



UNIVERSITEIT VAN PRETORIA  
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**The efficacy of the legal framework regulating PPE pollution arising  
from COVID-19 in South Africa, and proposed reforms**

by

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Submitted in partial fulfilment of the requirements for the degree

**LLM Multidisciplinary Human Rights**

At the Centre for Human Rights

In the Faculty of Law

University of Pretoria

**September 2022**

Prepared under the supervision of

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## Declaration of originality

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## Dedication

*Aum Sri Ganeshaye Namaha*

I dedicate this work to my Almighty God.

Thank you for carrying me forward. It is by your Grace that I can pursue and achieve all my dreams. My praise and devotion are yours.

*Hare Krishna, Hare Krishna*

*Krishna Krishna, Hare Hare*

*Hare Rama, Hare Rama*

*Rama Rama, Hare Hare*

## Acknowledgement

I am deeply grateful to my darling husband Kylan Chetty, and to Forrest and River, who provided me with unwavering support, motivation, and uninterrupted time and space to focus on achieving my academic goals. You are a true inspiration, and I am truly grateful to have been on this academic journey with you by my side. Thank you for bringing much love into my life and making long days of research that much lighter and brighter, but most importantly thank you for showing me how to dream.

I am deeply grateful and indebted to my loving parents, Rajan Ranjith Kangaloo and Sharm Nandlal, and to my remarkable sister, Kavisha Kangaloo, for sacrificing so much, that I might achieve big for us all. You have been a driving force in my life, supportive and encouraging at every turn, and ever prayerful behind the scenes. Thank you for understanding and being ever so patient throughout this journey. I owe you everything.

A special thank you to Professor Melanie Murcott, for your invaluable supervision, guidance, and encouragement throughout this process. I am humbled and inspired by your knowledge and experience. It has been a true pleasure getting to know you and having you in my corner.

## List of abbreviations

3R	Reuse, recycling, and recovery of waste
4R	Reducing, reusing, recycling, and recovery of waste
ACHPR	African Charter on Human and Peoples Rights
CESCR	International Covenant on Economic, Social and Cultural Rights
DFFE	Department of Forestry, Fisheries and the Environment
EPR	Extended producer responsibility
EPR Notice	Scheme for Paper, Packaging and Some Single Use Products
NEMA	National Environmental Management Act
NEMWA	National Environmental Management: Waste Act
OECD	Organization for Economic Cooperation and Development
PPE	Personal protective equipment
PPP	Polluter pays principle
PRO	Producer responsibility organisation
SAHRC	South African Human Rights Commission
SAWIC	South African Waste Information Centre
SAWIS	South African Waste Information System
The Database	National Registry Database
The Regulations	Regulations regarding Extended Producer Responsibility
UNEP	United Nations Environmental Programme
WIEGO	Women in Informal Employment: Globalising and Organizing
WWF	World Wide Fund for Nature

## **Abstract**

This dissertation analyses the efficacy of the newly introduced Regulations and EPR Notice as a mechanism to address the unprecedented upsurge of single-use plastic PPE pollution arising from COVID-19. While single-use PPE is effective as one preventative measure against COVID-19, improper waste management from discarded PPE gives rise to a socio-ecological disparities. PPE leakages into the environment destroy habitats and threaten wildlife; breakdown into microplastics which adversely impact everyone, especially marginalised and impoverished communities; and place a strain on local governments and municipal waste management systems to properly collect and dispose of PPE waste. The Regulations and EPR Notice are the most specific mechanisms to hold single-use PPE producers responsible for environmental pollution caused at the end-of-life stage of their product. This dissertation recognises through a human rights-based approach, the interdependence between environmental rights and human rights. The dissertation critiques the Regulations and EPR Notice to determine both the advantages and limitations of the law in addressing PPE pollution. Furthermore, this dissertation engages an integrated multidisciplinary approach to the complex single-use PPE problem, by offering various measures that, if implemented, may support and enhance the efficacy of the Regulations and EPR Notice in relation to PPE pollution arising from COVID-19.

## **Key words**

Extended producer responsibility; personal protective equipment; pollution; COVID-19; single-use; plastic; socio-ecological; environmental right; waste; South Africa

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# The efficacy of the legal framework regulating PPE pollution arising from COVID-19 in South Africa, and proposed reforms

## 1 Chapter 1: Introduction

### 1.1 Background

This dissertation analyses the efficacy of the legal framework regulating personal protective equipment (PPE) pollution arising from COVID-19 in South Africa, and proposed reforms. It does so with a focus on the Regulations regarding Extended Producer Responsibility (the Regulations),<sup>1</sup> and the Scheme for Paper, Packaging and Some Single Use Products (EPR Notice).<sup>2</sup> This dissertation is motivated by a concern for proper PPE waste management, which entails dealing with waste in a manner that effectively minimises and reduces waste, and/or promotes recycling when possible. Single-use plastic<sup>3</sup> products have been an urgent concern for decades, contributing to the global environmental plastic problem.<sup>4</sup> Prior to the COVID-19 pandemic, single-use plastics accounted for forty percent of all plastic produced annually, with plastic waste estimated to outweigh fish in the world's oceans by 2050.<sup>5</sup> The demand in

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<sup>1</sup> The Regulations regarding Extended Producer Responsibility in Government Notice 1184 in Government Gazette 43879 dated 5 November 2020, as amended by Amendments to the Regulations and Notices regarding Extended Producer Responsibility, 2020 in Government Notice 400 in Government Gazette 44539 dated 5 May 2021.

<sup>2</sup> Extended Producer Responsibility Scheme for Paper, Packaging and Some Single Use Products in Government Notice 1187 in Government Gazette 43882 dated 5 November 2020, as amended by Amendments to the Regulations and Notices regarding Extended Producer Responsibility, 2020 in Government Notice 400 in Government Gazette 44539 dated 5 May 2021.

<sup>3</sup> The term 'single-use plastic' in this dissertation will have the same meaning as the term defined in sec 1 of the EPR Notice published in terms of sec 18 of the National Environmental Management Waste Act, 2008 (NEMWA) in Government Notice 1187 in Government Gazette 43882 dated 5 November 2020 which states that single-use plastics are disposable plastics, which include items intended to be used once before they are thrown away or recycled. Therefore, single-use plastic includes PPE such as surgical masks, which are disposed of after one use to minimise the transmission of COVID-19.

<sup>4</sup> R Karasik et al '20 Years of government responses to the global plastic pollution problem: The plastics policy inventory' (2020) *Nicholas Institute for Environmental Policy Solutions* at 14; United Nations Environmental Programme (UNEP) 'Addressing single-use plastic products pollution: Using a life cycle approach' 30 June 2021 <https://www.unep.org/resources/publication/addressing-single-use-plastic-products-pollution-using-life-cycle-approach> (accessed 19 May 2022).

<sup>5</sup> General Assembly of the United Nations 'Op-ed: We must save our world from drowning in plastic' 5 June 2019 [https://www.un.org/pga/73/2019/06/05/op-ed-we-must-save-our-world-from-drowning-in-plastic/#:~:text=Nations%20General%20Assembly-,If%20we%20do%20nothing%2C%20by%202050%2C%20our%20world's%20oceans%20will,than%20fish%20\(by%20weight\).&text=It%20is%20for%20this%20reason,Headquarters.](https://www.un.org/pga/73/2019/06/05/op-ed-we-must-save-our-world-from-drowning-in-plastic/#:~:text=Nations%20General%20Assembly-,If%20we%20do%20nothing%2C%20by%202050%2C%20our%20world's%20oceans%20will,than%20fish%20(by%20weight).&text=It%20is%20for%20this%20reason,Headquarters.) (accessed 15 March 2021).

single-use plastic production increased significantly with the onset of the pandemic.<sup>6</sup> Emerging evidence found that the use of single-use plastic PPE positively limited the transmission of COVID-19,<sup>7</sup> saving countless lives and protecting human health during the pandemic.<sup>8</sup>

Accordingly, policies were instituted in South Africa making the use of face masks for all persons while in public mandatory,<sup>9</sup> and criminalising the non-compliance of mask wearing.<sup>10</sup> While some policy recommended reusable fabric masks, the pandemic saw an upsurge in discarded single-use plastic masks into the environment.<sup>11</sup> In 2022, regulations mandating mask use were repealed,<sup>12</sup> resulting in many people possibly discarding their unused PPE, with other groups of people using PPE voluntarily.<sup>13</sup>

A socio-ecological disparity exists, because while single-use PPE is effective as one preventative measure against COVID-19, discarded PPE waste<sup>14</sup> in an uncontrolled, wasteful manner ends up in the environment; and without proper management

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<sup>6</sup> Daily Maverick 'SA's R2bn unlicensed emergency PPE bombshell' 2 October 2020 <https://www.dailymaverick.co.za/article/2020-10-02-sas-r2bn-unlicensed-emergency-ppe-bombshell/> (accessed 23 February 2022).

<sup>7</sup> R Goel & S Haruna 'Unmasking the demand for masks: Analytics of mandating coronavirus masks' (2021) 72 *Metroeconomica* at 580; L Nghiem et al 'The shadow pandemic of single use personal protective equipment plastic waste: A blue print for suppression and eradication' (2021) 4 *Case Studies in Chemical and Environmental Engineering* at 100125.

<sup>8</sup> Organisation for Economic Cooperation and Development (OECD) 'Global plastics outlook: Economic drivers, environmental impacts and policy options' <https://www.oecd-ilibrary.org/sites/9e4fd47f-en/index.html?itemId=/content/component/9e4fd47f-en#abstract-d1e6467> (accessed 1 April 2022).

<sup>9</sup> Sec 30 of the COVID-19 Direction on Health and Safety in the Workplace issued by the Minister in terms of Regulation 10(8) of the National Disaster Regulations in Government Notice 479 in Government Gazette 43257 dated 29 April 2020; Sec 67(2) of the Disaster Management Act, 2002: Amendment of Regulations issued in terms of section 27(2) in Government Notice R960 in Government Gazette 45253 dated 30 September 2021.

<sup>10</sup> Sec 4 of the Disaster Management Act, 2002: Amendment of Regulations issued in terms of section 27(2) in Government Notice 763 in Government Gazette 43521 of 12 July 2020.

<sup>11</sup> World Economic Forum (WEF) 'How face masks, gloves and other coronavirus waste is polluting our ocean' 11 June 2020 <https://www.weforum.org/agenda/2020/06/ppe-masks-gloves-coronavirus-ocean-pollution/> (accessed 19 July 2021).

<sup>12</sup> Reg 16A of the Regulations Relating to the Surveillance and the Control of Notifiable Medical Conditions, concerning mask wearing, was repealed by the Minister of Health in Government Notice R2190 in Government Gazette 46590 dated 22 June 2022.

<sup>13</sup> Daily Maverick 'Government ditches Covid rules on masks, gatherings and travel' 23 June 2022 <https://www.dailymaverick.co.za/article/2022-06-23-government-ditches-covid-rules-on-masks-gatherings-and-travel/> (accessed 23 June 2022).

<sup>14</sup> The term 'waste' in this dissertation will have the same meaning as the term defined in sec 1 of NEMWA which states that any substance that is discarded or intended to be discarded, by any person, irrespective of whether or not the substance is able to be recycled or reused, constitutes waste. Therefore, waste includes discarded used or unused single-use PPE.

becomes PPE pollution.<sup>15</sup> Birds and sea life become tangled in the elastic bands attached to single-use masks littered across open urban areas and the natural environment.<sup>16</sup> In addition, PPE is not biodegradable,<sup>17</sup> taking hundreds of years to breakdown into microplastics, visibly impacting the environment by destroying habitats and threatening wildlife.<sup>18</sup> In the typical pattern of environmental injustice, microplastics absorption into the natural environment has disproportionate health implications for marginalised and impoverished communities living in proximity to plastic landfills and polluted rivers.<sup>19</sup> In addition, ingesting seafood from bodies of water polluted with microplastics, is adverse to human health.<sup>20</sup>

In 2020, thousands of unused PPE was dumped in the Hennops river in Gauteng.<sup>21</sup> At the time, there was a shortage of PPE availability for health workers due to the rapid public demand.<sup>22</sup> The PPE pollution in the river raised concerns of both water contamination and tender irregularity concerning PPE procurement.<sup>23</sup> During the same year, the Department of Health expended millions of Rands on imported single-use PPE from unlicensed suppliers.<sup>24</sup> Single-use PPE that did not meet the South African

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<sup>15</sup> The term 'pollution' in this dissertation will have the same meaning as the term defined in sec 1 of the National Environmental Management Act, 1998 (NEMA) which states that changes in the environment, caused by among other things, substances from any activity which adversely effects human health, well-being, or ecosystems; or will have such an effect in the future; constitute pollution. Therefore, pollution includes single-use PPE which is disposed of into the environment.

<sup>16</sup> University of Cape Town 'Help reduce the impact of disposable face masks on the environment' 13 May 2021 <https://www.news.uct.ac.za/article/-2021-05-13-help-reduce-the-impact-of-disposable-face-masks-on-the-environment> (accessed 15 November 2021).

<sup>17</sup> C Giacobelli 'Single-use plastics: A roadmap for sustainability' (2018) *United Nations Environment Programme* at 6.

<sup>18</sup> National Geographic 'The world's plastic pollution crisis explained' 7 June 2019 <https://www.nationalgeographic.com/environment/article/plastic-pollution?loggedin=true> (accessed 24 May 2022).

<sup>19</sup> M Murcott 'The role of environmental justice in socio-economic rights litigation' (2015) 132 *South African Law Journal* at 875; National Geographic (n 18); Nghiem (n 7) 2; SM Nxumalo et al 'Plastic waste management practices in the rural areas of Eswatini' (2020) 2(1) *Social Sciences & Humanities Open* at 100066; Roadrunner Smarter Recycling 'The decomposition clock' 15 May 2020 <https://www.roadrunnerwm.com/blog/decomposition-clock> (accessed 1 February 2022); F Saliu et al 'The release process of microfibers: From surgical face masks into the marine environment' (2021) 4 *Environmental Advances* at 100042.

<sup>20</sup> Daily Maverick 'Plastic waste draft treaty is here and South Africa should embrace it' 6 March 2022 <https://www.dailymaverick.co.za/article/2022-03-06-plastic-waste-draft-treaty-is-here-and-south-africa-should-embrace-it/> (accessed 8 April 2022).

<sup>21</sup> Times Live 'PPE found floating in river in Centurion' 3 August 2020 <https://www.timeslive.co.za/news/south-africa/2020-08-03-watch-ppe-found-floating-in-river-in-centurion/> (accessed 20 March 2020).

<sup>22</sup> K Olatayo et al 'COVID-19 PPE plastic material flows and waste management: Quantification and implications for South Africa' (2021) 790 *Science of the Total Environment* at 148190.

<sup>23</sup> Times Live (n 21).

<sup>24</sup> Daily Maverick (n 6).

Health Products Regulatory Authority quality standards were alleged to have been dumped in landfills and water sources.<sup>25</sup> In retrospect, unnecessary PPE pollution could have been avoided by investing state funds in locally produced PPE or investing in recycling within the single-use PPE waste stream, creating sustainable job opportunities and boosting economic growth.<sup>26</sup>

PPE pollution from COVID-19 has placed a financial burden on local governments and municipal waste management systems to properly collect and dispose of PPE waste.<sup>27</sup> Informal waste pickers mitigate the strain on municipalities by recycling single-use plastic waste from dump sites and landfills.<sup>28</sup> Waste pickers are not part of municipal services, but they are key societal role-players in the movement towards waste management and sustainability,<sup>29</sup> saving municipalities around R750 million in landfill costs annually.<sup>30</sup>

Single-use PPE waste collected by waste management services is typically disposed of through incineration, releasing greenhouse gas (GHG) emissions into the air which

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<sup>25</sup> South African Government News Agency 'SABS warns against uncertified PPEs' 9 June 2020 <https://www.sanews.gov.za/south-africa/sabs-warns-against-uncertified-ppes> (accessed 12 February 2021); South African Health Products Regulatory Authority 'MD025: Licensing and Regulatory requirements for the manufacture and distribution of medical and respirator masks during Covid-19' 8 September 2020 [https://www.sahpra.org.za/wp-content/uploads/2020/09/MD025\\_Alternative-licensing-and-regulatory-pathway-for-masks\\_September2020\\_vF.pdf](https://www.sahpra.org.za/wp-content/uploads/2020/09/MD025_Alternative-licensing-and-regulatory-pathway-for-masks_September2020_vF.pdf) (accessed 12 February 2021).

<sup>26</sup> Daily Maverick 'Masked Heroes' Covid-19 initiative proves clean PPE procurement & distribution is possible in South Africa' 7 September 2020 <https://www.dailymaverick.co.za/article/2020-09-07-masked-heroes-covid-19-initiative-proves-clean-ppe-procurement-distribution-is-possible-in-south-africa/> (accessed 16 February 2022).

<sup>27</sup> LJ Kotzé 'Improving unsustainable environmental governance in South Africa: The case for holistic governance' (2006) 9 *Potchefstroom Electronic Law Journal* at 11; Secs 2 & 16 of NEMWA; Secs 2 - 4 of the Directions regarding measures to address, prevent and combat the spread of COVID-19 in relation to recycling of waste in Government Notice 539 in Government Gazette 43325 dated 14 May 2020.

<sup>28</sup> Department of Forestry, Fisheries & the Environment (DFFE) and Department of Science and Innovation (DST) 'Waste picker integration guideline for South Africa: Building the recycling economy and improving livelihoods through integration of the informal sector' August 2020 <https://wasteroadmap.co.za/wp-content/uploads/2021/02/Waste-Picker-Integration-Guidelines.pdf> (accessed 30 April 2022); N Ngcobo 'Waste pickers and the informal economy: A South African constitutional law perspective' (2022) 36 *Speculum Juris* at 18.

<sup>29</sup> Women in Informal Employment: Globalising and Organizing (WIEGO) 'Waste pickers' <https://www.wiego.org/informal-economy/occupational-groups/waste-pickers> (accessed 18 March 2021).

<sup>30</sup> L Godfrey et al 'Integrating the informal sector into the South African waste and recycling economy in the context of extended producer responsibility' (2016) *Council for Scientific and Industrial Research (CSIR) Briefing Note* at 2; Ground Up 'Covid-19: Court decision is a heavy blow to waste-pickers' hopes' by Jamaïne Krige 15 April 2020 <https://www.groundup.org.za/article/COVID-19-court-decision-heavy-blow-waste-pickers-hopes/> (accessed 16 March 2021); Ngcobo (n 28) 18.

contributes to climate change.<sup>31</sup> The *South African Human Rights Commission v Msunduzi Municipality & Others (SAHRC)* case,<sup>32</sup> found that the burning of plastic waste, among other materials, at a landfill in Kwa-Zulu Natal had socio-economic, public health and safety impacts on the surrounding community.<sup>33</sup> Poorly managed single-use PPE pollution causes harm to the environment and human health,<sup>34</sup> affecting the livelihood and well-being of impoverished communities disproportionately.<sup>35</sup>

The socio-ecological impact of PPE pollution reveals that human rights and environmental rights are interdependent,<sup>36</sup> and gives rise to a legal problem worthy of study in a multidisciplinary manner. Essentially, environmental rights are intertwined with human rights.<sup>37</sup> Every person is dependent on a safe, healthy and sustainable environment for the enjoyment of basic human rights, however single-use PPE pollution negatively impact the environment and threaten present and future generations.<sup>38</sup> One potential key regulatory measure to address the single-use plastic PPE pollution problem is through the Regulations and the EPR Notice which will be unpacked in chapter two.

## 1.2 Purpose statement

The object of the study is to identify whether the Regulations and the EPR Notice address the upsurge of single-use plastic PPE pollution arising from COVID-19. This dissertation analyses how the law, as one possible governance measure, seeks to

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<sup>31</sup> Greenpeace 'Everything you should know about single-use plastic' 22 July 2021 <https://www.greenpeace.org/africa/en/blogs/14052/everything-you-should-know-about-single-use-plastic/> (accessed 4 December 2021).

<sup>32</sup> South African Human Rights Commission (SAHRC) v Msunduzi Local Municipality and Others 2021 (6) SA 500 (KZP).

<sup>33</sup> SAHRC (n 32) para 62.

<sup>34</sup> SAHRC (n 32) para 87.

<sup>35</sup> J Calil et al 'Neglected: Environmental justice impacts of marine litter and plastic pollution' (2021) *United Nations Environment Programme* at 7; SAHRC (n 32) para 92; United Nations News 'Plastic pollution disproportionately hitting marginalized groups, UN environment report finds' 30 March 2021 <https://news.un.org/en/story/2021/03/1088712> (accessed 1 May 2022).

<sup>36</sup> UNEP 'What are environmental rights?' <https://www.unenvironment.org/explore-topics/environmental-rights-and-governance/what-we-do/advancing-environmental-rights/what> (accessed 20 December 2020); SAHRC (n 32) para 97.

<sup>37</sup> S Joseph 'COVID 19 and Human Rights: Past, Present and Future' (2020) *Journal of International Humanitarian Legal Studies*, *Forthcoming* at 1.

<sup>38</sup> DK Anton & DL Shelton, *Environmental protection and human rights* (2011) 1; United Nations News (n 35).

prevent producers<sup>39</sup> from manufacturing significant amounts of single-use PPE, whether the law imposes liabilities or penalties, and to what extent the law does so. Furthermore, this dissertation engages an integrated approach to the single-use PPE problem, to the extent that there may be limitations in the law.

### 1.3 Problem statement

Single-use plastic pollution might be viewed as a low priority by most state actors and non-state actors when compared with other issues in South Africa, such as unemployment, crime and climate change.<sup>40</sup> However, the use of single-use PPE has surged since the inception of the pandemic,<sup>41</sup> despite overwhelming quantitative studies confirming the adverse effects of PPE pollution on the environment and human health.<sup>42</sup> South Africa's municipal waste system is not designed to handle the surge in PPE pollution, with an estimated 80 000 tonnes of plastic leaking into rivers and oceans.<sup>43</sup> In addition, reducing plastic waste and recycling initiatives through public participation is insufficient at a recycling rate of 14 percent with 2.3 million tonnes of plastic produced annually.<sup>44</sup>

The Minister of the Department of Forestry, Fisheries and Environment (DFFE) indicated that a ban on single-use plastic in South Africa is unlikely, instead favouring the Regulations to regulate plastic use.<sup>45</sup> Indeed, a single-use plastic ban is not the

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<sup>39</sup> The term 'producer' in this dissertation will have the same meaning as the term defined in sec 1 of the Regulations which states that any person, including a brand owner, who manufactures or imports new or used single-use plastic products, among other materials, qualifies as a producer.

<sup>40</sup> P Alston 'Climate change and poverty: Report of the Special Rapporteur on extreme poverty and human rights' (2019) *United Nations Human Rights Council A/HRC/41/39* para 16; L de Kock et al 'A circular economy response to plastic pollution: Current policy landscape and consumer perception' (2020) 116 *South African Journal of Science* at 2.

<sup>41</sup> OECD 'Global supply chains at work: A tale of three products to fight COVID-19' 4 April 2022 [https://read.oecd-ilibrary.org/view/?ref=1133\\_1133959-6bev6fgl96&title=Global-supply-chains-at-work-A-tale-of-three-products-to-fight-COVID-19](https://read.oecd-ilibrary.org/view/?ref=1133_1133959-6bev6fgl96&title=Global-supply-chains-at-work-A-tale-of-three-products-to-fight-COVID-19) (accessed 3 June 2022).

<sup>42</sup> N Benson et al 'COVID-19 pandemic and emerging plastic-based personal protective equipment waste pollution and management in Africa' (2021) 9 *Journal of Environmental Chemical Engineering* at 105222; University of Cape Town (n 16).

<sup>43</sup> NEMWA & Directions regarding measures to address, prevent and combat the spread of COVID-19 in relation to recycling of waste (n 27).

<sup>44</sup> Smart Matta 'Making EPR easy to understand' 3 November 2021 <https://smartmatta.co.za/2021/11/03/making-epr-easy-to-understand/> (accessed 20 February 2022); Daily Maverick (n 20).

<sup>45</sup> Daily Maverick 'Ban on single-use plastic is not yet on the table in SA, says Creecy' 4 March 2022 <https://www.dailymaverick.co.za/article/2022-03-04-ban-on-single-use-plastic-is-not-yet-on-the-table-in-sa-says-creecy/> (accessed 25 April 2022).

only mechanism to possibly limit the production and consumption of single-use PPE. The Regulations and EPR Notice could provide another mechanism to address the upsurge of PPE pollution in South Africa by potentially utilising a circular economy to address the single-use PPE waste stream.<sup>46</sup> A circular economy has been explained as an economy that keeps products and services in circulation for as long as possible.<sup>47</sup> In the waste sector keeping products and services in circulation translates into the meaning given in the Regulations.<sup>48</sup>

A circular economy prioritises sustainable waste elimination through reducing, reusing, and recycling single-use plastic; among other materials; including designing products with recyclable potential.<sup>49</sup> Other advantages of a circular plastic economy include potential job creation and social change toward more environmentally sound PPE products.<sup>50</sup> A circular plastics economy consists of five stages. These stages are production, whereby materials are selected for manufacturing the product; usage, whereby the product is designed for consumer use; collection, whereby waste is collected and sorted into waste streams; treatment, whereby waste is either incinerated, landfilled, recycled, dumped, or leaked into the natural environment; and finally secondary markets, whereby plastic is recycled or repurposed.<sup>51</sup> This dissertation examines whether the Regulations and EPR Notice, being in their first year of implementation this year since taking effect on 5 May 2021,<sup>52</sup> are effective in reducing, reusing, and recycling PPE pollution from COVID-19.

## 1.4 Research questions

### 1.4.1 Primary research questions:

What is the content of the Regulations and EPR Notice?

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<sup>46</sup> Sec 1 of the Regulations which states that a circular economy is a regenerative system whereby waste is minimised by slowing or closing material loops, which are achieved through long lasting design, reuse, and recycling, ensuring that waste is managed more sustainably.

<sup>47</sup> De Kock (n 40) 1.

<sup>48</sup> Regulations (n 46).

<sup>49</sup> De Kock (n 40) 1.

<sup>50</sup> As above.

<sup>51</sup> Z Sadan & L De Kock 'Plastic pollution in Africa: Identifying policy gaps and opportunities' (2021) *World Wide Fund for Nature* at 7.

<sup>52</sup> PET Plastic Recycling South Africa (Petco) 'Section 18 – Everything you need to know' <https://petco.co.za/section-18-everything-you-need-to-know/> (accessed 26 May 2022).



How could the Regulations and EPR Notice be utilised as a mechanism to curtail single-use PPE pollution arising from COVID-19, and similar crises?

#### **1.4.2 Secondary research questions:**

What is the socio-ecological impact of single-use PPE arising from COVID-19?

Is the single-use PPE waste stream included in a circular plastics economy and to what extent?

Why is an integrated approach to addressing single-use PPE pollution necessary?

### **1.5 Research methodology**

This dissertation utilises a qualitative desktop review<sup>53</sup> to analyse the role of the Regulations and EPR Notice in addressing the upsurge of single-use PPE pollution caused by the COVID-19 pandemic. The research is conducted recognising the interdependence between environmental rights and human rights, which are indivisible from each other.<sup>54</sup>

The literature review takes a human rights-based approach focusing on the potential socio-ecological impact of the Regulations and the EPR Notice on single-use PPE pollution.

### **1.6 Structure of the dissertation**

This dissertation consists of four chapters. Chapter one has introduced this dissertation by providing a background to single-use plastic pollution, identifying the purpose of the research, problem statement, research questions and methodology utilised in conducting the research. Chapter two explores how the Regulations fit into the broader scheme of environmental governance and analyses the Regulations and EPR Notice. Furthermore, this chapter examines the relevance of the Regulations in regulating single-use PPE pollution from COVID-19. Chapter three involves a critique of the Regulations and EPR Notice and considers the limitations of the law in

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<sup>53</sup> LM Given *The Sage encyclopedia of qualitative research methods* (2008) 15.

<sup>54</sup> M Murcott 'Introducing transformative environmental constitutionalism in South Africa' (2017) *New Frontiers in Environmental Constitutionalism* at 282; Alston (n 40) paras 23, 25 & 26.

responding to complex environmental problems. Finally, chapter four contains the conclusion and provides possible recommendations for more effective management of PPE. The chapter proposes an integrated, multidisciplinary approach to the single-use PPE problem, to the extent that there may be limitations in the law.<sup>55</sup>

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<sup>55</sup> K Maree et al *First steps in research 2* (2016) 377.

## 2 Chapter 2: Legal and policy framework regulating pollution in South Africa

### 2.1 Introduction

The chapter analyses the legal framework regulating single-use plastic pollution, providing an overview of the hierarchy of environmental governance giving rise to the Regulations. It begins with the Constitution of the Republic of South Africa, 1996,<sup>56</sup> by providing a brief foundation for the notion that pollution prevention and sustainable waste management are inherent to a healthy environment, human health, and well-being.<sup>57</sup> Thereafter, the chapter establishes the role of the National Environmental Management Act 107 of 1998 (NEMA) and the National Environmental Management Waste Act 59 of 2008 (NEMWA) in regulating pollution and waste. Finally, the chapter analyses the EPR measures contained in the Regulations to determine their potential efficacy, or lack thereof, in tackling the upsurge of single-use plastic pollution prompted by COVID-19 and concludes.

### 2.2 The Constitution and concomitant international agreements

The Constitution contains a justiciable environmental right which entitles everyone to an environment that is not harmful to their health or well-being,<sup>58</sup> and provides everyone with the right to have the environment protected for the benefit of present and future generations.<sup>59</sup> These provisions place an obligation on the state, private persons and corporations,<sup>60</sup> to take reasonable measures to ensure that the fundamental right to environment is realised.<sup>61</sup> The measures required include, but are not limited to, addressing pollution control and environmental damage,<sup>62</sup> and securing ecologically sustainable development while promoting justifiable socio-economic

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<sup>56</sup> Constitution of the Republic of South Africa, 1996.

<sup>57</sup> HA Strydom et al *Environmental management in South Africa* (2018) 654.

<sup>58</sup> Sec 24(a) of the Constitution.

<sup>59</sup> Sec 24(b) of the Constitution.

<sup>60</sup> Sec 8(2) of the Constitution; D Bhana 'The horizontal application of the Bill of Rights: A reconciliation of sections 8 and 39 of the Constitution' (2013) 29 *South African Journal on Human Rights* at 371 & 373.

<sup>61</sup> Polity 'Environmental Right in Terms of the Constitution' 14 February 2018 <https://www.polity.org.za/article/environmental-right-in-terms-of-the-constitution-2018-02-14> (accessed 28 March 2021); DFFE Annual Performance Plan 2021/22.

<sup>62</sup> Sec 24(b)(i) of the Constitution.

development.<sup>63</sup> The Constitution further obligates the state, private persons and corporations to respect, protect, promote and fulfil the socio-ecological rights of everyone and endeavour to meet the basic needs of disadvantaged communities.<sup>64</sup>

The Constitution provides that an international agreement or treaty becomes binding in South Africa when ratified by parliament, and must be enacted into national legislation to become municipal law.<sup>65</sup> Relevant, international law provides normative obligations, and urges all state parties, including South Africa, to take measures to improve aspects of environmental hygiene, ensuring safe and healthy conditions for everyone;<sup>66</sup> provides that everyone has the right to enjoy the best attainable state of physical and mental health including an environment favourable to their development;<sup>67</sup> and ensures that persons involved in waste management take the necessary steps to prevent pollution and, if such pollution occurs, to minimize the consequences thereof for human health and the environment.<sup>68</sup>

## 2.3 NEMA

NEMA gives effect to section 24 of the Constitution,<sup>69</sup> and provides for a general framework for environmental protection in South Africa.<sup>70</sup> NEMA provides for a range of mechanisms that are intended to regulate polluters, such as a general duty of care toward the environment,<sup>71</sup> and the ‘polluter pays’ principle (PPP).<sup>72</sup> The duty of care in NEMA provides that anyone who causes environmental degradation, must ensure that such degradation is prevented, minimised, or rectified, including by incurring the

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<sup>63</sup> Sec 24(b)(iii) of the Constitution.

<sup>64</sup> Secs 7(2), 9(2) & 24(b)(iii) of the Constitution, read together.

<sup>65</sup> Sec 231 of the Constitution; W Scholtz ‘A few thoughts on section 231 of the South African Constitution, Act 108 of 1996: Notes and comments’ (2004) 29 *South African Yearbook of International Law* at 215.

<sup>66</sup> Arts 7(b), 10(3) & 12 of the International Covenant on Economic, Social and Cultural Rights (CESCR); United Nations General Assembly Seventy-sixth session resolution ‘The human right to a clean, healthy and sustainable environment’, A/RES/76/300, 1 August 2022 <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/442/77/PDF/N2244277.pdf?OpenElement> (accessed 19 January 2023).

<sup>67</sup> Arts 16 & 24 of the African Charter on Human and Peoples Rights (ACHPR); United Nations General Assembly Seventy-sixth session resolution (n 66).

<sup>68</sup> Art 4(2)(c) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention); SAHRC (n 32) para 72.

<sup>69</sup> Preamble of NEMA.

<sup>70</sup> Sec 2(1)(b) of NEMA.

<sup>71</sup> Sec 28(1) of NEMA.

<sup>72</sup> Sec 2(4)(p) of NEMA.

costs of such measures.<sup>73</sup> The PPP, which is given effect by, among others, the duty of care provided for in section 28 of NEMA, establishes the general principle that under South African law, polluters ought to be responsible for the costs of remedying pollution and ecological degradation.<sup>74</sup> Therefore, the right to a healthy environment is protected by the PPP, which requires that liability be imposed on the polluter for environmental damage and ensuing health effects that their products cause.<sup>75</sup> The PPP and general duty of care entail that single-use PPE producers whose post-consumer products pollute the environment, ought to be liable for the environmental damage caused by PPE waste, and must take measures to reduce pollution at the source.<sup>76</sup> This dissertation places its focus on the mechanisms imposed by the Regulations and will discuss the PPP and duty of care further with reference to the EPR Regulations.

## 2.4 NEMWA

NEMWA's founding purpose includes to reform the law regulating waste management to protect health and the environment through reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development.<sup>77</sup> Within NEMA's overarching framework, NEMWA provides for waste management in South Africa and is directed at minimising waste generation; reducing, reusing, recycling, and recovering of waste (i.e. the 4Rs of waste management); pollution prevention and the prevention of environmental degradation.<sup>78</sup> NEMWA creates a statutory basis upon which EPR measures may be imposed,<sup>79</sup> with a focus

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<sup>73</sup> Sec 28, read with secs 2(4)(a)(ii) & 2(4)(p) of NEMA.

<sup>74</sup> NEMA (n 69).

<sup>75</sup> Department of Water Affairs & Forestry (1998) Waste Management Series; Minimum requirements for the handling, classification and disposal of hazardous waste.

<sup>76</sup> Sec A(a)(4) of the OECD Council Recommendation on Guiding Principles concerning International Economic Aspects of Environmental Policies, 1972; O Nabileyo 'The polluter pays principle and environmental liability in South Africa' LLM thesis, North-West University, 2009 at 9; F Buschke et al 'The legal principles guiding a cohort of early career environmental professionals' (2021) 117 *South African Journal of Science* at 1.

<sup>77</sup> Long title of NEMWA.

<sup>78</sup> Sec 3 of NEMWA.

<sup>79</sup> The term 'extended producer responsibility' in this dissertation will have the same meaning as the term defined in sec 1 of NEMWA & sec 1 of the Regulations, which state that EPR measures extend a person or producers financial or physical responsibility for a product to the post-consumer stage of the product, which includes waste minimisation, the promotion of 4R, and other measures to reduce the potential impact of the product on health and the environment. Therefore, producers are liable for the adverse impact of PPE pollution on health and the environment and must promote 4R for their single-use products.

on producers taking accountability for where their waste ends up in the environment as required by the PPP.<sup>80</sup>

The EPR empowers the Minister of DFFE to identify a product or class of products whereby EPR applies and specify measures relating to the product or class of products, as well as the persons or categories of persons who are responsible to undertake such measures.<sup>81</sup> The Minister has authority to impose industry specific EPR obligations which include the requirements for EPR operation and implementation including the incorporation of the 4Rs,<sup>82</sup> the financial and institutional planning for waste management,<sup>83</sup> a lifecycle assessment undertaken by the producer for their products,<sup>84</sup> and requirements for the production of the product to integrate the 4Rs,<sup>85</sup> among other obligations. Persons failing to comply or contravening section 18(1) of NEMWA commit an offence which is punishable by a fine of up to R10 million and/or ten years imprisonment.<sup>86</sup>

In addition, NEMWA makes provision for a National Waste Management Strategy (NWMS),<sup>87</sup> which prioritises a circular economy<sup>88</sup> by applying 4R to minimise waste,<sup>89</sup> which is in line with the EPR principle.<sup>90</sup> The NWMS triggers two policy documents in this regard, namely the White Paper on Environmental Management Policy for South Africa of 1997 and the White Paper on Integrated Pollution and Waste Management of 2002. Both policy documents are relevant as they seek to give effect to the right to a healthy environment and aim to achieve sustainable development for present and future generations through pollution control and the minimisation of waste generation at the source while promoting 4R.<sup>91</sup> The Regulations are the most specific mechanism

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<sup>80</sup> Sec 18 of NEMWA.

<sup>81</sup> Sec 18(1) of NEMWA.

<sup>82</sup> Sec 18(2)(a) of NEMWA.

<sup>83</sup> Sec 18(2)(b) & (c) of NEMWA.

<sup>84</sup> Sec 18(2)(f) of NEMWA.

<sup>85</sup> Sec 18(2)(g)(iii) of NEMWA.

<sup>86</sup> Secs 67(1)(a) & 68(1) of NEMWA.

<sup>87</sup> Sec 6(1)(a) of NEMWA.

<sup>88</sup> Sec 1 of the Regulations (n 46); De Kock (n 40) 1; Sadan & De Kock (n 51) 7.

<sup>89</sup> DFFE '2019 Revised and updated National Waste Management Strategy' (2019) 8 in Government Notice 1561 in Government Gazette 42879 dated 3 December 2019.

<sup>90</sup> NEMWA (n 77).

<sup>91</sup> Goal 2 of the White Paper on Environmental Management Policy for South Africa; Sec 5.2.2 of the White Paper on Integrated Pollution and Waste Management.

for polluters to be held responsible for environmental damage arising from PPE and will therefore be the focus of this dissertation.

## 2.5 Regulations regarding EPR and EPR Notice

### 2.5.1 Background to EPR in South Africa

At the beginning of the twenty-first century, South Africa, like most developing states, relied on voluntary EPR schemes to improve the waste management of plastic, among other materials.<sup>92</sup> Despite voluntary EPR schemes, waste generation continued to rise over the past two decades.<sup>93</sup> As a proactive response to the surge in waste and its socio-ecological impact,<sup>94</sup> the Regulations and EPR Notice were published in terms of section 18 of NEMWA in the Government Gazette taking effect from 5 May 2021, thus making EPR mandatory in South Africa, with final compliance required by 5 November 2021.<sup>95</sup> Having being published on the same day, both legal instruments are intended to operate concurrently to each other.

EPR is an environmental policy approach for waste management, involving the sustainable organisation and funding of various waste streams.<sup>96</sup> Under the Regulations and Scheme, producers, namely any person, including a brand owner, who manufactures or imports new or used products, are either individually or collectively responsible for the lifecycle of products that they place on the market until the post-consumer waste disposal stage.<sup>97</sup> The Regulations and Scheme were intended to provide a more co-operative relationship between industry and government;<sup>98</sup> and transform the waste sector in South Africa, as prior to their

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<sup>92</sup> R Arp 'Extended Producer Responsibility for plastic packaging in South Africa: A synthesis report on policy recommendations' (2021) *World Wide Fund for Nature (WWF) South Africa* at 34.

<sup>93</sup> AS Pillay 'The development of an Extended Producer Responsibility (EPR) mechanism for waste management in South Africa' (2020) *Sustainable Waste Management: Policies and Case Studies Springer* at 43.

<sup>94</sup> Plastics SA 'Extended Producer Responsibility' <https://www.plasticsinfo.co.za/sustainability/extended-producer-responsibility/> (accessed 10 January 2022).

<sup>95</sup> Petco (n 52).

<sup>96</sup> Petco 'Petco's how-to guide to section 18 for producers' 2021 [https://petco.co.za/wp-content/uploads/2021/07/Section-18\\_PETCOS-HOW-TO-GUIDE-TO-SECTION-18-FOR-PRODUCERS\\_FINAL\\_v2.pdf](https://petco.co.za/wp-content/uploads/2021/07/Section-18_PETCOS-HOW-TO-GUIDE-TO-SECTION-18-FOR-PRODUCERS_FINAL_v2.pdf) (accessed 3 June 2022).

<sup>97</sup> Sec 1 of the Regulations; Petco (n 96) 16.

<sup>98</sup> A Bünemann et al 'South Africa: Development from a voluntary to a mandatory EPR scheme for packaging' (2021) *Prevent Waste Alliance* at 3.

implementation, the cost of waste collection and disposal lay with taxpayers and municipalities.<sup>99</sup>

## 2.5.2 Establishing single-use plastic PPE under the EPR Notice

The EPR Notice applies to the post-consumer single-use plastic waste stream, which includes single-use plastic PPE products.<sup>100</sup> Unlike reusable fabric face masks, single-use plastic PPE is manufactured from either blown plastic fibers in the case of surgical masks,<sup>101</sup> or from thermoforming such as plastic shields,<sup>102</sup> among other PPE products,<sup>103</sup> both of which are provided for in the EPR Notice. The EPR Notice goes further by providing for various plastic material types used to manufacture single-use plastic products.<sup>104</sup> The most significant of which is polypropylene (PP), which is the type of plastic that single-use PPE is produced from.<sup>105</sup>

## 2.5.3 Application of the Regulations and EPR notice in relation to PPE pollution

The Regulations contain general requirements for EPR implementation;<sup>106</sup> and are intended to serve as a basis for the development, implementation, monitoring, and evaluation of EPR schemes<sup>107</sup> in South Africa.<sup>108</sup> Therefore, in practical terms it seems as though the Regulations intend to hold polluters responsible for the pollution and ecological degradation caused by the end-of-life stage of their products. Furthermore, the Regulations intend to ensure the effective and efficient management of single-use plastic products at the end of its life,<sup>109</sup> and promote and enable the implementation of circular economy initiatives.<sup>110</sup> The Regulations impose on producers physical and

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<sup>99</sup> Daily Maverick 'New waste regulations a welcome step towards a circular economy, but they come with a conundrum' 4 August 2021 <https://www.dailymaverick.co.za/opinionista/2021-08-04-new-waste-regulations-a-welcome-step-towards-a-circular-economy-but-they-come-with-a-conundrum/> (accessed 2 July 2022).

<sup>100</sup> Secs 3 & 4(1)(d) of the EPR Notice.

<sup>101</sup> Sec 4(1)(d)(iii) of the EPR Notice.

<sup>102</sup> Sec 4(1)(d)(v) of the EPR Notice.

<sup>103</sup> S Dharmaraj et al 'The COVID-19 pandemic face mask waste: A blooming threat to the marine environment' (2021) 272 *Chemosphere* at 129601.

<sup>104</sup> Annexure 1 of the EPR Notice, listed under the 'product or class of product' column as 'single-use products (PS, HDPE, PET & PP)'. 'PP' refers to material identification code 5, known as polypropylene.

<sup>105</sup> As above.

<sup>106</sup> Sec 5 of the Regulations.

<sup>107</sup> The term 'EPR scheme' in this dissertation will have the same meaning as the term defined in sec 1 of the Regulations, which means, a system that puts obligations into effect under which producers take accountability for implementing EPR.

<sup>108</sup> Sec 2(1) of the Regulations.

<sup>109</sup> Sec 2(2) of the Regulations.

<sup>110</sup> Sec 2(3) of the Regulations.



financial responsibility for the end-of-life stage of their products and promote recycling and waste diversion from landfills.<sup>111</sup>

The Regulations distinguish between responsibilities for individual producers, and of producer responsible organisations (PRO).<sup>112</sup> The obligations and sanctions imposed on individual producers will be discussed first, and thereafter the obligations and sanctions imposed on PROs. In terms of the Regulations, individual producers of single-use PPE must register as members with DFFE by completing the online registration process via the South African Waste Information Centre (SAWIC) website, whereby they will be issued with a unique registration number.<sup>113</sup> The purpose of producer registration with DFFE include but are not limited to, promoting transparency, ensuring ease of compliance against targets provided for in the Regulations;<sup>114</sup> and ensuring that producers can login onto the SAWIC website to submit annual audit reports for public access.<sup>115</sup> Individual producers of single-use PPE are also required to either develop and implement an EPR scheme,<sup>116</sup> join an existing EPR scheme<sup>117</sup> or appoint a PRO to implement an EPR scheme for the entire value chain.<sup>118</sup> Therefore, a holistic scheme or plan must be developed by producers, specifically for single-use PPE polluters, which focus on the requirements of the Regulations and EPR Notice, such as the roles and responsibilities of each stakeholder in the value chain, target requirements and integration of the informal sector.<sup>119</sup> The holistic scheme or plan must also include the operational impact of producing PPE, such as

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<sup>111</sup> Regulations (n 110).

<sup>112</sup> The term 'producer responsibility organisation' (PRO) in this dissertation will have the same meaning as the term defined in sec 1 of the Regulations, which means a not-for-profit organisation established by producers operating in any of the industrial sectors covered in the EPR Notice published in terms of NEMWA to support the implementation of their EPR scheme, which may represent individual or collective producers.

<sup>113</sup> Sec 4 of the Regulations.

<sup>114</sup> Arp (n 92) 26.

<sup>115</sup> 5A(1)(e) of the Regulations.

<sup>116</sup> The term 'EPR scheme' in this dissertation will have the same meaning as the term defined in sec 1 of the Regulations, which means a system that imposes EPR obligations under which producers take accountability in implementing.

<sup>117</sup> Sec 5(1)(a) of the Regulations; secs 5, 6(1)(a) & 6(2)(a) of the EPR Notice.

<sup>118</sup> Sec 5(1)(a) of the Regulations; secs 6(1)(b) & 6(2)(b) of the EPR Notice.

<sup>119</sup> The World Bank 'The role of extended producer responsibility scheme for packaging towards circular economies in APEC' (2022) 8-9 <https://documents1.worldbank.org/curated/en/099640003102239957/pdf/P1709940b3dbd3092083b208e60bcd5719a.pdf> (accessed 11 September 2022).

establishing a structure for managing waste, strategies to promote recycling, and promoting co-operation between the different stakeholders within the value chain.<sup>120</sup>

Individual producers of single-use PPE must be accountable for the operation and performance of their EPR scheme,<sup>121</sup> and are required to undertake a lifecycle assessment of their product within five years of the implementation of their EPR scheme.<sup>122</sup> The significance of producers performing a lifecycle assessment in relation to single-use plastic PPE products, is to potentially minimise any harmful material used in the product; designing single-use PPE products for inclusion in a circular plastics economy through 3R; and aiming to reduce the environmental toxicity of the single-use plastic PPE waste stream.<sup>123</sup> Producer responsibility also includes implementing the mandatory take back of single-use PPE at the end of their lives, which forms part of the collection stage of a circular plastics economy.<sup>124</sup> The mandatory take back of single-use PPE waste is intended to reduce the environmental impact of the product, and to recycle or reuse the material in the production of new products.<sup>125</sup> In addition, producer responsibility includes implementing environmental labels and declarations for PPE products in accordance with the South African Bureau of Standards (SABS).<sup>126</sup> The significance of labels and declarations is to provide consumers with information about the environmental aspect of the single-use plastic PPE product which may influence the consumers purchase of the product.<sup>127</sup> Such information may include whether the product contains recycled material; the percentage of recycled material used in the manufacturing of the product; whether the product is biodegradable; environmental declarations; and whether the product is sustainably produced.<sup>128</sup>

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<sup>120</sup> As above.

<sup>121</sup> Sec 5(1)(b) of the Regulations.

<sup>122</sup> Sec 5(1)(k) of the Regulations.

<sup>123</sup> Sec 5(1)(l) of the Regulations.

<sup>124</sup> Sec 5(1)(w) of the Regulations.

<sup>125</sup> Circular economy practitioner guide 'Take-back program' <https://www.ceguide.org/Strategies-and-examples/Dispose/Take-back-program> (accessed 18 September 2022).

<sup>126</sup> Sec 5(1)(z) of the Regulations.

<sup>127</sup> UNEP 'Eco-labelling' <https://www.unep.org/explore-topics/resource-efficiency/what-we-do/responsible-industry/eco-labelling> (accessed 9 September 2022).

<sup>128</sup> International Organisation for Standardisation 'Environmental labels and declarations - General principles' <https://www.iso.org/obp/ui/#iso:std:iso:14020:ed-2:v1:en> (accessed 10 September 2022).

In addition to individual producer obligations, the Regulations contain an extensive list of PRO obligations, which include, but are not limited to, auditing requirements;<sup>129</sup> a register of scheme members and data submission to the South African Waste Information System (SAWIS);<sup>130</sup> managing the collection and recycling by waste management service providers;<sup>131</sup> cooperating with municipalities to increase the recovery of PPE waste;<sup>132</sup> transforming the representativity of persons within the sector with the inclusion of women, youth and persons living with disabilities;<sup>133</sup> and a system for the collection of EPR fees and funding allocation.<sup>134</sup> The EPR fee is paid by producers to fund EPR schemes, and is significant, as it incentivises design for recyclability, is utilised for awareness raising campaigns, and for establishing a waste collection system for single-use plastic, among other purposes.<sup>135</sup>

The Regulations include upstream objectives at the production stage of a circular plastics economy, with a focus on designing out problematic plastic waste, by ensuring products are designed as far possible with recyclable potential and for reuse if possible.<sup>136</sup> The Regulations also include downstream objectives which focus on what happens to products after disposal, and includes schemes for collection and increased recycling rates.<sup>137</sup> Therefore, producers of single-use PPE must ensure that post-consumer waste does not adversely impact the environment by ensuring that discarded PPE is collected, sorted, and recycled. The collection, sorting and recycling of PPE waste lends itself to a circular plastics economy, which encourages recycling of waste, including discarded PPE, which in turn preserve the materials value and decrease the environmental impact of the product.<sup>138</sup> Recycling single-use PPE waste is provided for in the Regulations and promotes sustainable waste management.<sup>139</sup>

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<sup>129</sup> Secs 5A(1)(b)-(e) & 5B(1)(b)-(e) of the Regulations.

<sup>130</sup> Secs 5A(1)(f)-(g) & 5B(1)(f) of the Regulations.

<sup>131</sup> Secs 5A(1)(k) & 5B(1)(j) of the Regulations.

<sup>132</sup> Secs 5A(1)(l) & 5B(1)(k) of the Regulations.

<sup>133</sup> Secs 5A(1)(q)-(r) & 5B(1)(o) & (q) of the Regulations.

<sup>134</sup> Secs 5A(1)(a) & 5B(1)(a) of the Regulations.

<sup>135</sup> OECD 'Environment directorate on modulated fees for extended producer responsibility schemes (EPR)' 28 October 2021 [https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/WKP\(2021\)16&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/WKP(2021)16&docLanguage=En) (accessed 11 September 2022).

<sup>136</sup> Sec 6(1)(a) of the Regulations; Ellen MacArthur Foundation 'Episode 27: Upstream what? Solutions to plastic pollution' <https://ellenmacarthurfoundation.org/videos/upstream-what-solutions-to-plastic-pollution> (accessed 14 September 2022).

<sup>137</sup> Secs 5A(1)(h) & 5B(1)(g) of the Regulations.

<sup>138</sup> The World Bank (n 119) 14.

<sup>139</sup> Secs 5(1)(d)(ii), 5A(1)(i)-(n), 5B(1)(h)-(m), 6(1)(a) & (4), 7(3), 8(1)(e) of the Regulations.

However, presently in South Africa, the recycling of single-use PPE waste is a largely untapped market, as incineration is the preferred method of treatment for PPE waste, despite its potential recyclable value.<sup>140</sup> The notion of recycling single-use PPE will be discussed further in chapters three and four of this dissertation.

Other important PRO obligations with a potential socio-ecological impact include the integration of the informal sector into the post-consumer collection value chain;<sup>141</sup> and ensuring that waste collectors, reclaimers, and pickers who register with the National Registry Database (the Database) are compensated for their collection services and environmental benefits through the collection service fee by November 2022.<sup>142</sup> Moreover, the Regulations provide for the development and establishment of secondary markets for recycled content, which contribute to a circular plastic economy and could potentially relate to an integrated approach for managing single-use PPE pollution.<sup>143</sup> Some examples of secondary markets include recycling single-use PPE into outdoor plastic furniture, and single-use plastic PPE utilised to create artwork,<sup>144</sup> which will be discussed further under chapter four of this dissertation.

EPR schemes must include measures for cleaner production by designing products for recyclability and ensuring waste minimisation; waste reduction; 4R; treatment and disposal; reporting on the minimum recycled content standards;<sup>145</sup> and compliance with the requirements for job creation and inclusive economic growth.<sup>146</sup> Therefore, the Regulations oblige producers to take responsibility for all waste management related activities pertaining to the single-use plastic PPE waste stream; or to appoint a PRO as a third party to carry out the waste management activities, whereby the PRO will be financed from EPR fees paid by producers.<sup>147</sup> The PRO must, together with its

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<sup>140</sup> The World Bank (n 119) 24.

<sup>141</sup> Secs 5A(1)(m) & 5B(1)(l) of the Regulations.

<sup>142</sup> Secs 5A(1)(p) & 5B(1)(p) of the Regulations.

<sup>143</sup> Secs 5A(1)(n) & 5B(1)(m) of the Regulations.

<sup>144</sup> OECD iLibrary 'Trends in the secondary plastics markets' <https://www.oecd-ilibrary.org/sites/ba55f08e-en/index.html?itemId=/content/component/ba55f08e-en> (accessed 6 September 2022).

<sup>145</sup> Secs 6(1)-(8) of the Regulations.

<sup>146</sup> Sec 6(9) of the Regulations.

<sup>147</sup> The World Bank (n 119) 22.

members, determine the proposed EPR fee and apply it proportionately to all its members.<sup>148</sup>

One key PRO which manages an EPR scheme for the single-use plastic waste stream, identified under material identification code 5, is Polyco.<sup>149</sup> Polyco is a non-profit company, which collects tonnes of single-use plastic waste for recycling in South Africa from its members, made up of individual producers, in compliance with the Regulations.<sup>150</sup> The role of PROs such as Polyco, is to support individual producers by recycling single-use plastic and encouraging co-operation with various stakeholders within the plastics value chain.<sup>151</sup> The EPR fee which is based on nett cost recovery, is paid by individual producers to PROs by producers to fund EPR schemes and is dependent on ease of recyclability; the demand for the particular material for recycling; costs for establishing a collection system; the costs for raising awareness on waste prevention, litter reduction and collection separation; and less revenues from recycled material sales; among other requirements.<sup>152</sup> The Regulations provide the criteria for calculating the EPR fee and oversight of the PROs financial administration.<sup>153</sup>

Individual producers or PROs that establish their own EPR scheme are obligated to submit an interim performance report on the scheme measured against individual targets provided for in the EPR Notice.<sup>154</sup> The targets provided for in the EPR Notice for the single-use plastic product waste stream apply for a five-year period from the date of implementation of the EPR scheme.<sup>155</sup> Year one's target for recyclable content is 8 percent, with a collection target of 60 percent, and a recycling target of 30 percent.<sup>156</sup> The target percentage increases by 2-4 percent per year, from years two to five for recyclable content, and 5 percent per year for both the collection target and the recycling target.<sup>157</sup> In terms of the EPR Notice, single-use plastic PPE products

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148 Sec 7(1) of the Regulations.

149 Plastics SA (n 94).

150 As above.

151 As above.

152 Sec 7(3) of the Regulations.

153 Sec 7(7) of the Regulations.

154 Secs 8(1)(a) & 8(2)(a) of the Regulations.

155 Sec 7 of the EPR Notice.

156 Annexure 1 of the EPR Notice referring to 'single-use products'.

157 As above.

are not considered for reuse, with no targets being provided for in the EPR Notice over the five year period.<sup>158</sup> The lack of targets for the reuse of single-use PPE in terms of the EPR Notice will be discussed further in both chapters three and four of this dissertation.

The Regulations require that annual performance audit reports containing the number of jobs created, among other requirements, be provided to DFFE.<sup>159</sup> Additionally, producers or PROs must record and report on the quantity of single-use plastic collected; diverted away from landfills through 4R; landfilled; and the number of jobs created, to SAWIS annually.<sup>160</sup> In terms of the Regulations, PROs are required to be autonomous, in accordance with international best practice,<sup>161</sup> as they perform a central and co-ordinating role within the sector.

The Regulations expressly provide that all existing and new, individual producers and PROs who contravenes or fails to comply with section 4 of the Regulations commits an offence, which is punishable by imprisonment not exceeding 15 years or an appropriate fine, or both imprisonment and a fine.<sup>162</sup> In addition, non-compliance of registered individual producers or PROs may have their registration revoked with producers possibly also compelled to join another EPR scheme.<sup>163</sup>

## 2.6 Conclusion

The Regulations and EPR Notice are pollution prevention tools that focus on the product by shifting the burden of managing single-use plastic end of life products from municipalities and taxpayers to producers and PROs by providing for a single-use plastic waste stream; targets for product design, collection and recycling of PPE waste; and EPR Schemes .<sup>164</sup> Both legal instruments are significant in their intent to increase

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<sup>158</sup> As above.

<sup>159</sup> Secs 8(1)(c)-(d) & 8(2)(d)-(e) of the Regulations.

<sup>160</sup> Secs 8(1)(e) & 8(2)(f) of the Regulations.

<sup>161</sup> Sec 11(2)(a) of the Regulations; WWF '15 Basic Principles: Establishing an effective extended producer responsibility (EPR) scheme for packaging' 2020 [https://wwfint.awsassets.panda.org/downloads/wwf\\_15\\_basic\\_principles\\_2020\\_final\\_with\\_layout\\_1130.pdf](https://wwfint.awsassets.panda.org/downloads/wwf_15_basic_principles_2020_final_with_layout_1130.pdf) (accessed 13 July 2022).

<sup>162</sup> Secs 12 & 13(1) of the Regulations.

<sup>163</sup> Sec 13(2)-(3) of the Regulations.

<sup>164</sup> OECD Extended producer responsibility: Updated guidance for efficient waste management (2016) 20.

resource efficiency for single-use plastic products, which were destined for either a landfill or incineration, while also incentivising producers to design recyclable materials for 3R,<sup>165</sup> thereby reducing waste.<sup>166</sup> In addition, EPR schemes may potentially be effective systems of influencing product design towards increased circularity.<sup>167</sup> The waste management approach of the Regulations and EPR Notice regarding PPE pollution arising from COVID-19 seek to give effect to the protection of both the environment and human health from any adverse effects of single-use plastic waste disposal.<sup>168</sup>

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<sup>165</sup> OECD Extended producer responsibility: A guidance manual for governments (2001) 9.

<sup>166</sup> OECD (n 144) 13.

<sup>167</sup> UNEP (n 4) 8.

<sup>168</sup> S Oelofse & L Godfrey 'Defining waste in South Africa: Moving beyond the age of waste' (2008) 104 *South African Journal of Science* at 242.

## **3 Chapter 3: Critique of the Regulations and EPR Notice in relation to single-use PPE pollution**

### **3.1 Introduction**

This chapter critiques the Regulations and EPR Notice to consider whether the law is an effective tool in addressing PPE pollution arising from COVID-19. The aim of the critique is to determine both the advantages and limitations of the law. The chapter is divided into four distinct themes, which are relevant to the overall research problem as they address the socio-ecological disparity of PPE pollution and waste, and the possibility of a circular plastics economy. The first theme addresses socio-economic efficiency, which is further subdivided to address co-operative relations, transformation, recycling initiatives and integration of the informal sector. The following themes within the chapter address ease of administration, environmental effectiveness, and the integration of other disciplines. Thereafter the chapter concludes.

### **3.2 Socio-economic efficiency**

The social benefits of the Regulations include, but are not limited to, giving effect to the polluter pays principle;<sup>169</sup> the potential reduction of health risks from mismanaged PPE waste; and the integration of the informal sector.<sup>170</sup> Furthermore, the economic benefits of the Regulations include, but are not limited to, obliging producers to take financial and physical responsibility for the end of life stage of their products; potential job creation and opportunities within the single-use plastic waste stream.<sup>171</sup>

#### **3.2.1 Co-operative relations**

Co-operative relations entail that all spheres of government must work together in mutual trust and good faith and includes participation by the key role players or stakeholders.<sup>172</sup> The mandatory Regulations and EPR Notice are significant as they recognise the need to regulate the single-use plastic waste stream and are applicable

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<sup>169</sup> Sec 2(4)(p) of NEMA & sec 18 of NEMWA.

<sup>170</sup> Secs 5A(1)(m), 5A(1)(p), 5B(1)(l), 5B(1)(p) of the Regulations.

<sup>171</sup> Sec 6(9) of the Regulations.

<sup>172</sup> Sec 41(1) of the Constitution.



to PPE pollution arising from COVID-19.<sup>173</sup> The Regulations contain several beneficial elements in the fight against single-use PPE pollution and the adverse effects of PPE pollution on the environment and human health. One such aspect within the Regulations, is the potential for increased co-operative relations between the government and the plastic industry to promote a common vision between stakeholders towards a circular economy that regenerates waste through co-operation between municipalities and individual producers and PROs.<sup>174</sup> The Regulations envisage that the outcome of co-operation between municipalities and PROs will potentially result in the increased recovery of single-use plastic waste.<sup>175</sup>

### 3.2.2 Transformation

Another significant aspect of the Regulations, is that they envisage transformation within the plastic waste sector by transferring the financial burden of waste from taxpayers and municipalities to producers and PROs, aimed at enabling the implementation of circular economy initiatives for the problematic single-use plastic waste stream.<sup>176</sup> In addition, PROs are obliged to support the notion of transformation through the inclusion of women, youth and persons living with disabilities within the sector.<sup>177</sup> A noticeable consideration for producers ought to be the high unemployment rates in South Africa, with a large percentage consisting of women and youth.<sup>178</sup> The single-use plastic value chain has the potential to provide many formal jobs through the manufacturing and recycling sector, as well as informal jobs through the integration of the informal sector.<sup>179</sup> The impact of the informal sector in relation to PPE pollution will be discussed further on within this chapter.

### 3.2.3 Recycling initiatives

The Regulations encourage recycling and waste diversion of discarded single-use plastic from landfills, with PROs obliged to manage the collection and recycling of

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<sup>173</sup> Sadan & De Kock (n 51) 8.

<sup>174</sup> Secs 5A(1)(l) & 5B(1)(k) of the Regulations; Sadan & De Kock (n 51) 37.

<sup>175</sup> Secs 5A(1)(l) & 5B(1)(k) of the Regulations; Bünemann (n 98) 3.

<sup>176</sup> Secs 7(6)-(7), 7A(3) & (6), 8(1)(d), 8(2)(e) of the Regulations; Polity 'The Extended Producer Responsibility Regulations - Laudable goals, challenging implementation' 4 June 2021 <https://www.polity.org.za/article/the-extended-producer-responsibility-regulations-laudable-goals-challenging-implementation-2021-06-04/searchString:extended+producer+responsibility> (accessed 18 July 2022).

<sup>177</sup> Secs 5(1)(w), 5A(1)(q) & 5B(1)(q) of the Regulations.

<sup>178</sup> Sadan & De Kock (n 51) 9.

<sup>179</sup> As above.

single-use plastic products by waste management service providers.<sup>180</sup> Single-use PPE is identified by plastic material identification code 5 as it is commonly manufactured from polypropylene (PP), which is the fourth-most recycled polymer in South Africa.<sup>181</sup> The PP material code is provided for in the EPR Notice as one type of single-use plastic.<sup>182</sup> Recycled PP can be used to manufacture woven products, outdoor furniture, garden twine and dustbins, among other items, benefiting both the economy and environment.<sup>183</sup> However, despite provisions<sup>184</sup> in the Regulations encouraging recycling initiatives, and the potential recyclability of the material, some glaring challenges exist.<sup>185</sup>

Firstly, a system failure in the production stage of the single-use plastic lifecycle exists as it is potentially more costly to recycle plastic PPE waste in comparison to manufacturing virgin plastic PPE from fossil fuels.<sup>186</sup> A consideration for producers is that developing states such as South Africa generate income from recyclable waste, promoting production to sustain such income generation, rather than reduction of PPE.<sup>187</sup> In addition, the production of virgin plastic PPE resulted in the plastic industry unduly profiting from the COVID-19 pandemic, with the United Nations Conference on Trade and Development (UNCTAD) providing that the global sales of single-use PPE face masks rose from an estimated \$800 million in 2019 to \$166 billion during the first year of COVID-19.<sup>188</sup> In terms of the Regulations, EPR schemes of individual producers and PROs, must include measures for cleaner production by designing

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<sup>180</sup> Secs 5(1)(p), 5A(1)(k) & 5B(1)(j) of the Regulations.

<sup>181</sup> Secs 4(1)(d)(iii) & (v) of the EPR Notice; Plastics SA 'What is Polypropylene?' 13 January 2021 <https://www.plasticsinfo.co.za/2021/01/13/what-is-polypropylene/> (accessed 25 March 2022).

<sup>182</sup> Annexure 1 of the EPR Notice, listed under the 'product or class of product' column as 'single-use products (PS, HDPE, PET & PP)'. 'PP' refers to material identification code 5, known as polypropylene.

<sup>183</sup> Plastics SA 'How PP packaging is recycled in South Africa' 2 December 2019 <https://www.plasticsinfo.co.za/2019/12/02/how-pp-packaging-is-recycled-in-south-africa/> (accessed 13 January 2021).

<sup>184</sup> Secs 5(1)(d)(ii), 5(1)(l)(ii), 5A(1)(i), 5A(1)(j)(iv), 5A(1)(k), 5A(1)(n), 5B(1)(h), 5B(1)(i)(iv), 5B(1)(j), 5B(1)(m), 6(1)(a), 6(1)(4), 6(1)(8)(a), 7(3)(b)-(c), 7(3)(i), 7A(3)(f), 8(1)(e)(iii) of the Regulations.

<sup>185</sup> The World Bank (n 119) 14 & 24.

<sup>186</sup> Sadan & De Kock (n 51) 16.

<sup>187</sup> D Olowu 'Environmental governance and the accountability of non-state actors in Africa: A rights-based approach: Conference papers' (2007) 32(1) *South African Yearbook of International Law* at 261.

<sup>188</sup> United Nations Conference on Trade and Development 'Growing plastic pollution in wake of COVID-19: How trade policy can help' 27 July 2020 <https://unctad.org/news/growing-plastic-pollution-wake-covid-19-how-trade-policy-can-help> (accessed 30 July 2020).

products for recyclability,<sup>189</sup> however the challenge does not lie in the design of single-use PPE, but rather that the Regulations do not directly restrict the use of virgin plastic to any significant degree. The resulting implication is that the Regulations permit the use of large percentages of virgin plastic PP material in the production of single-use PPE, so long as between 8-20 percent of the product contains recycled content.<sup>190</sup> Therefore, a gap exists in the Regulations and EPR notice, as the required percentage of recycled content in PPE production is inadequate to address the upsurge of PPE pollution generated from COVID-19.<sup>191</sup>

Secondly, post-consumer non-infectious PPE waste generated from COVID-19 is not being recycled with other PP single-use plastics, such as plastic straws and bottles, as currently no adequate processes are in place to recycle PPE waste, with incineration being the preferred method of treatment.<sup>192</sup> Burning discarded PPE leads to released toxins in the environment and potential secondary transmission of diseases to humans.<sup>193</sup> One way to address this problem would be to increase the EPR fee paid by producers to fund EPR schemes for the single-use plastic waste stream pertaining to PPE, due to the particular product not being easily recyclable.<sup>194</sup> The notion of implementing EPR fee differentiation for different material types based on recyclability, secondary-use value and product design is referred to as eco-modulation.<sup>195</sup> Eco-modulation could potentially provide a greater incentive for the eco-design of single-use PPE. The higher EPR fee can potentially be used for raising awareness on waste prevention, litter reduction and separate collection across multidisciplinary platforms; recovery programmes targeting ecosystems and persons adversely affected by PPE pollution; and the design and promotion of biodegradable, environmentally friendly PPE alternatives, among other potential uses.<sup>196</sup>

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<sup>189</sup> Sec 6(1)(a) of the Regulations.

<sup>190</sup> Secs 5(1)(l), 6(1), 6(8) & 7(3)(b)-(c) of the Regulations; Annexure 1 of the EPR Notice.

<sup>191</sup> As above.

<sup>192</sup> Roadrunner Smarter Recycling 'The growing waste and recycling problems from PPE, masks, and COVID-19' 24 March 2021 <https://www.roadrunnerwm.com/blog/impact-of-ppe-waste> (accessed 1 February 2022); Plastics SA (n 94).

<sup>193</sup> UNEP 'COVID-19 Waste management' 19 June 2020 <https://www.unep.org/resources/factsheet/covid-19-waste-management-factsheets> (accessed 1 June 2022).

<sup>194</sup> Secs 7(1) & 7(3)(b) of the Regulations.

<sup>195</sup> Arp (n 92) 40.

<sup>196</sup> Sadan & De Kock (n 51) 6, 14, 17, 29 & 38.

Thirdly, the Regulations impose downstream obligations on producers and PROs by requiring EPR schemes to provide for the reuse, recycling, and recovery (3R) of single-use plastic and its waste streams.<sup>197</sup> In addition, NEMWA requires that a waste management licence be obtained for 3R activities<sup>198</sup> for specified volumes of general waste, which includes non-infectious single-use PPE waste.<sup>199</sup> In terms of NEMWA, operating without a waste management licence is deemed an offence which is punishable with a fine not exceeding R10 million or to imprisonment for a period not exceeding ten years, or both a fine and imprisonment.<sup>200</sup> The unintended implication for producers and PROs due to the lack of clarity within the Regulations results in potential additional licensing requirements for 3R activities, which are an essential element of the Regulations and its intended circular economy initiatives.<sup>201</sup>

### 3.2.4 Integration of the informal sector

The Regulations oblige PROs to integrate the informal sector into the post-consumer collection value chain.<sup>202</sup> The informal sector which includes waste pickers, are key actors within the collection stage of the single-use plastic lifecycle.<sup>203</sup> Waste pickers earn their livelihoods from collecting, sorting and aggregating recyclable single-use plastic waste, among other materials, retrieved from the streets of South Africa, household waste and landfills, which is sold to buyback centres or formal recyclers.<sup>204</sup> In addition, the Regulations oblige PROs to ensure that the informal sector who register with the Database are remunerated, in addition to the revenue that they

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<sup>197</sup> Secs 6(1)-(8), 8(1)(e)(iii) & 8(2)(f)(iii) of the Regulations.

<sup>198</sup> In terms of the National Waste Management Strategy 2020 in Government Notice 56 in Government Gazette 44116 dated 28 January 2021, '3R activities' refer to 'reuse' which means the repeated use of an item, in part or altogether; 'recycling' which means using waste as a resource to produce a new product; and 'recovery' which means to convert waste into a resource such as fuel or compost. 3R can become 4R activities by the addition of 'reduce', which means to reduce consumption and the volume of waste generation to mitigate the impact of pollution in the environment and its associated health impacts. Through ensuring 3R and 4R activities, waste minimisation is achieved in an efficient manner.

<sup>199</sup> Secs 20(b) & 45 of NEMWA read together; sec 3 of the List of Waste Management Activities that have, or are likely to have, a detrimental effect on the environment in Government Notice 921 in Government Gazette 37083 dated 29 November 2013.

<sup>200</sup> Sec 67(1)(a) of NEMWA.

<sup>201</sup> Polity (n 176).

<sup>202</sup> Secs 5A(1)(m) & 5B(1)(l) of the Regulations.

<sup>203</sup> Sadan & De Kock (n 51) 7; National Waste Management Strategy 2020 in Government Notice 56 in Government Gazette 44116 dated 28 January 2021; N Ngcobo 'The informal economy for local economic development in South Africa: A constitutional law approach' LLM thesis, North-West University, 2021 at 47.

<sup>204</sup> Godfrey (n 30) 5; Sadan & De Kock (n 51) 9.

generate from selling recyclables, for their collection services and environmental benefits via the collection service fee.<sup>205</sup> PROs are responsible for ensuring that a system for compensating waste pickers is online by November 2022.

There are several unintended consequences of these provisions in the Regulations in relation to waste pickers. Firstly, there is an interpretational challenge regarding registration with the Database for compensation, as the requirement to register implies that those waste pickers who have not specifically registered with the Database for whatever reason, do not qualify for compensation in terms of the Regulations.<sup>206</sup> Secondly, the delay of the online compensation system to November 2022 results in a vulnerable and marginalised informal waste sector that has not been provided the necessary resources,<sup>207</sup> or compensation for their collection services, which negatively impact their livelihood.<sup>208</sup> Lastly, single-use plastic PPE materials that have the potential to be recycled may not be collected by waste pickers as there is no market available (or incentive) for such post-consumer products or because there is little to no monetary value attached to recycling PPE waste in South Africa, which also adversely impact the livelihood of waste pickers.<sup>209</sup>

The estimated 215 000 active waste pickers in South Africa have the potential to increase due to measures provided in the Regulations requiring EPR schemes to create jobs and ensure inclusive economic growth within the single-use plastic waste stream.<sup>210</sup> According to the Council for Scientific and Industrial Research (CSIR) over 80 percent of recyclable items, including single-use plastics in South Africa are collected by waste pickers, who are vital contributors to a green economy, saving municipalities around R750 million in landfill costs annually.<sup>211</sup> The waste picker integration guidelines, while supporting the integration of the informal sector, provide

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<sup>205</sup> Secs 5A(1)(p) & 5B(1)(p) of the Regulations.

<sup>206</sup> DFFE & DST (n 28) 32-33 & 79.

<sup>207</sup> Sadan & De Kock (n 51) 16 & 39; Ngcobo (n 28) 19.

<sup>208</sup> Women in Informal Employment: Globalising and Organizing 'Waste pickers' <https://www.wiego.org/informal-economy/occupational-groups/waste-pickers> (accessed 18 March 2021); Ngcobo (n 28) 34.

<sup>209</sup> DFFE & DST (n 28) 12; Ngcobo (n 28) 30.

<sup>210</sup> Sec 6(9) of the Regulations; Sadan & De Kock (n 51) 9; Ngcobo (n 28) 18.

<sup>211</sup> Ground Up 'COVID-19: Court decision is a heavy blow to waste-pickers' hopes' 15 April 2020 <https://www.groundup.org.za/article/COVID-19-court-decision-heavy-blow-waste-pickers-hopes/> (accessed 16 July 2020); Ngcobo (n 28) 18.

that their integration must be balanced with ensuring that they retain a level of autonomy.<sup>212</sup>

### 3.3 Ease of administration

The Regulations' definition and scope of the term 'producer' creates a challenge for allocating responsibility for the prescribed EPR measures across the single-use plastic PPE value chain for franchised companies.<sup>213</sup> Franchisors sell their branded PPE and services to an independent franchisee which includes but is not limited to the product knowledge, procedures, business model and brand.<sup>214</sup> In terms of franchise arrangements, the Regulations lack clarity on who assumes the role of brand owner, producer, and distributor, which creates a potential interpretational challenge for compliance purposes.<sup>215</sup>

Furthermore, PROs are obliged to develop and maintain a register of scheme members and submit data to SAWIS in terms of the Regulations for monitoring and reporting purposes,<sup>216</sup> which promote transparency and ensure ease of compliance and performance against targets provided in the Regulations.<sup>217</sup> The Regulations, could go further, by potentially including measures for the establishment of a registry of free riders<sup>218</sup> or academic experts for producers and the single-use plastic PPE waste stream.<sup>219</sup> The inclusion of a registry of free riders could be useful in ensuring producer compliance to the Regulations, while a potential registry of academic experts could contribute towards research and development of PPE product design.<sup>220</sup>

In terms of reporting requirements, producers and PROs must submit interim performance reports and annual performance audit reports to DFFE covering how their EPR schemes have achieved individual targets provided in the EPR Notice for the

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<sup>212</sup> Sadan & De Kock (n 51) 29.

<sup>213</sup> Sec 1 of the Regulations (n 39).

<sup>214</sup> Polity (n 176).

<sup>215</sup> As above.

<sup>216</sup> Secs 5A(1)(f)-(g) & 5B(1)(f) of the Regulations.

<sup>217</sup> Arp (n 92) 26.

<sup>218</sup> The term 'free rider' in this dissertation will have the same meaning as the term defined in sec 1 of the Regulations, which refers to a producer that benefits from the efforts of another producer without fully complying with the requirements of the EPR scheme.

<sup>219</sup> Arp (n 92) 40.

<sup>220</sup> As above.

single-use plastic waste stream.<sup>221</sup> The reporting period commenced on 1 January 2022, with interim reports due to DFFE by 30 June 2022, and annual performance audit reports due by 31 December 2022.<sup>222</sup> The reporting measure lends itself to potential interpretational challenges due to its wide scope, with everyone in the value chain required to submit reports to the government.<sup>223</sup> The reporting measure could potentially create duplicate information and inaccuracy in calculating collection and recycling rates for single-use plastic PPE products.<sup>224</sup> In addition, there are no standard reporting requirements, potentially leading to inconsistent information being reported.<sup>225</sup> Both reporting challenges pose a risk in terms of the efficacy of the Regulations.

The Regulations expressly provide that they apply retrospectively to producers and single-use plastic that were placed on the market prior to the Regulations coming into effect.<sup>226</sup> The provision permits a retrospective scope of application of the Regulations to the single-use PPE waste stream, which raises the question of whether the implementation of the Regulations is also retrospective.<sup>227</sup> The unintended consequence of retrospective implementation affects the administrative obligations imposed such as the EPR fee requirement.<sup>228</sup> There is a presumption in law against the retrospective application of legislation, including where the provision is expressed to be retrospective, if the retrospectivity is unclear, as is the case with this provision.<sup>229</sup> If such an approach is adopted, it is unlikely that the EPR fee requirement and reporting provisions of the Regulations, were intended to apply retrospectively to producers, resulting in no unintended administrative consequences, but giving rise to uncertainty as to import of retrospective application. The possible intended

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<sup>221</sup> Sec 8 of the Regulations.

<sup>222</sup> Plastics SA (n 94).

<sup>223</sup> Polity 'Over-extension of Extended Producer Responsibility?' 16 April 2021 <https://www.polity.org.za/article/over-extension-of-extended-producer-responsibility-2021-04-16> (accessed 12 February 2022).

<sup>224</sup> As above.

<sup>225</sup> DEFF 'Tonnage Reports' <http://sawic.environment.gov.za/?menu=15> (accessed 12 February 2022).

<sup>226</sup> Sec 3(2) of the Regulations.

<sup>227</sup> Polity (n 176).

<sup>228</sup> As above.

<sup>229</sup> G Devenish 'Some reflections on the presumption that legislation applies prospectively, and its significance for a contemporary theory of interpretation' (2016) 37 *Obiter* at 643.

consequences of the retrospective scope of application of the Regulations, likely apply to previous and existing, single-use plastic pollution and waste.<sup>230</sup>

### 3.4 Environmental effectiveness

The environmental benefits of the Regulations include, but are not limited to, recognition of the single-use plastic waste stream through the EPR Notice;<sup>231</sup> supporting the end-of-life collection stage of PPE;<sup>232</sup> prioritising 4R;<sup>233</sup> incentivising eco-design;<sup>234</sup> and sustainable development measures through circular economy initiatives.<sup>235</sup>

In terms of the Regulations, producers are required to undertake a lifecycle assessment of single-use PPE products within five years of the implementation of their EPR scheme to ensure that the design of PPE facilitates 4R and ensures that the potential environmental toxicity of the single-use PPE waste stream is reduced.<sup>236</sup> Furthermore, producers are responsible for the mandatory take back of post-consumer PPE,<sup>237</sup> with PROs obliged to ensure that products are designed with recyclable potential.<sup>238</sup>

Some of the circular economy initiatives contained in the Regulations include the potential to reduce the environmental footprint of producers by recycling a percentage of used plastic; reducing source dependency by collecting end of life products and remanufacturing it into new products; and minimising plastic waste by recycling certain plastic resources; among other initiatives.<sup>239</sup> These circular economy initiatives promote keeping products and services in circulation, as opposed to ending up in a landfill or incinerator.<sup>240</sup> However, despite the circular economy initiatives contained in the Regulations, several noticeable challenges exist. Firstly, there is no specified

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<sup>230</sup> Polity (n 223).

<sup>231</sup> Secs 1, 3(4), 4(1)(d) & Annexure 1 of the EPR Notice.

<sup>232</sup> Secs 5A(1)(i), 5A(1)(k), 5A(1)(m), 5A(1)(p), 5B(1)(h), 5B(1)(j), 5B(1)(l), 5B(1)(p), 7(3)(d)-(e) of the Regulations.

<sup>233</sup> Secs 5A(1)(n) & 6(1)-(8) of the Regulations.

<sup>234</sup> Secs 5(1)(l)(ii) & 6(1)(a) of the Regulations.

<sup>235</sup> Sec 2(3) of the Regulations.

<sup>236</sup> Secs 5(1)(k)-(l) & Annexure 1 of the Regulations.

<sup>237</sup> Sec 5(1)(y) of the Regulations.

<sup>238</sup> Secs 5(1)(l)(ii) & 6(1)(a) of the Regulations.

<sup>239</sup> Z Sadan & L De Kock (n 51) 9.

<sup>240</sup> As above.



period for producers to perform a lifecycle assessment of single-use PPE, rather it seems to be at the discretion of the producer to decide when to fulfil this requirement, so long as it is within five years of the implementation of their EPR scheme. Whilst the lifecycle assessment may be delayed for a period, large quantities of PPE are inevitably continuing to be produced in their original form with no improvement on their design or potential environmental toxicity to the environment, as a result on the delay in assessment permitted by the Regulations.<sup>241</sup>

Secondly, in terms of the mandatory take back provision provided for in the Regulations,<sup>242</sup> there seems to be no real impact on the environment yet due to its recent enactment, as PPE pollution continues to litter the streets, landfills, and oceans.<sup>243</sup> A consideration for producers as the implementation of the Regulation gains momentum, is to ensure that single-use PPE waste is treated and disposed of in an environmentally sound manner that does not endanger the environment, human health or cause a nuisance through visual impacts.<sup>244</sup> Among other legal obligations, such an approach promotes a healthy environment protected by the environmental right enshrined in the Constitution, which prioritises pollution prevention through reasonable legislative measures such as those contained in the Regulations.<sup>245</sup> The swift and efficient implementation of the Regulations could prove to be a significant mechanism in addressing the upsurge of PPE pollution arising from COVID-19 despite the limitations highlighted above.

Lastly, the EPR Notice does not provide any targets for the reuse of plastic PPE products, or the minimisation of single-use products.<sup>246</sup> The EPR Notice provides for recycled content to be used in single-use PPE product design, beginning with 8 percent and increasing annually to 20 percent at the fifth year of implementation; a 60 percent collection target, increasing annually to 80 percent at the fifth year of implementation; and a recycling target of 30 percent, increasing annually to 50 percent

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<sup>241</sup> UNEP 'COVID-19 Waste management' 19 June 2020 <https://www.unep.org/resources/factsheet/covid-19-waste-management-factsheets> (accessed 1 June 2022).

<sup>242</sup> Sec 5(1)(y) of the Regulations.

<sup>243</sup> Z Sadan & L De Kock (n 51) 8.

<sup>244</sup> Sec 28 of NEMA; Sec 16 of NEMWA; SAHRC (n 32) para 87.

<sup>245</sup> SAHRC (n 32) para 97.

<sup>246</sup> Annexure 1 of the EPR Notice referring to 'single-use products reuse target'.

at the fifth year of implementation.<sup>247</sup> A consideration for producers is that reusable fabric masks are potentially just as effective in preventing the transmission of COVID-19.<sup>248</sup> Therefore, the manufacturing of large volumes of single-use plastic PPE for public consumption, that have no reusable value in terms of the EPR Notice, presents as a problematic and unnecessary plastic product.<sup>249</sup> The Regulations leave far too much room for producers to produce as much as they want, as they do not sufficiently prevent or curtail the production of single-use plastic products with clear targets. Furthermore, the Regulations do not purport to ban or phase out single-use PPE, resulting in both positive and negative implications, which will be discussed further in chapter four.<sup>250</sup>

### 3.5 Integration of other disciplines

A distinctive, positive characteristic of the Regulations and EPR Notice is that they provide for the reprocessing of single-use plastic into recycled plastic to be used in secondary markets, which promotes the integration of recycled plastic into other economic markets.<sup>251</sup> Artists raising environmental awareness on the impacts of single-use plastic, form part of the key actors included in secondary economic markets.<sup>252</sup> The Regulations support the notion of raising awareness on waste prevention, litter prevention and collection separation by providing that it is a factor which must be considered in determining the EPR fee paid by producers to fund EPR schemes.<sup>253</sup> The notion of art as a secondary economic market to address PPE pollution will be discussed further under recommendations in chapter four.

### 3.6 Conclusion

The Regulations aim to accelerate and support the transition of a circular single-use plastic economy in South Africa. However, despite their advantages, there is evidence of limitations within the Regulations affecting their efficacy in relation to PPE pollution

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<sup>247</sup> As above.

<sup>248</sup> WEF (n 11).

<sup>249</sup> Sadan & De Kock (n 51) 16.

<sup>250</sup> OECD (n 164) 47-50; Sadan & De Kock (n 51) 27.

<sup>251</sup> Secs 5A(1)(n) & 5B(1)(m) of the Regulations; Sadan & De Kock (n 51) 43.

<sup>252</sup> Sadan & De Kock (n 51) 7.

<sup>253</sup> Secs 7(3)(g) & 7A(3)(d) of the Regulations.

arising from COVID-19 which must be addressed to effectively address the upsurge of PPE pollution.

These limitations include but are not limited to, higher costs attached to recycling PPE as opposed to manufacturing virgin plastic PPE;<sup>254</sup> insignificant restrictions placed on virgin plastic utilisation during the production stage, in part or altogether;<sup>255</sup> no adequate processes in place to recycle PPE and no or little market value for PPE waste.<sup>256</sup> Some socio-economic limitations include but are not limited to the potential additional licensing requirements for 3R activities;<sup>257</sup> the implication that only registered waste pickers qualify for compensation;<sup>258</sup> and the delay of the online compensation system for waste pickers.<sup>259</sup>

Furthermore, the administrative limitations include but are not limited to, the exclusion of a registry of free riders or academic experts;<sup>260</sup> potential duplication of information as reporting is open to all stakeholders within the value chain;<sup>261</sup> no standard reporting requirements;<sup>262</sup> no specified period provided to perform a lifecycle assessment of PPE;<sup>263</sup> and no targets provided for the reuse of PPE.<sup>264</sup>

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<sup>254</sup> Sadan & De Kock (n 51) 16.

<sup>255</sup> Secs 5(1)(l), 6(1), 6(8) & 7(3)(b)-(c) of the Regulations; Annexure 1 of the EPR Notice.

<sup>256</sup> DFFE & DST (n 28) 12.

<sup>257</sup> Polity (n 176).

<sup>258</sup> DFFE & DST (n 28) 32-33 & 79; Ngcobo (n 28) 34.

<sup>259</sup> Sadan & De Kock (n 51) 16 & 39.

<sup>260</sup> Arp (n 92) 40.

<sup>261</sup> Polity (n 223).

<sup>262</sup> DEFF (n 225).

<sup>263</sup> Secs 5(1)(k)-(l) & Annexure 1 of the Regulations; UNEP (n 193).

<sup>264</sup> Annexure 1 of the EPR Notice referring to 'single-use products'.

## 4 Chapter 4: Conclusion and Recommendations

### 4.1 Findings on the Regulations and EPR Notice

This dissertation described and analysed the Regulations and EPR Notice as possible mechanisms to effectively regulate the complex issue of PPE pollution arising from COVID-19 in South Africa. South Africa, as a growing and developing state, lists as high as eleventh on the global list of plastic polluters.<sup>265</sup> The existing plastic problem is further exacerbated by the additional impact of single-use plastic PPE pollution from the COVID-19 pandemic. The resultant effect is a growing environmental challenge with socio-ecological impacts.<sup>266</sup>

There is a great deal of evidence of littered, landfilled, or incinerated PPE waste that adversely affects the environment through ecological destruction and wildlife endangerment, and advances the climate emergency.<sup>267</sup> A polluted environment subsequently affects human health through the absorption of microplastics into the natural environment, which cause health implications for everyone, especially impoverished communities living in proximity to landfills and polluted rivers.<sup>268</sup> In addition, PPE pollution places a strain on municipalities to properly collect and dispose of PPE waste.<sup>269</sup>

This dissertation revealed numerous positive attributes of the Regulations addressing the socio-ecological disparities caused by PPE pollution, as discussed in chapter three. While these normative measures will hopefully prove valuable, the Regulations and EPR Notice seem to be inherently limited due to the presence of several challenges with regards to their efficacy in regulating PPE pollution, as discussed in chapter three.

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<sup>265</sup> Sadan & De Kock (n 51) 8, 10 & 11; Times live 'SA is world's 11th worst plastic polluter: Study' 6 September 2021 <https://www.timeslive.co.za/news/south-africa/2021-09-06-sa-is-worlds-11th-worst-plastic-polluter-study/> (accessed 26 July 2022).

<sup>266</sup> Olatayo (n 22) 148190; Sadan & De Kock (n 51) 13-15.

<sup>267</sup> Greenpeace (n 31); National Geographic (n 18).

<sup>268</sup> Nxumalo (n 19) 100066; Nghiem (n 7) 2; Saliu (n 19) 100042.

<sup>269</sup> Kotzé (n 27) 11; Secs 2 & 16 of NEMWA; Secs 2-4 of the Directions regarding measures to address, prevent and combat the spread of COVID-19 in relation to recycling of waste.

PPE in its current state cannot be sustained, as it is preventing an effective circular economy within the single-use plastic waste stream.<sup>270</sup> The sustainable production of PPE requires improved accountability, transparency, and behavioural changes from stakeholders at all stages of the single-use plastic lifecycle.<sup>271</sup>

The Regulations as a policy instrument, must provide measures for systemic change within the plastics economy, however on their own and as currently formulated, they are not likely to be a sufficiently effective tool. Therefore, this dissertation concludes that the current Regulations and EPR Notice are limited and inadequate in effectively addressing the upsurge of PPE pollution accumulating from the pandemic. There is further room for improvement through an integrated, multidisciplinary approach aimed at curbing the single-use plastic PPE pollution issue in South Africa, thereby ensuring a healthy environment for everyone. The recommendations made next are aimed at addressing some of the gaps left by the Regulations, as well as the inherent limitations of the law.

## 4.2 Recommendations

The single-use plastic pollution problem from COVID-19 is complex and ongoing, despite mask mandates having generally been lifted, and requires involvement from all stakeholders in the plastic industry to support systemic change. There are various measures that, if implemented, can support, and enhance the efficacy of the Regulations in relation to PPE pollution from COVID-19 and subsequent outbreaks of respiratory diseases.<sup>272</sup> These recommendations take an integrated, multidisciplinary approach, and include, but are not limited to, the developments discussed below. The recommendations are based on international best practise for the purpose of stimulating behavioural change in response to the PPE pollution problem as a result of COVID-19 and similar diseases that may occur in the future.<sup>273</sup>

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<sup>270</sup> Sadan & De Kock (n 51) 6, 14, 17, 29 & 38.

<sup>271</sup> A Hanekom 'South African Initiative to End Plastic Pollution in the Environment' (2020) 116 *South African Journal of Science* at 19.

<sup>272</sup> OECD (n 164) 47-50.

<sup>273</sup> Hanekom (n 271) 19.

#### 4.2.1 Administrative inclusion in the Regulations

In terms of the Regulations, producers are obliged to register with DFFE via SAWIC.<sup>274</sup> In addition to the producer register, the Regulations would be enhanced by establishing a centralised data repository, in collaboration with academic experts on single-use plastic pollution for the purpose of developing baselines and informing the Regulations.<sup>275</sup> Experts can influence government policy and add value by ensuring that the progressive realisation of sustainable development initiatives are achieved in relation to PPE pollution.<sup>276</sup> Furthermore, integrating the academic sector into the enhancement of the Regulations could potentially prove invaluable in raising awareness on waste prevention, litter reduction and collection separation, due to researched perspectives and priorities from a South African context.<sup>277</sup>

#### 4.2.2 Visual artwork

Redundant and recycled single-use plastic PPE utilised to create artwork, complement the Regulations, and provide socio-economic benefits including, but not limited to, the collection of littered PPE waste; the utilisation of discarded, post-consumer PPE within a secondary market; and raising awareness on waste prevention, litter reduction and collection separation.<sup>278</sup> PPE related artwork has the potential to create an exposition around the upsurge of PPE pollution generated from the pandemic; and articulate its adverse socio-ecological impact by invoking emotion, debate and action toward the cause.<sup>279</sup> Art is fluid and can transcend barriers of language and intellectual ability while provoking and stimulating its audience.<sup>280</sup> Law can be impartial, impassive, and can condense the plastic problem into a set of rational rules drafted by persons that potentially lack the experience of those at grassroots level, who are most impacted by single-use PPE pollution.<sup>281</sup> Artwork has the potential to inspire society to seek

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<sup>274</sup> Sec 4 of the Regulations.

<sup>275</sup> Sadan & De Kock (n 51) 33 & 39.

<sup>276</sup> The Conversation 'Why we need to listen to the real experts in science' 1 January 2015 <https://theconversation.com/why-we-need-to-listen-to-the-real-experts-in-science-35501> (accessed 18 March 2021).

<sup>277</sup> Secs 7(3)(g) & 7A(3)(d) of the Regulations.

<sup>278</sup> Secs 5A(1)(n) & 5B(1)(m) of the Regulations; Sadan & De Kock (n 51) 43.

<sup>279</sup> R Adeola et al 'Arts, human rights and the law in Africa: An introduction' in *The Art of Human Rights* (2019) at 1-2 & 5.

<sup>280</sup> KL Magnusen 'Photographic silhouettes and human rights in Africa: Confronting and deterring female genital mutilation in Aida Silvestri's Unsterile Clinic' in *The Art of Human Rights* (2019) at 40.

<sup>281</sup> B Fagbayibo 'Critical pedagogy of international legal education in Africa: An exploration of Fela Anikulapo-Kuti's music' in *The Art of Human Rights* (2019) at 9 & 20.

solutions to the PPE pollution problem without relying solely on the law for recourse, promotes human rights, and hold states accountable to people in South Africa.<sup>282</sup> Artwork highlighting PPE pollution continue to exist in time, unaltered and unamended, preserving the socio-ecological impact in history.<sup>283</sup> Artwork provides a platform for those most affected by the negative impacts of PPE pollution, in the hope of creating societal change.<sup>284</sup> Therefore, visual artwork could be an invaluable measure to address PPE pollution and concomitant violations of the right to a healthy environment.

### 4.2.3 Innovative technological advancement

Technology can be utilised as a change driver in the plastic industry to find and develop environmentally sustainable solutions for single-use PPE pollution.<sup>285</sup> The development of biodegradable or compostable PPE produced from sustainable materials supports the notion of waste disposal in an environmentally sound manner that does not adversely affect the environment or human health.<sup>286</sup> A consideration for producers and PROs is to be wary of ‘greenwashing’, which refers to the notion of providing a false impression, misleading information, or false advertising conveying that their product is more environmentally sound than it actually is.<sup>287</sup>

There are several potential external technological advancements, utilised successfully in other states, which can be adapted for use in the South African context.<sup>288</sup> These technological measures include, but are not limited to, eco-design for sustainability; social media visibility and awareness creation on the socio-ecological impact of single-

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<sup>282</sup> M Elshamy ‘Photojournalism and human rights in Africa: Stories from the field’ in *The Art of Human Rights* (2019) at 59-60; JM Kilonzo ‘Commemoration and human rights in Africa: Revisiting the politics of memory through visual arts in Kenya’ in *The Art of Human Rights* (2019) at 85, 87 & 100.

<sup>283</sup> European Union Agency for Fundamental Rights ‘Exploring the connections between arts and human rights’ Report of high-level expert meeting Vienna (2017) 12.

<sup>284</sup> Adeola (n 279) 1-2 & 5; E Lisot-Nelson ‘Sculpting and human rights: An exploration of Fasasi Abeedeen Tunde’s works in Italy’ in *The Art of Human Rights* (2019) at 103-104.

<sup>285</sup> Hanekom (n 271) 16.

<sup>286</sup> M Haddad et al ‘Personal protective equipment (PPE) pollution associated with the COVID-19 pandemic along the coastline of Agadir, Morocco’ (2021) 798 *Science of the Total Environment* at 149282; SAHRC (n 32) para 87.

<sup>287</sup> Polity ‘South Africa’s biggest retailers and brands move towards environmentally friendly and sustainable packaging’ 2 December 2021 <https://www.polity.org.za/article/south-africas-biggest-retailers-and-brands-move-towards-environmentally-friendly-and-sustainable-packaging-2021-12-02/searchString:extended+producer+responsibility> (accessed 17 January 2022).

<sup>288</sup> M Sugathan et al ‘Substitutes for single-use plastics in sub-Saharan Africa and South Asia’ (2022) *United Nations Conference on Trade and Development* at 53.

use PPE; low-tech PPE waste collection systems; educational campaign engagements at secondary and tertiary institutions; and mobile device applications which use geolocation functions to connect users to the nearest single-use plastic recycling venue where PPE waste can be exchanged for 'green credits'.<sup>289</sup> Prioritising technological PPE waste management solutions is conducive to a healthy environment and human health.

#### 4.2.4 Improved circular economy initiatives

The design stage of the plastic PPE life cycle can be enhanced by utilising biodegradable or compostable properties rather than high environmental impact plastic PP.<sup>290</sup> Furthermore, eco-design for sustainability supports the recyclability of PPE waste; reuse targets for PPE and achievement of recyclable targets identified in the EPR Notice for the single-use plastic product waste stream.

The production stage of the PPE life cycle can be improved by establishing limitations within the Regulations on the percentage of virgin plastic permitted when manufacturing PPE.<sup>291</sup> This measure is potentially achievable by providing tax incentives to producers that use recycled material when manufacturing PPE and establishing consequences for virgin plastic use to better enable the transition to a circular plastics economy. Improved measures during the production stage coupled with the plastic carrier bag levy introduced in South Africa in 2004, could reinforce the reduction of single-use plastic pollution.<sup>292</sup> Additionally, green government purchasing must be prioritised by ensuring that only PPE with high recycled content is acquired thus encouraging circular economy initiatives within the Regulations.<sup>293</sup> Other potential measures promoting circular economy initiatives include, but are not limited to, implementing landfill bans and taxes for PPE waste; and developing recycling credits for PPE waste, ensuring that PPE do not go to final disposal.<sup>294</sup>

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<sup>289</sup> United Nations Environment Assembly of the United Nations Environment Programme Fourth session 'Resolution adopted by the United Nations Environment Assembly on 15 March 2019: Addressing single-use plastic products pollution' UNEP/EA.4/Res.9 <https://documents-dds-ny.un.org/doc/UNDOC/GEN/K19/011/21/pdf/K1901121.pdf?OpenElement> (accessed 11 July 2022); Daily Maverick (n 20).

<sup>290</sup> UNEP (n 4) 6.

<sup>291</sup> Sadan & De Kock (n 51) 16.

<sup>292</sup> G Rapson et al 'Amended plastic bag regulations raise concern' (2021) 23 *ReSource* at 2.

<sup>293</sup> OECD (n 164) 47-50.

<sup>294</sup> As above.



Potential improvements to the recycling stage of the PPE lifecycle include the implementation of eco-modulation to promote the collection and recycling of PPE through fee differentiation between different material types. EPR fees for non-biodegradable PPE must be higher for the single-use plastic waste stream, due to PPE not being easily recyclable.<sup>295</sup> Alternatively, the implementation of a supplementary EPR fee framework, containing minimum standards for defining recyclability, the biodegradable and compostable characteristics of PPE, could circumvent the administrative burden of eco-modulation while continuing to promote PPE recyclability.<sup>296</sup>

#### 4.2.5 Enforcement of global standards

Bans on the use, manufacture, distribution and import of single-use plastics have been implemented in thirty-seven African states,<sup>297</sup> excluding South Africa.<sup>298</sup> Similarly, the Bamako Convention,<sup>299</sup> which includes all forms of plastic waste under its scope, appeals to states such as South Africa to implement bans on single-use plastics.<sup>300</sup> South Africa has not ratified the Bamako Convention on the basis that a ban on single-use plastics potentially risks inhibiting the state's recycling economy from plastic waste, in which the state is invested despite the risks of plastic pollution.<sup>301</sup> The potential risk in banning single-use plastic PPE include, but are not limited to the unintended enabling of a black-market trade in single-use plastic products which threaten to cause more harm than good.<sup>302</sup> These must be weighed against the positives of a ban, which include but are not limited to reduced consumption of single-

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<sup>295</sup> Secs 7(1) & 7(3)(b) of the Regulations.

<sup>296</sup> Arp (n 92) 49.

<sup>297</sup> A few of the thirty-seven African states which have put into force legislation banning the use, manufacture, distribution and import of plastic to some degree include Rwanda, Kenya, and Cameroon.

<sup>298</sup> Sadan & De Kock (n 51) 27.

<sup>299</sup> Bamako Convention on the ban of the import into Africa and the control of transboundary movement and management of hazardous wastes within Africa, 1991.

<sup>300</sup> United Nations Information Portal on Multilateral Environmental Agreements 'Decision 3/8 of the third Conference of the Parties (COP3) to the Bamako Convention' at 23 <https://www.informe.org/sites/default/files/decisions/Decisions%20of%20the%20third%20Conference%20of%20the%20Parties%20to%20the%20Bamako%20Convention.pdf> (accessed 31 July 2022).

<sup>301</sup> Olowu (n 187) 261; Sadan & De Kock (n 51) 23.

<sup>302</sup> Sadan & De Kock (n 51) 10; A Muposhi et al 'Considerations, benefits and unintended consequences of banning plastic shopping bags for environmental sustainability: A systematic literature review' (2022) 40 *Waste Management & Research* at 256-257.

use plastic in populated areas, therefore potentially reducing leakage of plastic pollution into the environment;<sup>303</sup> utilising the surplus plastic prior to the ban to conduct lifecycle assessments for the foreseeable future;<sup>304</sup> and promoting the use of reusable or biodegradable masks for non-medical, public consumption, thus reducing production of masks using virgin plastic.<sup>305</sup>

While South Africa may not be implementing bans on single-use PPE for non-medical, public consumption anytime soon, there are other global initiatives that can be employed to support the Regulations and a circular plastics economy.<sup>306</sup> One such global initiative is the international legally binding End Plastic Pollution draft treaty on plastic pollution which has been adopted by South Africa.<sup>307</sup> The draft Treaty is a progressive environmental agreement which addresses the life cycle of plastic products, including single-use PPE, and its associated waste, thereby attempting to enable an effective transition to a circular plastics economy.<sup>308</sup> The draft Treaty potentially supports measures contained in the Regulations. The draft Treaty measures include innovative design,<sup>309</sup> production,<sup>310</sup> recyclability,<sup>311</sup> consumption,<sup>312</sup> and collection of single-use PPE, among other plastics.<sup>313</sup> The draft Treaty reinforces the reduction of plastic pollution as a joint undertaking, by determining state responsibilities and ensuring accountability for production, consumption, and plastic leakage into the environment.<sup>314</sup> Furthermore, two additional resolutions adopted by South Africa include the establishment of a science-policy panel addressing plastic

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<sup>303</sup> Sadan & De Kock (n 51) 27-28.

<sup>304</sup> As above.

<sup>305</sup> OECD (n 164) 47-50; Sadan & De Kock (n 51) 27.

<sup>306</sup> Sadan & De Kock (n 51) 7.

<sup>307</sup> United Nations Environment Assembly of the United Nations Environment Programme fifth session draft resolution 'End plastic pollution: Towards an international legally binding instrument', UNEP/EA.5/L.23/Rev.1, 2 March 2022 thereafter the 'draft Treaty' [https://wedocs.unep.org/bitstream/handle/20.500.11822/38522/k2200647\\_-\\_unep-ea-5-l-23-rev-1\\_-\\_advance.pdf?sequence=1&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/38522/k2200647_-_unep-ea-5-l-23-rev-1_-_advance.pdf?sequence=1&isAllowed=y) (accessed 1 August 2022).

<sup>308</sup> Daily Maverick 'First UN draft plastic pollution treaty set to help carve a more sustainable future' 3 March 2022 <https://www.dailymaverick.co.za/article/2022-03-03-first-un-draft-plastic-pollution-treaty-set-to-help-carve-a-more-sustainable-future/> (accessed 17 June 2022).

<sup>309</sup> Secs 3(b) & (o) of the draft Treaty.

<sup>310</sup> Secs 3(b) & 15 of the draft Treaty.

<sup>311</sup> Introduction of the draft Treaty.

<sup>312</sup> Secs 3(b) & 15 of the draft Treaty.

<sup>313</sup> Introduction of the draft Treaty.

<sup>314</sup> De Kock (n 40) 18.

chemical waste,<sup>315</sup> and nature-based solutions to protect ecosystems,<sup>316</sup> which are vital additional measures that support systemic change and potentially reduce the socio-ecological impact of PPE pollution.<sup>317</sup>

#### 4.2.6 Governance and oversight

Government and oversight committees provided for by the Regulations, must prioritise the avoidance of high impact single-use PPE products through the implementation of green government purchasing;<sup>318</sup> increased accountability within the single-use PPE value chain; facilitation of inclusive stakeholder collaboration; and the development of integrated strategies to further address the single-use plastic PPE pollution problem.<sup>319</sup> The current approach to the single-use PPE pollution problem is fragmented, which present environmental and human health risks, and further results in the lack of accountability from stakeholders within the single-use plastics value chain.<sup>320</sup> Stricter enforcement of new EPR measures for post-consumer PPE waste are essential to address the PPE pollution problem. In addition, the Regulations cannot succeed without the political will of the state. A noticeable consideration is that the political will of the state has the potential to strengthen the principles contained in the Regulations and the progression of environmental rights through EPR.

In addition, measures must be taken where necessary to reduce or eliminate the risk of potential false commitments that producers later abandon, and to mitigate the risk

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<sup>315</sup> United Nations Environment Assembly of the United Nations Environment Programme fifth session resolution 'Science-policy panel to contribute further to the sound management of chemicals and waste and to prevent pollution', UNEP/EA.5/Res.8, 7 March 2022 <https://wedocs.unep.org/bitstream/handle/20.500.11822/39944/SCIENCE-POLICY%20PANEL%20TO%20CONTRIBUTE%20FURTHER%20TO%20THE%20SOUND%20MANAGEMENT%20OF%20CHEMICALS%20AND%20WASTE%20AND%20TO%20PREVENT%20POLLUTION.%20English.pdf?sequence=1&isAllowed=y> (accessed 16 September 2022).

<sup>316</sup> United Nations Environment Assembly of the United Nations Environment Programme fifth session resolution 'Nature-based solutions for supporting sustainable development', UNEP/EA.5/Res.5, 7 March 2022 <https://wedocs.unep.org/bitstream/handle/20.500.11822/39864/NATURE-BASED%20SOLUTIONS%20FOR%20SUPPORTING%20SUSTAINABLE%20DEVELOPMENT.%20English.pdf?sequence=1&isAllowed=y> (accessed 16 September 2022).

<sup>317</sup> As above; Daily Maverick (n 20).

<sup>318</sup> UNEP (n 4) 22.

<sup>319</sup> Sadan & De Kock (n 51) 8.

<sup>320</sup> De Kock (n 40) 18; SAHRC (n 32) para 92.

of adverse socio-ecological impacts from PPE pollution.<sup>321</sup> Furthermore, EPR oversight committees must ensure that all recommendations and potential solutions that enhance the efficacy of the Regulations are acknowledged and accepted by the relevant stakeholders, ensure the implementation of approved recommendations, and thereafter monitor the enforcement of such recommendations to achieve sustainability within the single-use plastic PPE waste stream.

#### **4.2.7 Conclusion**

The introduction of the Regulations and EPR Notice indicate that a significant effort has been made toward developing a guideline for sustainable waste management in South Africa, which support and cultivate stakeholder relationships within the single-use plastic value chain. However, it is undeniable that the single-use plastic pollution problem arising from COVID-19 is a complex and ongoing issue which can be further improved through the integration of a multidisciplinary approach. Although mandatory face masks, and other PPE are no longer required as a preventative measure against COVID-19, the single-use PPE pollution problem has not gone away, and there is also a likelihood that future pandemics will strike, causing a resurgence of the PPE pollution crisis we saw during COVID-19. Therefore, the need to strengthen the EPR regime remains, and the description, critique and recommendations offered in this dissertation hopefully go some way to contributing toward solutions.

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<sup>321</sup> Break Free from Plastic 'Branded Volume III: Demanding corporate accountability for plastic pollution' Audit Report 2020 <https://www.breakfreefromplastic.org/wp-content/uploads/2020/12/BFFP-2020-Brand-Audit-Report.pdf> (accessed 29 March 2021).

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