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Informal work in a circular economy: waste collection, insecurity and COVID19

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Abstract

The circular economy is principally concerned with flows of materials, intending to capture and reuse value within material flows. Here, I examine how a more circular use of materials intersects with key social outcomes, paying attention to Sustainable Development Goal 8, which demands decent work for all. There is already a serious dearth of decent work worldwide, especially in lower income countries where low unemployment rates reflect the vital need to make a living in a context of minimal welfare. While the work done to get by is often considered to be economically unproductive, this paper highlights how how informal waste pickers underpin the recycling loop of the circular economy in many settings. Focusing on informal waste pickers in South Africa, I demonstrate their economic vulnerability as COVID19 containment measures left many without work, income or food. The mismatch between the essential labour performed by informal waste collectors and their poor working conditions leads me to argue for the inclusion of labour as a pillar of circular economy thinking.

Keywords: informal; waste collection; recycling; working poverty; circular economy

Introduction

"*The transition [to a circular economy] has created jobs across the entire lifecycle of a product, from design to end of life management, as well as in services. It has been harnessed in order to provide new employment opportunities for workers employed in sectors or companies that are no longer competitive or locked in linear practices*." (A view from the future, the Circular Economy in 2050, in Pardo & Schweitzer, 2018, p.1).

Outlined above is a utopian vision for job creation in the circular economy. It outlines what might be possible by 2050, following a transition to an ecologically sound and socially inclusive circular economy. Such thinking offers a road map for a successful transition, acknowledging the importance of the social environmental, technical, and financial dimensions of a circular economy. But it is countered by bleaker warnings of business-as-usual scenarios with the mass of plastic in the oceans outweighing that of fish by 2050 (World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company, 2016). With Pardo and Schweitzer's (2018) ambition for a future circular economy in mind, this paper addresses the current nature of work within our incomplete and imperfect circular flows. Rather than dealing with ideals, I highlight another kind of circularity. I focus on a major weakness in the operation of contemporary circular flows: the heavy dependence upon the cheap and insecure labour of a sizeable informal workforce in the recycled plastics supply chain.

Informal waste collection is essential to current recycling practices in many countries, yet it is imperfect in at least two senses. Firstly, recycling is considered by some the last resort, the least desirable loop of circularity which is least profitable and least resource efficient (Stahel, 2012; Pardo & Schweitzer, 2018).

Nevertheless, businesses have more readily adopted recycling principles and reduced resource use, in preference to more substantial changes (Moulis, unpublished). Recycling is currently key to roughly half of European industries' circular mitigation (Circle Economy, 2019, p.45).

Like recycling, informal waste collection is imperfect too. Although it provides work and incomes to tens or hundreds of thousands of people in many countries, there is a sobering absence of social protection, legal protection, and safety standards for the vast majority of those involved (e.g. Table 2; Lindell, 2010). While this could be simply a low point in the circular transition, a stage at which the large recycling loop of circularity is staffed by informal workers, I argue that we should be utopian about the transition itself and not just the end point. The 'circularity gap' currently hovers around 91% (Circle Economy, 2019). If, as Pardo and Schweitzer (2018) imply, it will take the next thirty years to arrive at a circular economy transition, the next decades in which today's children will grow up and have their own children, will also benefit from ambitions for social inclusion and economic justice.

In contrast to the widely acknowledged environmental and resource management benefits of circularity, the social mechanisms and benefits of the circular economy remain underexplored (Swagemakers et al., 2018; Gregorio et al., 2018; Camacho-Otero et al., 2018; Hobson, 2019). Instead of directly attending to social dimensions, researchers and commentators tend to assume that economic benefits of circularity will be accompanied by environmental and social benefits (Velenturf et al., 2019). Nevertheless, there are now increasing calls for more research into social factors within a circular economy, alongside a pressing need to address the tensions between the circular economy, climate and social issues (Pardo & Schweitzer, 2018; Hobson and Lynch, 2016). What follows is a brief review of work in the circular economy, followed by some insights into the nature of work for informal waste pickers, and a commentary on how COVID19 has demonstrated the insecurity of the circular economy's essential workers.

Work in the circular economy and SDG 8

The International Labour Organisation (2019) has attributed a possible net total of 7-8 million new jobs in the circular economy by 2030, with almost 50 million jobs being reallocated. This raises the question: how is it that the circular economy can be a net job creator? Walter Stahel (2012) explains that the circular economy has a greater demand for labour than the linear economy because resource extraction is less labour intensive than manufacturing and repairing goods. By shifting away from extraction towards the more labour-intensive activities of remanufacture and repair, labour demand is likely to increase. This projection for new jobs is qualified. Firstly, these future jobs depend upon the roll-out of skills training required for this green transition. Without training, and political support, it is possible that far fewer jobs will be created, exacerbating the global shortage of work. Secondly, there are caveats concerning who will lose their job and who will gain a new one; these will not always be the same people, and job destruction will disproportionately affect the extractive industries (ILO, 2019). There are also questions concerning where these jobs will be created both geographically and in which sector of the economy.

Job creation alone does not address questions about the quality of work. Among young working people in Sub-Saharan Africa c.70% are in working poverty, and in South Asia c.55% (ILO, 2017). In transitioning towards a circular economy, it is important to acknowledge our problematic starting point (Barford and Dorling, 2008), enshrined by the Sustainable Development Goals. Given how the global conversation about work is not just focused on creating jobs, but on decent jobs and their availability, it makes sense also to apply these standards to the circular economy. Our unfavourable starting point places a sizeable burden upon new models of circularity to solve the multiple and interlocking challenges that are not of its making. Yet there is a risk that this transition will further entrench existing societal cleavages, unless specific measures are put in place to avoid this. Just as new systems can address environmental crises, they can also tackle social challenges. Getting it right could contribute to meeting Sustainable Development

Goals on poverty (SDG1), hunger (SDG2), gender equality (SGD5), decent work (SDG8), inequality (SDG10), alongside responsible consumption and production (SDG12).

It is worth using a broad definition of work for the circular economy, including unpaid labour which is often out of sight within the home (Barford et al., 2020). Within the circular economy, unpaid domestic work (sometimes subsumed by the term 'consumer behaviour') might include the labour-intensive activities of sorting waste, repairing and maintaining items, sourcing second-hand items, and sharing. This work is likely to fall disproportionality upon women, who globally do 3.2 times more domestic and care work than men (ILO, 2018). To date, consumers in the circular economy have received limited attention (Hobson, 2019). A little more attention is given to the potential for paid work in the distribution, collection, repair and remanufacture of items (e.g. ILO, 2019). Another type of work is that needed to shift systems. An example of this is found among Slovenian dairy farms, where green policies led to increased labour demand in order to reconfigure systems and realign practices (Unay-Gailharda and Bojnecb, 2019). While some work will be specific to the transition, other work should persist. If current trends continue, some will be celebrated, some paid, some hidden and some paid poorly if at all.

While there are few 'complete' cycles in the existing economy, in multiple settings individuals, community groups, government, and small and large companies are experimenting how to move towards a loop. Waste collection is critical to the current version of the circular economy but is renowned for offering poor quality work to marginalised people living at or below the minimum wage (e.g. Rutkowski & Rutkowski 2017; Gregson et al., 2016). By focusing on a sector which contributes to much of the circularity we see today, but falls short on social indicators, I highlight in the following the risk of focusing on circularity if the needs of the workers upon which this circularity depends are overlooked.

Informal waste collectors in the recycling loop

Waste collectors within recycling loops are often informal, unrecognised, and even invisible (Rathore, 2020). In India, as in many other countries, moves to formalise waste collection tend to overlook those already doing this type of work, in part because the "sheer number" and "scattered geographies" can make waste collectors difficult to identify (*ibid.*, p.181). That said, researchers have strived to learn more about this hard-to-know group, and share some key insights. One is that contrary to assumptions about the informal sector being disorganised and homogenous, waste picking work is often highly structured (Lindell, 2010; Alemu, 2017; Sasaki et al., 2014; table 1). These arrangements turn the cogs of this cycle by processing the vast majority recyclable waste in the countries where they work (Table 2). However, these workers do not tend to thrive, due to a combination of poor working conditions, health hazards, low pay and insecurity (Table 2). I now focus on South Africa, to detail informal waste collectors' contribution to the circular economy, and discuss the risk and insecurity of their work in light of COVID19.

Table 1. Informal actors identified in Ethiopian waste flows. Modified from Alemu, 2017, p.58-59.

Qoralés	Itinerant scrap buyers who purchase small quantities of waste such as plastic, paper, glass, metals, etc. from households
Scavengers	Collect different kinds of materials at the municipal landfill site
Foragers	Pick waste materials from municipal containers, rubbish bins and streets
Wholesalers	Buy the waste materials from the collectors
Middlemen	Supply waste material to wholesalers or factories
Local factories	Use the collected waste in the manufacture of new metal or plastic products

Small artisans	Involved in recycling the waste materials in the form of shoes, metal equipment
Rural traders	Come from rural areas to buy waste materials to resell

Table 2: A summary of informal waste collecting work in four countries

	Informal waste collectors	**Waste picker contribution to recycling**	**Working conditions and challenges**	**Demographics**	**Data sources**
Brazil	380,000 (in 2008, refers to all waste workers)	90% (of collected recyclable packaging is from waste pickers)	Lack of equipment, often earn under the minimum wage, seasonal variations in prices, exploitation	40% illiteracy or incomplete primary education, some workers are homeless	From review by Rutkowski & Rutkowski 2017
Indonesia	2915 in Bandung (>1/1000) 40,000 in Jakarta in 1992	86% for paper 8% for plastics (contribution to what is recycled in Bandung)	Health hazards from medical waste; no potable water where waste pickers live (in Bantar Gebang)	Predominantly young people (20s-30s), also children. 99% of unpaid workers are women (in Bantar Gebang)	Sembiring & Nitivattananon, 2010; Sasaki et al., 2014
Nigeria	1,000,000 (urban Nigeria)	80% (of all Lagos recycling is informal)	Some enjoy the flexibility of not having a boss; sometimes incomes exceed the minimum wage.	Low levels of education, low social status, and poor living conditions.	Mbah et al., 2019; Nzeadibe & Iwuoha, 2008
South Africa	60,000-90,000	80-90% (of all paper waste and packaging)	Women earn less than men.	Lack social protection, crowded living quarters with poor hygiene.	Godfrey et al., 2016; Mkhize, 2014; Samson, 2020

The informal economy in South Africa provides work to 35.2% of those in employment (ILO, 2018). Within the informal economy, 60,000 to 90,000 waste pickers recover 80-90% of all paper waste and packaging (Samson, 2020; Godfrey et al., 2016). The collection of waste is both labour-intensive and geographically dispersed. The COVID-19 lockdown has halted waste picking, and the loss of income, amplified by informal status and lack of social security, acutely impacts the waste picker's economic situation. This vulnerability is illustrated by waste picker Beauty Ncube, who explains "I was providing for my kids with the little money I'm getting, but now, I'm starving." (in Krige and Panchia, 2020). Waste pickers are also susceptible to longer-term economic and social costs of the COVID-19 pandemic, in part due to stigmatisation and fears amongst the communities where they work that they will spread the disease.

The impacts of the COVID-19 crisis may disproportionately affect waste pickers: their work demands mobility and they are unlikely to be prioritized if and when a vaccine is available. As well as disrupting livelihoods, this will disrupt the extended recycling chain, impacting flows of paper, cardboard, aluminium and PET, LDPE, HDPE and PP plastics waste.

As seen with Ebola, HIV/AIDS and cholera, epidemics can represent an 'acute on chronic' scenario for informal workers, increasing poverty, unemployment and informality, and leading to a "a vicious circle of even greater fragility." (ILO, 2020, p.15; Farmer, 2012). Acknowledging the tendency for crises to embed poverty and inequality – informal waste pickers are highly exposed to the health, economic and social risks of COVID-19. Indeed, the vulnerability of waste pickers is evident from the deep impacts they experienced during the global financial crisis (Samson, 2017). Informal waste-pickers in South Africa lack social protection and private insurance, live in crowded quarters with low standards of hygiene (Mkhize, 2014), and handle and transport potentially infectious waste (WIEGO, 2020).

Despite negotiations with municipalities (e.g. South African Waste Pickers Association) and initiatives at self-organisation (Association of African Reclaimers), new South African Extended Producer Responsibility approaches have engaged little if at all with informal waste pickers (Godfrey et al., 2016). However, very recent responses to COVID-19 suggest that the importance and fragility of waste-pickers is becoming recognized in government and corporate sectors. Examples include the commitment of Unilever South Africa to provide Personal Protective Equipment to waste pickers, and a proposal from the Minister of Environmental Affairs, Forestry and Fisheries to provide support through a National Solidarity Fund (Pillay, 2020). It seems that state, private, and informal protection initiatives can be integrated, and could lead to a new modus operandi for the wider informal sector. The COVID19 crisis has laid bare the need to identify pathways to reduce exposure to health, economic, social and environmental risk within the informal sector – a sector which is crucial to the functioning of contemporary recycling – but one that must be carefully revisited if we are to build a socially inclusive circular economy.

Conclusions and calls for research

This brief paper seeks to draw attention to a blind spot in much of the circular economy literature – that is the quality of work that accompanies circular processes, specifically recycling loops. Bonatti and Gille (2019) argue, that waste work maps onto existing social inequalities and has long been the domain of marginalised groups. Nevertheless, there is now a widespread acceptance that waste pickers are the key agents who sift recyclable materials (Rutkowski & Rutkowski 2017) and in the countries detailed above informal waste collectors were responsible for the lion's share of recycling. Despite this, their work continues to be precarious and dangerous. As research and innovation offer new pathways to a circular economy, we must also pay attention to the benefits and difficulties of existing circular practices. We need to think not only of material flows but about circulating bodies and labour, as well as materials, the "assemblage of people, places and material and how they interact and intersect to create value" (Rathore, 2020, 182). As we purposefully design a circular economy, sometimes-invisible workers must be intentionally engaged and consulted as part of an authentically inclusive pathway. *"Our common future is not already mapped out; it is still to be won"* (Dorling et al., 2007).

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