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“Everything continued as normal”: What happened to Africa’s wave of Covid-19 waste?



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2020 has been indelibly marked by the still on-going global Covid-19 pandemic, which has impacted the lives and livelihoods of billions in nearly every corner of the planet. Given the magnitude of the crisis and the highly infectious nature of the disease, the sustainable and hygienic management of potentially hazardous waste remains a priority for halting its potential spread— a connection that was made both early and forcefully from many within the interdisciplinary waste management studies field (cf. (Ilyas et al., 2020; Nowakowski et al., 2020; Tilley and Kalina, 2020; WHO, 2020)). Moreover, others, including ourselves, expressed concern over a potential avalanche of Covid waste: and not exclusively medical waste, but takeaway containers, plastic bags, empty bottles of sanitizer, and millions of discarded face masks, all generated by a society coping with a new reality of state-mandated consumption and behaviour restrictions (cf. (Kalina and Tilley, 2020; Tilley and Kalina, 2020)). In an April 2020 discussion in *Waste Management*, we evoked an image circulating widely on Facebook early in the pandemic of discarded facemasks littering a beach near Hong Kong to highlight the essential role that solid waste management must play in a humanitarian response towards disasters (Kalina and Tilley, 2020). Moreover, we also raised alarm over the ability of these emerging waste streams to overwhelm fragile, and potentially overstretched municipal waste management systems, particularly in the Global South (especially Africa) where the waste management sector is under immense pressure even

in periods of normalcy, and service and capacity has been structured by grave systemic inequalities: between rich and poor, between the Global North and the Global South (cf. (Tilley and Kalina, 2020)).

But, did these predictions come true? To what extent did this wave of prophesied Covid waste materialise, and how did we, as a society cope? Although we are still very much in the grips of the pandemic and many detailed and thoughtful assessments of waste management are undoubtedly yet to be written, initial research has suggested that the problems related to Covid waste have been both diverse and potentially catastrophic to public health, the environment, and the circular economy. Early investigations have highlighted the pandemics negative impacts on source separation and recycling schemes (cf. (Fan et al., 2021; Ikiz et al., 2021; Lavagnolo, 2020; Love and Rieland, 2020; Pyzyk, 2020; Rosengren and Crunden, 2020)), disruptions to collection and municipal waste management services (cf. (Ikiz et al., 2021; Nemo, 2020; Ragazzi et al., 2020; Rosengren and Crunden, 2020; You et al., 2020)), the inability for specialised disposal services to keep up the influx of contaminated wastes (cf. (Kulkarni and Anantharama, 2020; Lee, 2020; Nemo, 2020; Urban and Nakada, 2021)), increases in waste volumes and changes in household and commercial waste characteristics, including the use and disposal of single-use plastic products (cf. (Adyel, 2020; Doheny, 2020; Forrest, 2020; Klemeš et al., 2020; Schuman, 2020; Sharma et al., 2020; Vanapalli et al., 2021)), as well as the growing environmental impact of discarded personal protective equipment (PPE), including the ubiquitous disposable facemask (cf. (Nowakowski et al.,

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2020; Ragazzi et al., 2020; Urban and Nakada, 2021). Nonetheless, despite this early evidence of Covid-19's huge waste impact, the stories of overburdened municipal services, mountains of plastic waste, and of sidewalks strewn with discarded masks, seem largely confined to the Global North. Africa, despite the fragility of its waste management systems, appears to have avoided this fate. Quite simply, the prophesised wave of African Covid waste has failed to materialise, and although the continent may not be entirely out of danger yet, it appears that the worst is likely behind us, and the continent can look back and reflect, pleased with what it has learned and accomplished over the past year.

How did African nations manage to avoid the Covid-19 waste burden which now litters Northern spaces, and why were waste scholars (including the authors of this discussion, cf. (Kalina and Tilley, 2020; Tilley and Kalina, 2020)) so off in our early predictions for the continent? The most obvious explanation is that African nations, for the most part, have been able to avoid the high levels of Covid-19 infections seen throughout many other parts of the globe. Early forecasts for the continent were dire. Projections released by the WHO in April 2020 suggested that Covid cases across the continent had the potential to surge from thousands to 10 million within three to six months. Moreover, a worst-case scenario modelled by the UN Economic Commission for Africa (2020), which took into account minimal interventions against disease, predicted that Africa could see up to 3.3 million deaths and 1.2 billion infections within the year. Modelling of a best case scenario by the same organisation predicted 300,000 deaths within the same period (UNECA, 2020). At a national level, in Malawi, modelled results released on 31 March 2020, prior to any cases of Covid-19 being reported in the country, estimated that over 85% of the population (16 million people) could be infected, with more than 400,000 needing hospitalisation (Kuunika, 2020). While in South Africa, projections released in May, estimated that the country may reach a peak of 1.2 million cases, and over 40,000 cumulative deaths (Sikal et al., 2020). In practice, however, infections, for reasons that will undoubtedly be the source of intense investigation for years to come, have fallen far short these projections, and even South Africa, which, by far, suffered the most severe outbreak on the continent, has, as of mid-November 2020, outperformed early optimistic projections for both cases and deaths (CDC, 2020; Sikal et al., 2020).

It seems logical, that because there have been far fewer Covid-19 infections than predicted, there would be far less Covid waste, produced as a result. Yet, we do not think that is the entire explanation. Although Africa nations managed to avoid the worst of the disease impacts, they did so through great and concerted effort: through national lockdowns, mask mandates, and travel restrictions which, though preventing the worst predicted outcomes for the disease, nevertheless caused significant disruption to the lives livelihoods of millions. In the North, as we described, these measures led to the creation of massive amounts of additional waste through behavioural change, discarded PPE and disruptions to municipal waste management services, but in Africa, where is all that waste?

This is a big question, which undoubtedly has many, nuanced answers, which will be unpacked over the next few years. However, from our perspective, we would argue that African individuals, and poor individuals in particular, live much more sustainable lives than people in the North. Although, living with the same restrictions as many in the North, most individuals in African nations did not meaningfully change their consumption or their waste behaviours, while, because Covid infection rates were kept at manageable levels, waste management services were never significantly disrupted. Quite simply, Africans produced very little waste adapting to Covid, and what was produced, was able to be disposed of through normal channels. This is a big claim, which will need to be unpacked by subsequent scholarly assessments,

however, we do have some empirical data to support our assertions. Frankly, over the past six months we have gone looking for Covid waste in African households, and found very little. We conducted over 100 interviews in both Blantyre, Malawi and Durban, South Africa in households across the socio-economic strata, asking individuals about Covid waste, medical waste, any waste related to lockdown, etc., and were met with mostly confusion. Asking about disposable masks, we found almost none, as the use of washable, cloth masks seems to be near universal amongst respondents- and indeed it makes sense, because although our city streets, in both Blantyre and Durban, often have observable litter, one finds very few discarded masks.

In addition to interviews, we also conducted household waste characterisation at several hundred low income households in Durban. This data supports what was gathered in the interviews: no medical waste, no masks- very little to suggest an ongoing pandemic. Moreover, and this will need further unpacking later, there is little evidence that individuals changed their consumption behaviour like we have seen in the North¹. Very little single-use plastic, no takeaway containers, etc. (at least not more than normal). Many of these items are expensive luxuries, out of reach for most within the communities we conducted interviews. Had we done characterisation in a wealthy neighbourhood we likely would have gathered different results, but within these national contexts, the wealthy neighbourhood should not be considered the representative experience. Finally, as residents across all strata of neighbourhood described, throughout the pandemic, waste collection services were never disrupted. Even during South Africa's most severe level five lockdown, when it was a crime to leave your home for non-essential purposes, as far as waste collection was concerned, "everything continued as normal".

Yet, this does not mean there are not takeaways: lessons that can and should be interrogated, despite Africa's apparent successes. For instance, in South Africa, although, as was noted, formal waste collection services went unaltered throughout all phases of lockdown, during the most strict phases of lockdown, informal waste pickers (IWPs) were not included on the list of workers able to operate, and were only able to return to work after several months and protracted legal challenges (Samson, 2020). We are currently quantifying the full cost of this exclusion to South African municipalities, who were left to collect, transport, and landfill enormous amounts of 'unpicked' recyclable waste, however, the additional costs were likely in the tens of millions of Rand (1 ZAR = ~15 USD), while placing additional strain on waste management systems at a time when efficient waste removal was needed, and jeopardising the sustainability of hundreds of thousands of livelihoods. This is just one example of the many lessons which deserve to be unpacked over the coming months and years, and although Africa managed Covid's waste, it needs to be prepared for the waste impact of the next pandemic. Finally, we want to observe, that habitually Africa, and the African household has been treated by a normatively Western waste management studies discourse as a space that needs outside expertise to build capacity: that can, and should be taught. However, in many ways, African nations have done a better job navigating the Covid-19 pandemic than their Northern counterparts, and, as our limited data has suggested, the African household has done a better job living sustainably despite the risk, disruptions, and inconveniences that the pandemic has posed. There is a lot to be written here, in a manner which deserves far more critical and theoretically grounded discussion, however, we suggest it is time we learnt from the African household: limiting consumption, using washable masks, and working with informal systems of waste management.

¹ We also have characterisation data from before the pandemic.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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