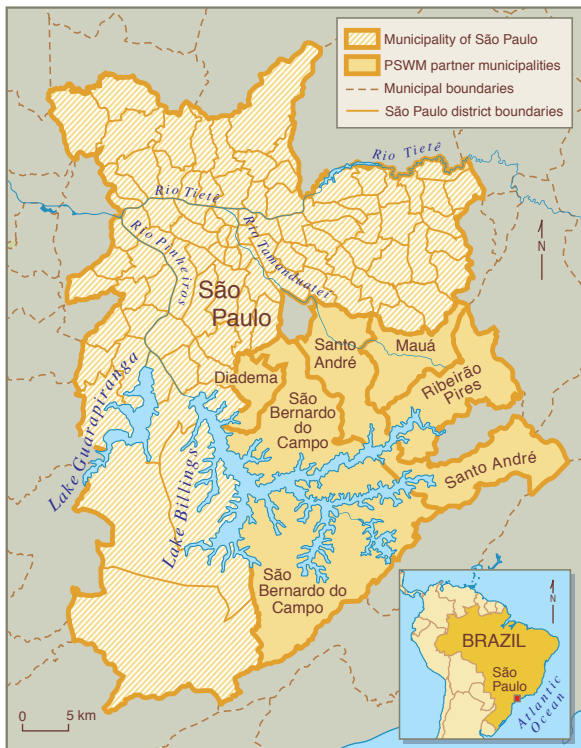


Figure 1: Location map

Diadema has become a showcase for several successful practices in terms of social development. Some of the recyclers that had previously worked at the city's landfill are now organized into a recyclers' association, called *Pacto Ambiental*. In 2002, the local government has created the waste management program *Vida Limpa*, based on door-to-door collection with the recyclers. For that

purpose six recycling centers (*Postos*) were established, in each of the micro watersheds in the city. In 2011, *Pacto Ambiental* was composed of 83 recyclers and recently, one of the *postos* was transformed into a recycling reference centre and is also hosting the headquarter of the overarching recycling cooperative called COOPCENT, as well as their micro enterprise, named VARALPET, which transforms PET bottles into washing line.

Currently, Diadema generates 12,480 tons/month (416 tons/day) of solid waste; of which only approximately 120 tons/month were recovered with door-to-door and business collection, representing still a very small recovery rate. The city administration estimates that a recovery rate of 35% would be realistic to achieve on a medium term scale (PSWM, 2009).

The household collection of recyclable materials is organized on the basis of micro-watersheds and each one is serviced by a group of organized recyclers (*catadores*). The material is separated and bailed at six triage centers and is then sold to recycling industries (most of them located within the metropolitan region of São Paulo). Some materials (tetrapack and paper/cardboard) are commercialized collectively with other organized groups in the region, facilitating better prices. In that way remuneration can be doubled or tripled compared to the prices paid by middlemen (Gutberlet, 2009) (see Figure 2). The network is called REDE ABC and it integrates cooperatives from the cities of Diadema, Mauá, Ribeirão Pires and São Bernardo do Campo. The network sells primarily paper, cardboard and tetra pack jointly.

Despite many structural and political barriers, the government has provided working space and a truck for the door-to-door collection. The recyclers have participated in several capacity development activities and are well organized. Particularly the leaders reiterate their strive for organized recycling as an empowering process. In 2005, a municipal law was created to remunerate the recyclers for the amount of recyclable materials recovered. The recyclers receive

59.94 R\$/ton (US \$37.35), which translates into approximately 100R\$/person/month. The average monthly remuneration in 2010 was approximately 479.-R\$/person.

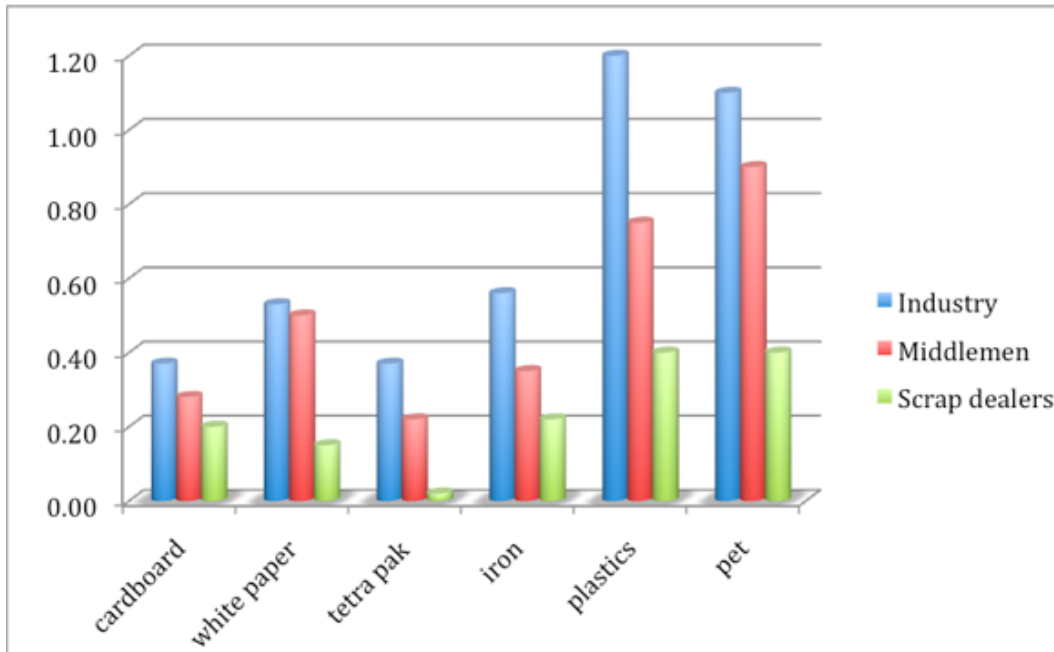


Figure 2: Average prices for selected recyclable materials

Nevertheless, paternalistic practices and the vicious culture of governments patronizing underprivileged groups still remain problematic. In many cases the recyclers are still prevented from becoming equal players in the city's waste management program. In addition, infrastructural problems and lack of funding continue to jeopardize the work.

Despite the many difficulties the example of Diadema shows that participatory approach to waste management builds environmental stewardship and community engagement. Within a framework of adequate public policies this approach can become a strategy to recover citizenship and to enable livelihoods. There is an opportunity to engage with socially and economically excluded members of the society and to hence address poverty reduction.

There are opportunities for collaboration between the recyclers, household members, and business. The recyclers contribute to effective resource recovery, creating environmental benefits and reducing the waste of resources. They inform the community about best recycling practices and „zero waste“ aims. The benefits translate into greenhouse gas reduction and ultimately also into mitigation of climate change. This happens through recovering what would otherwise end up in landfills, generating detrimental gases and leachate (Sunil et al. 2004). An additional benefit derives from the fact that reuse and recycling reduces the pressure on virgin materials, diminishing environmental damage and contamination. Finally, resource recovery reduces energy expenditure during the production cycle, because for most materials recycling is less energy intense than producing new items from virgin materials. Best practices and efficiency in logistics and scale are fundamental to reduce the ecological footprint of these practices.

5. Conclusion: The prospects of transforming society through inclusive solid waste management

The social economy offers tools that can address marginalization and can bring about economic equity. *“Solidarity economy creates synergies between actors (local authorities, private enterprises, state, citizens) and generates workplaces by offering new services”* (Moulaert & Ailenei 2005: 2042). The proposal for solidarity economy comes from the urge to change unjust and exploitative economic relations and thus to improve livelihoods. This approach gives hope that a different world is possible, with innovative ways of production, commercialization, and consumption. *Research into inclusive waste management builds on community-driven inquiry and focuses on participatory, action-oriented research outcomes. The benefits of this research lay in the “systematic inquiry, with the collaboration of those affected by the issue being studied, for purposes of education and taking action or effecting change”* (Cargo

& Mercer 2008: 327). Of course the risk to unintentionally force participatory methods on people who don't want or are unable to act as researcher needs to be in the forefront (Arieli et al. 2009).

Ecological economics emphasizes long-term orientation, sustainability, equity, justice, systems analysis, and local communities while neoclassical ideology emphasizes short-term focus, efficiency, cost-benefit analysis, and global markets with isolated individuals. According to Daly and Farley (2009) ecological economics is the necessary evolution of conventional economic thought - primarily neoclassical economics- that has been reiterated, for over a century, as dominant paradigm through praxis and theory. The focus on waste brings to the forefront an empirical approach that puts into practice the opportunity for coevolutionary process.

The apparent paradox around waste generation can be broken by re-conceptualizing waste, by recognizing the workers involved in resource recovering, by respecting their autonomy and form of organization and by providing a fair value to the service they deliver. Attempts into this direction have already been made in many places, and the case of Diadema introduced earlier demonstrates this possibility. The organized informal recyclers are able to perform many different tasks, besides the collection, separation and redirection of the resources. They can collect different materials including organic household waste, to be redirected into composting and gardening and they are able to run small industries that transform the raw materials into new products. In addition, the recyclers have the potential to become active agents in waste reduction, with educating the population towards zero waste. In the case of Diadema for example recycling leaders are invited to speak at schools and community centers about the importance of resource recovery for the future of our planet. A new industry sector can evolve out of resource recovery, generating new jobs and providing new goods. Because of the social economic benefits deriving from inclusive waste management, governments need to protect this sector, allowing

social enterprises and community or cooperative driven groups privileged access to the resources and preventing large-scale corporations from dominating this sector.

A new framework for inclusive waste management is required, one that is integrated (dealing with inorganic and organic solid waste), participatory (permitting democratic deliberation and a multi stakeholders approach) and sustainable (addressing education for zero waste generation). Experiences primarily from countries in the global South document the challenges and the lessons learned. Many of these practical examples provide inspiring insights as to how to address the change towards more sustainable and participatory waste management. The case studies portrayed the benefits from fostering the engagement of recyclers in the larger picture of solid waste management. Having the recyclers take part in the tasks of resource recovery underscores their contribution towards a solution to a major environmental problem: the worldwide growing generation of solid waste. Furthermore, their involvement attests an attitude of active participation, instead of living passive acceptance of an unfortunate social and economic plight. In the global South commonly the recyclers suffer from life-long exclusion and inclusive resource recovery provides an opportunity to recover their livelihoods. The true groundbreaking contribution towards transforming our society, however, lies in the capability generating environmental (and social) awareness.

The paper suggests a bottom-up approach to achieving more sustainable communities, where citizens become responsible consumers, concerned with avoiding and reducing waste and with providing an appropriate final destination for their solid waste. The primary benefit of an inclusive approach is that it reduces unemployment and poverty (one of the *Millennium Development Goals*, proclaimed by the United Nations). The proposed inclusive waste management also targets a reduction in public spending on landfilling or incineration. Part of the government funding directed to poverty reduction strategies and to tackle

homelessness, for example, can be redirected towards essential social services and assistance necessary to build the capacity of recyclers and organized groups. Best practices in co-op management, capacity building for effective and efficient resource recovery, adaptive policy design, public awareness building for efficient collaboration in source separation, among other themes, need to be further addressed with research so that these forms of community engagement, environmental stewardship and social and ecological economy can flourish. Although not discussed in this paper, it is certainly inevitable to foremost address the widespread current exploitive production systems and unsustainable consumption modes in order to generate more sustainable communities based on inclusive waste management. Finally, the waste commons play an important role in the transition from a regime of disposal to one focused on resource recovery, thus contributing to the paradigm shift into ecological economy.

6. Bibliography

Ariely, D. & Norton, M. I. (2009). Conceptual Consumption. *Annual Rev. Psychology* (60), 475–99.

Berk-Clark, C, & Pyles, L. (2012). Deconstructing neoliberal community development approaches and a case for the solidarity economy. *Journal of Progressive Human Services*, 23(1): 1-17.

Bulkeley, H., Watson, M. & Hudson, R. (2007). Modes of governing municipal waste. *Environment and Planning A* 39, 2733–2753.

Callari, A., & Ruccio, D. (2008). Socialism, community, and democracy: A postmodern Marxian Perspective. In Harvey, J., & Garnett, R. (Eds.) *Future directions for heterodox economics*. The University of Michigan Press.

Cargo, M. & Mercer, S. L. (2008). The Value and Challenges of Participatory Research: Strengthening Its Practice. *Annual Review of Public Health* (29), 325-350.

Dacheux, E., & Goujon, D. (2012). The solidarity economy: An alternative development strategy? UNESCO.

Daly, H. E. (1996). *Beyond Growth: The Economics of Sustainable Development*, Beacon Press, Boston.

Daly, H.E. & Farley, J. (2009). *Ecological economics: principles and applications*. Island Press, Washington, DC.

Fisher, W.F. & Ponniah, T. (2003). *Another world is possible. Popular alternatives to globalization at the World Social Forum*. (London: Zed Books).

Fraisse, L., Ortiz, H. & Boulianne, M. (2001). Solidarity Economy. Proposal Paper For the XXI century. Solidarity Socio-economy Workshop. Online: http://ecosol.socioeco.org/documents/81pdf_fnl15en.pdf.

Gibson-Graham, J. K. (2006). *A Postcapitalist Politics*, University of Minnesota Press, Minneapolis, MN.

Gille, Z. (2010). Actor networks, modes of production, and waste regimes: reassembling the macro-social. *Environment and Planning A* 42, 1049–1064.14, 29–46.

Gutberlet, J. (2009). Solidarity economy and recycling co-ops: micro-credit to alleviate poverty. *Development in Practice* 19 (6), 737-751.

Gutberlet, J. (2008). *Recovering resources -recycling citizenship: Urban poverty reduction in Latin America*, Ashgate, Aldershot, Hampshire, UK.

Lawson, T. (2005). The nature of heterodox economics. *Cambridge Journal of Economics*, 30: 483-505.

Layard, R. (2005). *Happiness, Lessons from a New Science*. Allen Lane, Penguin Books. London.

Moulaert, F. & Ailenei, O. (2005). „Social Economy, Third Sector and Solidarity Relations: A Conceptual Synthesis from History to Present“. *Urban Studies* 42 (11), 2037–53.

Nunes, P. & van den Bergh, J.J. (2001). Economic valuation of biodiversity: Sense or nonsense? *Ecological Economics*, 39(2), 293-222.

O'Brien, M. (2007). *A Crisis of Waste? Understanding the Rubbish Society*. Routledge, Oxon.

Paech, N. (2009). The economy in the aftermath of growth. *Einblicke* 49 / Frühjahr 2009 - Carl von Ossietzky Universität Oldenburg. 4 pp.

Peredo, A.M. & Chrisman, J.J. (2006). 'Toward a theory of community-based enterprise', *Academy of Management Review* 31(2), 309-328.

Portes, L. & Moreira, M (2004). 'Cooperativas geram trabalho e renda; Maioria dos cooperados são mulheres', *Diario Oficial* 8(453), 3-5.

Rankin, K. N. (2008). Manufacturing rural finance in Vietnam: Contested governance, market societies, entrepreneurial subjects. *Geoforum* 39 (6): 1965-1977.

Schmidt, L. & Ibsch, P. (2009). Eine neue ökologische Radikalität. *DW-World.de Deutsche Welle*. 30.11.2009. Online:

<http://www.dwworld.de/dw/article/0,,4945976,00.html>

Shmelev, S. (2012). *Ecological Economics: Sustainability in Practice*. Springer.

Singer, P. (2003). 'As grandes questões do trabalho no Brasil e a economia solidária', *Proposta* 30(97), 12-16.

Söderbaum, P. (1992). Neoclassical and institutional approaches to development and the environment. *Ecological Economics*, 5: 127-144.

Sunil K.; Gaikwad, S.A.; Shekdar, A.V.; Kshirsagar, P.S. & Singh R.N. (2004). Estimation method for national methane emission from solid waste landfill. *Atmospheric Environment*. 38 (21), 3481-3487.

Victor, P.A. (2008). *Managing without growth: slower by design, not disaster*. Edward Elgar Publishing limited. Northampton.

Victor, P.A. & Rosenbluth G. (2007). Managing without growth. *Ecological Economics* 61 (2-3), 492-504.