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RESEARCH

The Discursive Power of Recycling: Valuing Plastic Waste in Cape Town

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Recycling has come to be seen as a key strategy for tackling plastic pollution in South Africa, enabled by the rising popularity of circular economy policies globally. This paper explains how recycling operates discursively, positioning waste as an economic opportunity, with the effect of making it plausible to ignore the multi-scaler inequitable dynamics of waste that have been well documented by critical waste scholars. Quantitative and qualitative data was gathered over 13 months as part of the Valuing Plastic Project in Cape Town. Research involved establishing and evaluating a small-scale recycling scheme at Eluvukweni Church in the township of Crossroads on the outskirts of Cape Town. The methodology combined elements of participatory action research and discourse analysis to understand how ideas circulate in a way that perpetuates the status quo. This paper argues that the discursive power of recycling is enabled by concepts of circular economy and waste entrepreneurship, which position waste as a resource that unlocks job opportunities for people in poverty. As a consequence, environmental groups' resistance to recycling as *the* solution to plastic pollution in South Africa continues to be constrained by the assumption that plastic waste is valuable, and that the plastic industry is able to regulate itself.

Keywords: circular plastics economy; PET plastic bottles; faith-based environmental movements; green entrepreneurship; extended producer responsibility; job creation

Introduction

Plastic pollution is a global challenge characterised by regional variations in how the problem is defined, which in turn shapes policy responses (Liboiron 2016). Plastic packaging has largely been defined as a waste management problem, with a focus on post-consumer household waste streams that individualises responsibility (Maniates 2001). This emphasis on plastic waste and recycling has been critiqued, firstly, by marine scientists who see the issue of single use plastic as a distraction that limits radical action on issues such as climate change (Stafford and Jones 2019). Secondly, by waste scholars who show how recycling has been integral to industry lobbyists, to stave off interventionist legislation, protecting producer's freedom to design and produce packaging without factoring in end of life costs (MacBride 2011). These concerns have been raised in South Africa because, unlike other countries on the continent, the plastics lobby has successfully avoided bans on low-value plastic packaging that is difficult to recycle. Scepticism about the transformative potential of plastic recycling has been tempered by visions of a circular plastics economy that will 'turn today's challenges into opportunities' (European Commission 2018: 8). There is no consistent definition of circular economy, but the concept is popular with policy makers as part of a modernisation agenda (Schröder et al. 2019). Consequently, 'scant consideration has been given to other 'transformative' pathways and practices, currently elided by a focus on industrial systems and sustained economic growth' (Hobson 2016: 89).

South African policy responses to plastic pollution have been driven by the socio-economic benefits of recycling post-consumer packaging. Labour intensive solutions that create job opportunities, with low barriers to entry, are politically popular because of high rates of unemployment in historically disadvantaged neighbourhoods. Rooted in colonial, apartheid, and neo-liberal regimes, socio-economic inequalities between population groups mirror the uneven distribution of the costs and benefits of recycling between formal and informal waste management sectors (Millington and Lawhon 2018). The privatisation of services means large scale private companies have dictated the terms of trade for plastic waste between formal buyers and informal collectors. Furthermore, the concept of extended producer responsibility (EPR), where 'producer's responsibility for their product is extended to the post-consumer stage of a product's life cycle,' has hitherto been implemented by organisations who represent the plastic industry. Recent EPR amendments to the 2008 Waste Act have made voluntary recovery targets mandatory (RSA 2020a). This legislation aligns with global networks as

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part of the South African Plastic Pact, a group of public and private entities who have committed to ensuring that 70% of plastic packaging is effectively recycled by 2025 (WWF 2020). This combination of mandatory and voluntary targets gives recycling schemes a mandate to realise the 'new plastics economy vision' to 'boost job creation in the South African plastics collection and recycling sector' (WWF 2020).

Aware of the 90% failure rate of waste cooperatives in South Africa (Godfrey 2015), but spurred on by successful social enterprises in other coastal communities (Plastic Bank 2021), the Valuing Plastic Project[1] was designed with the objective of establishing and evaluating a small-sclae recycling scheme in Crossroads, a township in Cape Town. Using this scheme as a case study, this paper presents quantitative and qualitative data to problematise the link between plastic waste and economic empowerment. Practices and policies are contrasted with the concepts of circularity and entrepreneurship which builds on prior appraisals of the recycling sector in Cape Town (Linnay 2013). Discourse is used as a theory and as an analytical approach to understand how power circulates between structure and agent in a way that silences the significant constraints to recycling in townships. The analysis is divided into three sections: The first summarises the process of establishing the recycling scheme at Eluvuwkeni Church, as part of an ethnographic action research design, in partnership with the Anglican Church of Southern Africa's Environmental Network; the second pays attention to the ways in which conversations with supporters of the scheme compare with scholarly critiques of the economic benefits of recycling; the third summarises the discursive power of recycling to position people and ideas in a way that entrenches the status quo. The conclusions recommend that recycled plastic should be subsidised to narrow the gap, in terms of pay and power, between plastic producers and collectors of plastic waste.

Provision, power and policies

There is no formal, nationwide, curb-side, collection service across South Africa. In order to achieve the long term outcome of 'zero-waste going to landfill' (DEFF 2020: 33), local government outsources 26 free-of-charge recycling drop-off facilities across Cape Town municipality for residents to access (City of Cape Town 2021). This service suits a minority of the population who have space to store, transport to drive, and the willingness to expend time and effort to drop off their recyclable waste regularly. Informal provision is where 'waste pickers' sift through unsorted household waste, from bins placed on the street before weekly collections by formal waste companies. Informal reclaimers carry or use trolleys to transport waste to buy-back centres, operated privately, who remunerate individuals per kilo of material. These centres are not fully transparent even though they are a crucial link between informal collectors and manufacturers. Researchers found 37 buy-back centres operating in Cape Town, but they were not surveyed due to refusals or to 'scheduling issues' and because prices offered were 'a very sensitive issue' (Barnes et al. 2021). The value of plastic varies according to global oil prices, which drive market forces that dictate demand for virgin or recycled plastic (recyclate)—depending on which is cheaper. Plastic waste purchases by converters, such as bottle-to-bottle plants, becomes sporadic as demand dictates. Market volatility is therefore absorbed by those at the bottom of the value chain, such as small scale collectors and the informal sector (waste pickers) (Millington and Lawhon 2018).

At the top of the value chain are plastic producers, who are well represented by producer responsibility organisations and lobbyists such as Plastics SA, who 'strive to address plastics related issues, influence role-players and make plastics the material of choice' (Plastics SA 2020). Plastics SA defines informal waste pickers as 'citizens that collect plastic recyclables from landfills and other waste streams and sell them to recycling companies for a profit' (Plastics SA 2019b). This description normalises the status quo where people are remunerated for the waste they collect but not their labour. Plastics SA estimates there are 58,470 informal workers who are responsible for 70 per cent of plastic that is recycled (Plastics SA 2019a). Despite this significant contribution to diverting plastic waste from landfills, working conditions are 'nowhere close to decent work' (Yu et al. 2020). Research into how to bridge this divide between formal and informal entities to create a more equitable relationship, asserts that industry 'has a crucial role to play in funding integration and paying reclaimers as part of extended producer responsibility (EPR) (Samson 2020: 30).' Currently, an EPR levy is paid by producers on virgin plastic, but this is used to stimulate demand for recyclate in the formal sector, therefore, it does not alleviate precarity in the informal and community-based recycling sector. In theory, improvements in pay are imminent in terms of the amended Waste Act 2008 that stipulates extended producer responsibility schemes will pay 'registered informal waste collectors, reclaimers and pickers' a living wage (Republic of South Africa 2020a).

However, implementation of schemes will continue to be managed by bodies representing the plastic industry (as opposed to government), which has not previously led to a reduction in plastic production (Dikgang et al. 2012). Instrumental to the industry's capacity to present itself as capable of self-regulation is the use of resource recovery statistics to communicate recycling successes. For Polyethylene Terephthalate (PET) plastic bottle recycling, purchases by formal enterprises increased 'from 9,800 metric tonnes in 2005, to 95,879 tonnes in 2019' (PETCO unpublished). This tonnage is a fraction (5%) of the total 1.88 million tonnes, 80% of which are from virgin polymers, not recyclate, converted into plastic products in South Africa annually (Greencape 2020: 45). Based on figures from 2016 (Greencape 2020: 45), by 2023 municipal solid waste plastic in the City of Cape Town is predicted to grow by 14.5%, which corroborates research into consumer attitudes by de Kock et al. (2020). None of the respondents in De Kock et al's study 'mentioned reducing the consumption of plastics in order to curb leakage into the environment' (2020: 2). Recycling was 'perceived as the only action required to clean up the environment' (De Kock 2020: 2), rather than, as Godfrey (2019) argues, one option amid

a combination of measures (including regulatory intervention) needed to reduce leakage of plastic into South Africa's oceans. Building on research that explains how the private sector benefits from the popularity of recycling (MacBride 2011), this study deconstructs recycling in relation to concepts that entrench its discursive power to position plastic pollution as a job opportunity.

Discourse, circularity and entrepreneurship

The study theorises discourse using a framework that examines the interplay between the circulation of ideas at a macro level with individual agential capacity at a micro level. Using Giddens' (1984) structuration theory, macro level discourses are interpreted as a source of enablement and constraint, which individuals are positioned by, but also have the power to resist. Structural constraints take the form of tacit knowledge, for example, where the idea of recycling is not challenged and comes to be seen as a normal response to plastic pollution.

Following Foucault, a dominant discourse 'empowers (and disempowers) certain agents to speak on this or that question of fact' (Prior 1997: 70–71). Challenging dominant discourses can lead to intended and unintended consequences. The way that discourses circulate, therefore, make it possible for environmental activism to inadvertently entrench inequitable arrangements. MacBride (2011) illustrates this phenomenon in detail, documenting how the rise of New York's zero waste movement in the 1960's and 1970's ultimately served the interests of multi-national corporations. Fifty years on and a continent away, these power relations bear a striking resemblance to contemporary dynamics in Cape Town, underpinned by the concepts of circularity and entrepreneurship.

The 'zero waste' movement in MacBride's (2011) study has grown considerably, funded by global organisations such as the Ellen MacArthur Foundation, who argue 'A systemic shift tackling the root causes is required: a transition towards a circular economy for plastic, in which it never becomes waste or pollution' (2017). Critical reviews dispute the potential for structural change, citing evidence that characterises the circular economy concept as 'a new form of greenwashing or as an oxymoron, comparable to green growth or ecological modernization' (Friant et al. 2020: 2). In South Africa, modern green growth emulates policy language in Europe, where the circular economy concept frames a pledge to 'unlock the value in waste' (Defra 2018). For example, green growth and resource value are used to communicate the latent value of waste: 'If the amount of industrial waste were to be reduced by 20%, and domestic waste by 60%, it would unlock R9.2 billion resource value to the economy' (GreenCape 2019: 8). Consequently, initiatives that divert waste from landfill 'could unlock an additional R11.5 billion per year to help create 45,000 direct and 82,000 indirect jobs and 4,300 small, medium, and micro-sized enterprises (SMMEs)' (GreenCape 2019: 15). Recycling activities are part of 'win-win' narratives, which imply 'the double solution to financial/economic and environmental/social problems' (Mert 2013), in connection with entrepreneurship opportunities.

Entrepreneurship has been deconstructed in relation to how, in post-apartheid Cape Town, the use of 'underpaid casual labor by black township residents' continued to be legitimised in the provision of waste services in poor areas (Miraftab 2004: 888). Pertinent to job creation has been the 'rhetoric of volunteerism' in black economic empowerment schemes, which portray short-term contracts as 'opportunities for training and skills enhancement' (Miraftab 2004: 888). More recently, this has been replaced by 'green economy-based pro-poor economic development ventures' (Hlala 2015: 117), which conservationists have described as 'unlocking the 'green-preneurship' potential of the impoverished and unemployed' (Hlala 2015: 116). In contrast to this image of empowerment, Lawhon et al. theorise waste entrepreneurship as a modern replication of a colonial era work ethic that normalises moral judgements on people who fail to 'create a need for their labour' (2018: 1115). The use of job 'opportunity' is therefore a strategic language choice that avoids waste work being judged according to minimum international labour standards. Hence post-consumer bottles as a 'valuable driver of job creation' (PETCO unpublished) entrenches the idea that plastic recycling is an economically viable small scale enterprise.

The Valuing Plastic Project in Crossroads

Crossroads is categorised as a 'township' where the unemployment rate is 44%, the population is mostly black African (97%), and waste collection services need to accommodate a mixture of formal and informal high density housing (City of Cape Town 2013). Socio-economic and infrastructural transformation in the area has been slow, which means waste builds up in a way that it does not in historically white, affluent city suburbs. Bags, rather than bins, are issued to households in areas where tightly packed 'shacks' are inaccessible to waste collection vehicles. Residents are expected to take their bagged waste to a shipping container, which is periodically emptied. However, this journey is often dangerous or inconvenient, which has led to dumping in waterways that are nearer and safer to access (Green 2019). The aim of the Valuing Plastic Project was to establish and pilot a scheme to expand waste infrastructure in an area with no formal recycling provision, guided by the principles of ethnographic action research (Tacchi 2015).

Participatory qualitative research was used to understand local cultures, to 'reject preconceived ideas... [to] turn what we learn from research into actions, research those actions and adjust and adapt accordingly' (Tacchi 2015: 6). A partnership was created with Rev. Rachel Mash, in her dual role as the coordinator of the Anglican Church of Southern Africa's Environmental Network (Green Anglicans) and the Reverend of Eluvukweni Church in Crossroads. Research was designed to assess the extent to which the scheme could be replicated at other churches by exploring the environmental and economic value of plastic waste. The duration of the project, from proposal draft to the end of the pilot phase, spanned from August 2019 to February 2021. Of this period, empirical accounts from fieldwork conducted to establish the scheme have been

selected (December 2019 to February 2020) and an evaluation was conducted (December 2020 to February 2021). The latter was postponed from April 2020, and was more limited in scope, due to restrictions related to COVID-19.

Evidence collected is mostly qualitative, combining notes from participant observation at Eluvukweni Church's Sunday services (60 pages of journal notes from reflections during 15 weeks of fieldwork in Cape Town); transcripts from interviews with people with different perspectives on South African recycling policies and infrastructure (12 people including representatives from the plastic industry, a buy-back centre, a waste expert, a producer responsibility organisation, the faith-based environmental movement, church leaders, and members of the congregation). Understanding of the circulation of ideas about recycling was also informed by attendance at meetings, events, and workshops. These were convened by either regional government (Western Cape) or environmental non-governmental organisations (WWF South Africa), 19 in total, ranging from one hour to a whole day. Basic summary statistics were produced by tracking the number of workers and duration of tasks (hours) as well as the total income from the sale of recyclables (ZAR). Research requests for data, such as 'how much is one plastic bottle worth?' were responded to, which involved weighing a selection of plastic bottles to calculate the minimum and maximum number of plastic bottles in a kilo.

Speculation about financial gain was a recurring topic of conversation in interactions with members of Eluvukweni Church, and meant managing expectations was an important part of applying 'situated ethics' (Perez 2019). Although economic gain is known as the main incentive for the majority of consumers to recycle plastics (de Kock et al. 2020: 2), the promotion of income generation to motivate people to collect more packaging would have been unethical in the context of townships that are replete with research projects who over promise and under deliver (Posel and Ross 2014). Despite efforts to lower expectations, interest in the monetary value of plastic waste was a dominant theme in fieldnotes and was not questioned as the best way to increase participation. It was not until a year after the project began that a member of the congregation asked about what happens to the plastic bottles once collected from the shipping container (Fieldnote journal, 7th February 2021). Hence, the analytical focus became the economic value of plastic waste, in terms of unlocking opportunities to realise a circular plastics economy.

Literature, interview transcripts, and fieldnotes were imported into Nvivo qualitative analysis software as well as coded text according to language that alluded to plastic waste ('litter' or 'material'), including talk about specific items (plastic bags). The theme of 'economic value' was used to code talk about 'job creation' or 'job opportunity' and broader structural constraints such as 'poverty.' Of these sections of coded narratives, extracts from four interviews have been selected to convey the contrasting and intersecting ways of explaining the current uneven distribution of access to the economic value of plastic waste. Three interviews took place in the initial stages of the scheme (February 2020) and one is a more in-depth reflection as part of evaluating the scheme and deciding on its future (February 2021). Names have been changed unless participants gave permission for their identity to be shared. Institutional ethical approval was granted at the outset, which involved a reflection on personal positionality and was an ongoing part of the fieldnote journal. For example, the dominance of jobs in conversations is partly attributable to my identity as a white European researcher in a position of relative privilege and power. Acknowledged also, is that my limited proficiency in isiXhosa may have meant that people who might have approached me to talk about the social or environmental value of plastic did not do so.

Analysis combines quantitative summaries with narrative accounts from four people who had different roles in helping to launch the recycling scheme at Eluvukweni church. The first is an intern at the Green Anglicans who was tasked with finding a buy-back centre for Eluvukweni church to sell waste to (Andile). The second is a representative of the plastics industry who donated plastic bags to issue to the congregation to collect packaging from their homes to bring to church each week (Francois). The third is part of the church leadership group who helped to finalise plans for how the scheme should operate (Lele). The fourth is the study's community partner who co-designed the Valuing Plastic Project (Rev. Rachel). Each vignette is followed by an analysis that uses the principles and practices of discourse analysis set out in Johnstone, to interrogate talk by asking 'why are explanations this way and no other way?' and 'what assumptions are being made?' (2008: 3-10). The final discussion section sheds light on how recycling discursively entrenches inequitable arrangements between plastic producers and plastic waste collectors.

Constraints to unlocking the value of plastic waste in townships

Similar to the evasiveness encountered by Barnes et al. (2021), Andile found 'it was really hard to find people to actually talk to…it was a huge challenge trying to get a hold of them [buy-back centres]…' (Cape Town, 9 January 2020). Out of 18 buyers who were contactable, 16 ruled themselves out immediately. Reasons included that they collect one type of material only (high value materials such as metal); safety concerns about entering townships (vehicle theft); conditions about the quantity and regularity of materials needing to be guaranteed before an agreement could be made (e.g. 300kg minimum); and that services did not extend to any residential areas (collection from business premises only). The lists of buy-back centres in Cape Town creates the illusion of choice, but a free-market for waste has not generated competition between buyers in Cape Town. Echoing Miraftab's (2004) critique of neo-liberal waste policies, the Eluvukweni scheme was at the will of private entities further up the value chain, with little room to negotiate on price.

The Valuing Plastic Project funded all of the scheme's start-up costs, the largest of which was a 6-metre shipping container[2] placed in the grounds of Eluvukweni church. Having this storage capacity was not considered

a sufficiently large volume to warrant a better price. Therefore, high value items were chosen for collecting: aluminium cans, glass, and white paper. This illustrates the known limitations of recycling entrepreneurship as a way to prevent plastic pollution, because, in the interests of maximising income, low or no value items remain in the waste stream (MacBride 2011). The maximum value for plastic packaging was ZAR2 (10p[3]) per kilo on the condition that PET plastic bottles were clear (coloured PET bottles are worth less), clean, and had the caps removed. This meant the Eluvukweni scheme had the same earning power as informal collectors operating individually, despite having substantially more financial and human resources available from being attached to a well-funded research project.

The first batch of recyclables was sold on 26 February 2020. The following summary is based on this initial sale and the data collected in the weeks prior, as an indicator of the prospects for initiating a scheme in similar township settings. The drop off site at Eluvukweni operated on 7 different days, at least once a week, from 26 January to 23 February 2020. Five of these coincided with Sunday morning church services and two were on a weekday to coincide with the end of the school day. The total work of sorting, crushing, and removing bottle tops took 28 hours by teams of up to five people. The combined sale of plastic and other recyclable material generated an income of ZAR290 (GBP14.50) which equates to approximately ZAR10 (50p) an hour. This is less than half the national minimum wage, which as of 1 March 2021 was ZAR21.69 (GBP1.08). If Eluvukweni was able to maintain the volume and composition of waste, a mixture of higher and lower value materials, it would take 13 years to pay off the cost of the shipping container. This rises to 23 years if the scheme collected PET plastic bottles only. Thus, the long term viability of the scheme is more reliant on access to large scale infrastructure than it is an entrepreneurial work ethic (Lawhon et al. 2018).

On the assumption that collections could be scaled up, a target for the scheme was calculated. The volume collected at Eluvukweni church in its first month would need to be generated and sold every 7 days in order to pay back the container in three years, which would mean collecting between 232 and 917 bottles a day. This potentially increases the consumption of soft drinks, which made up the vast majority of the bottles collected. Increased buyback provision is posited as a way to bridge the informal and formal economy (Barnes et al. 2021). But this overlooks the health implications if becoming a more viable enterprise relies on consumption habits that exacerbate non-communicable diseases, such as obesity and diabetes. Health concerns during the lifetime of the pilot, however, related to the spread of COVID-19. Municipal waste collection services continued, but recycling-related work ceased on 15 March 2020 because it was not deemed a critical service (Republic of South Africa 2020b). Places of worship closed due to restrictions on gatherings. The sudden cessation of recycling meant the church lost an income stream, as did informal workers across South Africa. The Plastics Civil Society Organisation used this plight to lobby government to expedite extended producer responsibility (EPR) legislation and ensure a fairer distribution of funds to support informal workers. This was communicated in a letter to the minister for Department of Environmental Affairs, Fisheries and Forestry, sent on 19 May 2020, which as of July 2020 had not been acknowledged or responded to (Plastic CSO meeting minutes, 30 July 2020).

Eluvuwkeni church closed in March 2020 due to restrictions on the numbers of people allowed to gather. However, the collection of bottles continued on an ad-hoc basis, co-ordinated locally between the church leadership and neighbouring residents. On Mandela Day,[4] a small number of volunteers gathered to sort and crush plastic bottles that had been collected since the end of February. This second batch was sold on 17 September 2020, at which point the price for clear PET bottles had fallen to R1.20 a kilo (6p). Although there was 147kg of clear PET, almost twice as much as in the first batch, the income generated was almost the same. The total sale came to R293.40 (GBP14.67), of which PET bottles accounted for R214.16 (GBP10.70). The message accompanying the photo of the receipt sent to this researcher by the Green Anglicans was 'so much work, so little money' (Personal communication, 18 September 2020). In light of the constraints to generating an income from recycling, I now turn to interview data that sheds light on how job creation continues to be connected to plastic waste.

Perspectives on plastic recycling

Contrary to the image of the plastic industry as the antithesis of conservation, Francois introduced himself as an environmentalist, although he is critical of the movement:

> This is a country where poverty is our biggest problem. Why is the material [plastic waste] being dumped in the rivers? It's because people are poor, they don't have an infrastructure…have you ever been a week without actual money? … Do you know what it feels after 5 years to be poor? [To] have a family and you have no income? The anger within you. And then you have people [environmentalists] telling you that you must look after the environment (Cape Town, 20 February 2020).

The interests of industry and township residents are presented as in alignment, where both understand that economic concerns are naturally more important than environmental degradation. Conversely, environmental activists are positioned as affluent, detached from the emotion of poverty, and painfully unaware of the everyday realities of living with no access to essential services. Francois understands a seeming disregard for the environment in terms of infrastructural constraints faced by township residents, an explanation which is confirmed by research in Cape Town (Green 2019). By focusing on inadequate waste infrastructure as the root cause of pollution, government is positioned as primarily responsible for managing plastic waste. This was echoed at an EPR Interactive Stakeholder Workshop to develop recommendations for an Extended Producer Responsibility (EPR) policy framework for plastic

packaging. A plastics manufacturer expressed exasperation at the suggestion that private companies should take on responsibility for plastic packaging, which is the remit of government in terms of the South African Constitution (Workshop notes, 1 December 2020).

However, inadequate infrastructure was also posited by Francois as an entrepreneurial opportunity that had had a positive environmental impact in some townships. In areas where residents knew the value of PET bottles and 'had started making an effort' there was a noticeable reduction in PET bottles in public spaces—apart from green coloured bottles that remained visible because a bottle-to-bottle converter had stopped buying them. 'So, I realised that they're [residents] doing a lot of effort now to collect PET because they're getting a good price for it. I think they are getting R1.70 per kg…' (Cape Town, 20 February 2020). At the time, the interviewer did not probe further because there was no point of reference and his judgement as an industry expert was trusted. It was not until Rev. Rachel Mash asked how many bottles are in a kilo that the researcher realised that Francois should have been challenged about how R1.70 (8p) a kilo can be construed as 'good.' After weighing different sized PET bottles, from 5 litre water bottles (87g) to 500ml Coke bottles (22g), it became clear that an individual would need to collect between 11 (5 litre) and 45 bottles (500ml) to accrue a kilo of PET plastic bottles. Therefore, a person would need to collect approximately 300 bottles to buy a loaf of bread costing R13 (65p).

'They are worried about the jobs'

Waste infrastructure was also a theme in Lele's account of why waste leaks into the environment in townships; confirming problems caused when bags—not bins—are used in waste services as identified by Green (2019). Lele explained that, although each household in his street in Crossroads is provided with a bin, it reaches capacity before the weekly municipal collection due to high household sizes in his street where several families share one dwelling. Secondly, Lele said there is a widespread problem of bins being stolen. Both issues mean people resort to piling up bags of waste on street corners for municipal collection, which was reliable and frequent, but did not meet demand (Cape Town, 19 January 2020). Hence, even where there is adequate infrastructure provision in theory, it does not prevent plastic pollution in practice.

When turning to the topic of post-consumer plastic, Lele's opinion was that governments should be taking the lead on implementing solutions because 'if this [plastic waste] is really going to be a problem for us in future, we should start doing something about it now.' When academic critiques of solutions that focus on consumer habits as the rationale for lobbying government to avoid restrictions on the production of plastic (MacBride 2011) was explained, Lele anticipates: 'I'm sure it [limiting production] could also be because they [the government] are worried about the jobs,' which he links to power.

> It's [worry about job losses] a way of manipulating the system, because they [the plastic industry] know that if you, once you say there isn't jobs, you will always get away with anything…. I think they [the plastic industry] are holding the government hostage because of that. (Cape Town, 19 January 2020)

Lele situates 'jobs' in relation to the way issues are ranked hierarchically according to level of concern, mirroring research into consumer perceptions, which places unemployment above plastic pollution (de Kock et al. 2020). The legitimacy of the connection between production and job losses is irrelevant because the mere mention of job losses has the power to eclipse longer term considerations. Hence 'jobs' becomes a discursive mechanism that is associated with economic empowerment. This concurs with research that notes the prominent role of job figures as part of a 'discursive turn towards work that marks the [waste] industry more broadly' (Lawhon et al. 2018: 1124). Lele explains the power of 'jobs' to position the plastics industry as the leading authority on plastic production and its future. This power is borne out by previous legislation to reduce plastic bag waste, which was passed, but quickly amended to reduce the carrier bag charge which nullified the impact on consumption (Dikgang et al. 2012). The plastics industry continues to have ministerial support in advocating an industry-managed rather than government-managed plan to regulate plastic producers (Biz Community 2020).

'Job creation'

In a departure from social and infrastructural dynamics as explanations for plastic pollution, Andile understands the problem as a knowledge gap: 'Most people don't really understand the effects that come with plastic. It's either they are not informed, or they are just not interested.' In contrast to Francois' use of poverty and infrastructure to explain plastic pollution in townships, Andile focuses on education to explain the difference in attitude between her and her peers. As a female graduate in environmental science, she identified as an outlier compared to the majority of South Africans.

> I can't get myself to throw a plastic down [on the ground] or dirt [drop rubbish] like, I'll always either keep it in my bag or until I see a bin. I mean just last week, I was in a car with my friend and they threw out, I think a plastic [bag] or something, and I'm like 'why are you throwing that out?' 'But I'm not going to throw it in my car, it's going to make it dirty.' I'm like 'But you are making the earth dirty, don't litter' And they're like 'no man' [don't be silly]. So, I think people are not cautious or conscious about littering, it's almost like, for them it's just like, 'ok, job creation, yes.' (Cape Town, 9 January 2020)

The way Andile describes packaging changes from 'plastic' to 'dirt' to 'litter' which are terms associated with individualising responsibility (Maniates 2001). In contrast, Andile's peers see contaminated plastic as the responsibility of government to collect regardless of whether it is in a bin or on the ground. Hence, plastic bags drifting through the streets generates work for other people. 'Job'

is assumed to be employment, which ignores the dynamics of plastic recycling that relies on unpaid labour. 'Creation' emphasises the generative potential of litter which entrenches circular economy discourses that position waste as a resource (Hobson 2016). The idea that littering creates jobs, therefore, gives credence to the potential for waste entrepreneurship and its expansion via polices stipulating that zero waste targets must involve labour intensive solutions. Concurrently, the quality of employment is not considered, which enables exploitative arrangements to persist. Namely, that people seeking to generate an income from waste are expected to accept the terms of trade without question (Millington and Lawhon 2018).

'It's not a job opportunity'

Looking back on the recycling scheme and its impact, Rev. Rachel said that her opinion had changed, and concluded that 'It's [plastic waste] not a job opportunity. People must stop promoting it as such.'

> We started this project…thinking, 'ok, it's not job creation.' I really thought this [the Eluvukweni scheme] could be replicated as an income generation for churches. But it's not even an income generation for churches. I mean, yeah, I'm sponsoring it from the Green Anglicans to double the amounts at least, but R290? And if you didn't have the container, where are you going to store that amount of stuff. You can't put it in your church hall. The church hall would be disgusting. So, I actually don't think it's viable. Unless one were to do just the cans. Aluminium cans. Because they don't take up so much space and they are worth something. But then the recycling companies want bulk. So where do you store it? (Cape Town, 12 February 2021)

In contrast to the benefits espoused as part of the circular economy concept, Rev. Rachel points to the impossibility of unlocking income and environmental 'wins' from plastic waste. Similar to informal waste workers without access to a shipping container for storage, churches do not have the infrastructure to meet industry demands, dictated and tacitly understood as inevitable by formal entities such as recycling companies. What government officials have previously described as 'cherry picking' (Theron and Perez 2012) is explained here as an inevitable consequence of plastic packaging's insufficient monetary value, unlike aluminium cans. Rev. Rachel's experience of a previous recycling scheme in Khayelitsha, a nearby township, meant she knew recycling was not job creation, but this did not overturn her expectation that the Eluvukweni scheme would be economically worthwhile. This illustrates the discursive power of recycling to position economic benefits of plastic waste as worth pursuing, even in light of experiences that suggest otherwise.

The discursive power of recycling

The discursive power of recycling positions ideas and people in a way that entrenches existing inequality between formal and informal waste management provision in South Africa. In terms of shaping the implementation of waste policies, the most powerful group are plastic producers and the least powerful are informal reclaimers. This situation has been able to persist because the costs and benefits of recycling tend to be tacitly understood and reproduced by people across the value chain. The power of discourses is not only to position some ideas as dominant but also to render some issues as unimportant or invisible. The silence around the constraints to starting a business in township settings fuels the idea that the economic value of plastic waste is widely accessible. Crime is not considered in explanations of realising a circular plastics economy, even though the fear of crime is a key constraint to the effective functioning and improvement of waste management infrastructure.

Although it is possible for anyone to pick up a plastic bottle and sell it, the costs involved in extracting monetary value are too high to make it worthwhile. Communicating the value of plastic in abstract terms—such as price per kilo and tonnage bought by recycling companies—prevents lay audiences from having a clear sense of how little plastic is worth. This enables the logic of free-market principles to guide waste management, to the extent that plastic in the environment can be portrayed as an opportunity, on the assumption that waste is a resource, not pollution. Consequently, private, rather than state, institutions can position themselves as well-placed to stimulate the market and create demand for recycled PET. The language of entrepreneurship normalises a system where the collecting of recycled PET is voluntarily work; collection schemes must absorb the impact of fluctuations in the value of plastic according to global oil prices and of indefinite periods where recycling companies stop buying some types of plastic waste altogether. As a result, plastic waste generates a need for labour which is conflated with job creation despite not constituting 'decent' work in terms of international labour standards (International Labour Organization, 2021).

Redressing unequal power relations

The global COVID-19 pandemic has exacerbated the precariousness of the recycling sector and the thousands of people who rely on selling waste to buy-back centres for their income. The intention of this paper is not to deny the economic potential of plastic recycling, but rather point out the dangers of painting an unrealistic 'win-win' image of how people and the environment benefit from waste. The implication for environmental lobbyists seeking to bolster their influence over policy is that the language of circular plastic needs to be used judiciously to avoid entrenching the power of the plastic industry to set the agenda. The tide has turned in terms of legal mechanisms, such as the amendments to the 2008 Waste Act which extend responsibility for plastic waste to producers, though how the industry will become legally compliant in practice remains unclear. Hence, this could be an opportune moment to redress unequal power relations between plastic producers and waste collectors.

If the assertion that recycling unlocks job opportunities is to have any credence, plastic waste needs to be

subsidised to guarantee collectors a minimum income. Based on the Eluvukweni scheme, a kilo of PET (45 bottles) would need to be worth approximately R100 (GBP5) a kilo in order to pay volunteers a wage from the sale of plastic waste that is 'decent' (International Labour Organization, 2021). This seems plausible in light of a new pilot scheme launched by Coca-Cola Beverages South Africa that gives customers a R7 (35p) discount on their next purchase if they return a two-litre PET plastic bottle. These returnable bottles can be re-used 14 times before being recycled and made into new bottles (Caboz 2020). In contrast to this returnable deposit scheme, the body representing PET plastic producers is against a nationwide compulsory container deposit scheme (CDS). 'A successful CDS requires an extensive network of buy-back centres or return vending machine infrastructure' leading to the 'the crippling of small businesses and co-operatives' (PETCO unpublished). However, in the context of Cape Town's community-based recycling sector, more buy-back centres are exactly what is needed to help extract value from plastic waste that the industry insists exists.

Notes

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[2] The container was a 'one tripper' which meant it was in good condition and therefore more expensive than others available, which has a bearing on the calculations made regarding the time it would take to pay off the shipping container from the sale of plastic waste. Cheaper containers would have been more cost effective in the short term but more likely to attract repair costs in the long-term. The total cost, including delivery and a secure lock, was ZAR4,4205.50 (GBP2,210.27).

[3] All currency conversions apply an exchange rate of GBP0.05 as published by Oanda.com on 27 April 2021.

[4] Mandela Day is an annual call to action to undertake voluntary work or perform some type of community service on Nelson Mandela's birthday (18 July).

Competing Interests

The author has no competing interests to declare.

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