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## Bio-Medical waste during Pandemic in India

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*India was already facing difficulties in disposing of its Bio-medical waste in a pre-pandemic world and with the onset of a pandemic, we are currently facing our biggest challenge. This paper shall focus on Bio-medical waste which was created by the public and hospitals and its impact on the environment and how India has adapted to these challenging times. Through a legal lens, this paper discusses the remedies, forums, and strategies adopted by the stakeholder to tackle heaps of hazardous Bio-medical waste. This allows us to inquire into the gaps that are needed to be fulfilled and other creative methods which can be adopted by India amidst a crashing economy.*

**Keywords:** *waste, pandemic, medical.*

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### INTRODUCTION

The infamous Covid 19 has changed the way we understand and perform most of the mundane activities. This virus has not only given us immeasurable pain, fear, and loss but it has also changed the lifestyle of the people and disrupted the economy of the entire country. This new normal has decreased human activities which used to be the root cause of a majority of pollution. The isolation, home quarantine, and the regular lockdowns that India and other countries have faced, reports and scientists suggested that positive changes in climate are

occurring at a global level such as better air quality, deduction of harmful gases, and positive changes they had never expected to have taken place<sup>1</sup>. Media platforms are flooded with videos that are mapping the activities and narrate the positive or negative changes in either of the social, economic, or environmental fronts. However, this change in climate is suggested to be short-lived and temporary in nature. This façade died quickly when the world was faced with a greater challenge of disposing Bio-Medical Waste (BMW) that was created in abundance due to this virus.<sup>2</sup> In reality, India already faces a huge challenge when it comes to waste management due to poor infrastructure and resources. The issue of Safe disposal of waste during the pandemic was magnified when the Bio-medical waste was witnessing a surge. The range of BMW reached new heights of 180-220 tonnes per day in 2020 compared to pre-pandemic India, 2019 where it was only 75 tonnes per day<sup>3</sup>.

## **VARIOUS LEGISLATIVE, RECOMMENDATIONS AND STRATEGIES ON HOW TO DISPOSE OF BMW WASTE**

According to Biomedical Waste (Management and Handling) Rules, 1998<sup>4</sup> of India, 'Biomedical waste is defined as any waste, which is generated during the diagnosis, treatment, or immunization of human beings or animals,<sup>5</sup> or in research activities pertaining thereto, or in the production or testing of biologicals. This definition has been expanding according to any new challenges or pathogens that we encounter.<sup>6</sup> This Act was made more like a comprehensive legislature in 2016 and amended in 2018 and 2019 by the Government of India erstwhile Ministry of Environment and Forest, to provide a better framework for managing

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<sup>1</sup> 'Impact Evaluation of COVID-19 Pandemic on Environmental Attributes' (Maharashtra Pollution Control Board, 31 July 2020) <[https://mpcb.gov.in/sites/default/files/whats\\_new/2020-09/EIACovidFinalReport02092020.pdf](https://mpcb.gov.in/sites/default/files/whats_new/2020-09/EIACovidFinalReport02092020.pdf)> accessed 01 December 2021

<sup>2</sup> *Ibid*

<sup>3</sup> G Krishnakumar, 'Coronavirus | India witnesses surge in COVID-19-related biomedical waste' (*The Hindu*, 15 May 2021) <<https://www.thehindu.com/news/national/coronavirus-india-witnesses-surge-in-covid-19-related-biomedical-waste/article34563675.ece>> accessed 1 December 2021

<sup>4</sup> Biomedical waste (Management and Handling) Rules 1998

<sup>5</sup> *Ibid*

<sup>6</sup> *Ibid*

the Bio-medical waste generated in the country<sup>7</sup>. This rule conferred powers from Sections 6, 8, and 25 of the Environment Protection Act, 1986<sup>8</sup>. This Rule lays down the framework and process that one has to take to dispose of the BMW. The majority of responsibility is given to the apex body i.e. Central Pollution Control Board to oversee and monitor the waste management in India<sup>9</sup>. However, the prescribed authority falls on the state's pollution control board and committees, and they are given the responsibility to look after the implementation of these rules. Each of these State governments or Union Territory administration constitutes an Advisory Committee to give out advice and make reports and submit it back to the CPCB<sup>10</sup>. At the base level, an 'occupier' is a person who has administrative control over any institution or premise which generates biomedical waste<sup>11</sup>. These occupiers then seek authorization from the state-level authority to carry out the bio-medical waste treatment and disposal facility. However, even with these frameworks in place, India even prior to covid was not able to handle their medical waste. The gap that existed varied from non-availability of funds for operation, non-compliance with segregation of waste at the HCFs level, non-payment of salary to the people in charge, no sufficient site treatment which led to the waste getting mixed with the solid waste either by a low level of state-level authority<sup>12</sup>. Considering the grim situation of bio-medical waste disposal, when the Coronavirus disease hit the world in 2019, its prolonged stay has invited new varieties of bio-medical waste for India to deal with.<sup>13</sup>

With technological advancement and development, science has elevated to new heights when it comes to saving lives but it is practiced at the cost of polluting the environment. Equipment that is used to protect humans from this virus is hazardous in nature due to the qualities of this virus. The choice between either saving lives or protecting the environment is rigged and

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<sup>7</sup> Ministry Of Environment, Forest And Climate Change, 'Bio-medical Waste Management Rules 2016' (Government Of India, 28 March 2016) <[https://dhr.gov.in/sites/default/files/Bio-medical\\_Waste\\_Management\\_Rules\\_2016.pdf](https://dhr.gov.in/sites/default/files/Bio-medical_Waste_Management_Rules_2016.pdf)> accessed 01 December 2021

<sup>8</sup> *Ibid*

<sup>9</sup> *Ibid*

<sup>10</sup> Chand S and others, 'Updates on biomedical waste management during COVID-19: The Indian scenario' (*Clinical Epidemiology and Global Health*) <<https://www.sciencedirect.com/science/article/pii/S2213398421000191>> accessed 01 December 2021

<sup>11</sup> *Ibid*

<sup>12</sup> <https://www.downtoearth.org.in/blog/health/biomedical-waste-management-in-india-still-a-looming-concern-63896> accessed 01 December 2021

<sup>13</sup> *Ibid*

inclined towards self-interest which creates an imbalance.<sup>14</sup> To fight this battle right, International standards were set by WHO, OSHA, EU, Italian Authorities, and Control for Disease Control which suggested a mechanism to dispose of the BMW during Covid<sup>15</sup>. They all suggested diverse discourses that could be taken up by countries to practice safe disposal but only a few of them were feasible for India to follow given its socio-economic issues.<sup>16</sup> The most accessible and easily adopted recommendations were by the United Nations Environmental Program since they catered to the needs of under-developing and developing countries<sup>17</sup>. Some of the suggestions were to adopt the three S strategy i.e. - sorting, segregation, and storage.<sup>18</sup> The steps to practice them were as follow<sup>19</sup>. Firstly, the waste is to be divided into general and bio-medical waste and so that we get an estimate about the volume of waste that is produced. After understanding the quantity, we should focus on the quality of the waste and opt for the best sustainable technology available to practice the best environmental solution. These recommendations were incorporated as national policy by many countries and India as they did not have the economic advantage of adopting expensive recourses. However, even with these standards in place, its implementation depends on various national legislature and ground realities. The Supreme Court and the constitution of India do impose a duty on individuals and the state to protect the environment which falls within the ambit of Article 21<sup>20</sup>. Every citizen has the fundamental right to live in an unpolluted environment.<sup>21</sup> So, when BMW is disposed of without any precautions it not only violates this right but also inter-generational rights.<sup>22</sup>

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<sup>14</sup> *Ibid*

<sup>15</sup> Capoor M and Parida A, 'Current perspectives of biomedical waste management in context of COVID-19' (2021) 39(2) Indian Journal of Medical Microbiology 171-178

<sup>16</sup> *Ibid*

<sup>17</sup> Capoor M and Parida A, 'Biomedical Waste and Solid Waste Management in the Time of COVID-19: A Comprehensive Review of the National and International Scenario and Guidelines' (2021) 13(2) Journal of Laboratory Physicians 175-182

<sup>18</sup> *Ibid*

<sup>19</sup> *Ibid*

<sup>20</sup> Constitution of India, art 21

<sup>21</sup> *T Damoder Rao v Special Officer, Municipal Corporation of Hyderabad* AIR 1987 AP 171

<sup>22</sup> *Ibid*

## NATIONAL GREEN TRIBUNAL'S ROLE AND RECOMMENDATIONS ON THE ISSUE

While keeping all the International standards and existing framework in mind, The Hon'ble National Green Tribunal noted that BMW is a red flag and a big challenge for India<sup>23</sup>. It was held that any unsanitary disposal of Bio-medical waste can cause a serious risk of spreading the virus while also polluting natural resources with its toxins<sup>24</sup>. To overcome the gap that existed even before the pandemic in regards to compliance with the BMW Rules and the other non-compliance of rules in hospitals, NGT and CPCB responded with stringent guidelines. From March 2020 till July 2020, CPCB has come up with four revised guidelines for handling, treating, disposing of BMW created specifically by Covid-19<sup>25</sup>. The responsibility to overview the compliance fell on the appointed stakeholders mainly being Centre,<sup>26</sup> state, and municipal level authorities. The medical fraternity was given rules and manuals to follow. The definition of biomedical waste in the COVID19 context extended to waste generated during diagnosis, treatment, quarantine, home care of COVID19 patients, and the dead bodies of covid patients.<sup>27</sup> Some of the important rules that were included were as follows.<sup>28</sup> The General solid waste of covid patients was to be disposed of as per the Solid Waste Management Rules, 2016<sup>29</sup> Rules while non-disposable items like utensils were to be handled with precaution or suggested the use of bio-degradable cutlery instead.<sup>30</sup> Used masks, tissues, and toiletries are treated as BMW and shall be separated from the solid waste and are to be disposed of in yellow-colored bags. For home Quarantine facilities, only the used masks, gloves, and tissues or swabs contaminated with blood/body fluids of COVID-19 patients are to be treated as BMW<sup>31</sup>. In addition to the NGT's recommendations,<sup>32</sup> The Supreme Court went a step ahead

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<sup>23</sup> 'Latest Report by oversight committee in OA 72 of 2020' (*Green Tribunal*) <[https://greentribunal.gov.in/sites/default/files/news\\_updates/Latest%20Report%20by%20Oversight%20Com%20mittee%20in%20OA%2072%20of%202020%20\(In%20Re%20Scientific%20Disposal%20of%20Bio-Medical%20Waste%20arising%20out%20of%20COVID-19%20treatment-%20Compliance%20of%20BMW%20Rules,%2020201.pdf](https://greentribunal.gov.in/sites/default/files/news_updates/Latest%20Report%20by%20Oversight%20Com%20mittee%20in%20OA%2072%20of%202020%20(In%20Re%20Scientific%20Disposal%20of%20Bio-Medical%20Waste%20arising%20out%20of%20COVID-19%20treatment-%20Compliance%20of%20BMW%20Rules,%2020201.pdf)> accessed 01 December 2021

<sup>24</sup> *Ibid*

<sup>25</sup> Chand S (n 11)

<sup>26</sup> *Ibid*

<sup>27</sup> Capoor M (n 16)

<sup>28</sup> *Ibid*

<sup>29</sup> Solid Waste Management Rules 2016

<sup>30</sup> *Ibid*

<sup>31</sup> 'Guidelines by CPCB' (*CPCB*) <<https://cpcb.nic.in/technical-guidelines-2/>> accessed 01 December 2021

and supported the cause by making it mandatory for all the municipal corporations and state boards to use the COVID19BWN APP for tracking Bio-medical Waste daily<sup>33</sup>. This was one of the recommendations made by ECPA to ensure that the waste is systematically being transported and disposed of in treatment facilities only. The data on this app varied from the waste collected from home care, hospitals, or by workers who pick the waste and to the methods of disposal adopted by the operator.<sup>34</sup>

### **GAPS IN THE LEGISLATION AND ITS IMPLEMENTATION AND THE GROUND REALITIES OF THE SITUATION IN INDIA**

With all these revised guidelines and recommendations for safe disposal, it felt like India was ready to process the additional waste that has been created by the pandemic efficiently. However, the situation was quite opposite. The BMW started to increase drastically from it being 94 metric tons in May, to being 665 and 761 metrics in June and July for states like Delhi, Haryana, Rajasthan, and UP<sup>35</sup>. The existing 198 CBMWFS and 225 captive incinerators<sup>36</sup> were significantly inefficient to cater to 700 tonnes of waste that was generated in a day and states started using different unsafe methods to dispose of this case<sup>37</sup>. For example, In Lodhi crematorium<sup>38</sup> heaps of PPE kits were found to be lying with other plastic and household waste in its parking area.<sup>39</sup> In the absence of dedicated bins in neighborhoods, PPE suits, gloves, and masks are often dumped along with routine garbage in municipal vans used for door-to-door collection.<sup>40</sup> Due to the lack of information given to the general public about the adverse ill effects of this waste, most people threw these bio-hazardous waste in the open

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<sup>32</sup> *Ibid*

<sup>33</sup> 'Guidelines by CPCB' (CPCB) <[https://cpcb.nic.in/uploads/Projects/Bio-Medical - Waste/Guidelines\\_healthcare\\_June\\_2018.pdf](https://cpcb.nic.in/uploads/Projects/Bio-Medical-Waste/Guidelines_healthcare_June_2018.pdf)> accessed 01 December 2021

<sup>34</sup> *Ibid*

<sup>35</sup> 'EPCA Recommendation reports' (Cseindia.org) <<https://www.cseindia.org>> accessed 1 December 2021

<sup>36</sup> *Ibid*

<sup>37</sup> Capoor M (n 16)

<sup>38</sup> Vibha Sharma, 'PPE kits found dumped at Lodhi Crematorium; SDMC to probe' (*The Times Of India*, 23 June 2020) <<https://timesofindia.indiatimes.com/city/delhi/ppe-kits-found-dumped-at-lodhi-crematorium-sdmc-to-probe/articleshow/76519014.cms>> accessed 01 December 2021

<sup>39</sup> Capoor M (n 16)

<sup>40</sup> *Ibid*

which exposed many people to these pollutants.<sup>41</sup> Delhi was only able to dispose of 17 to 18 tons of biomedical waste daily. While this was enough during the initial stage of a pandemic, as we moved forward the amount of waste increased exponentially with no additional infrastructure in place to back the additional load. This not only led for the waste to be thrown in landfills with all the other waste, but it also negatively impacted the residents living near but also the informal waste pickers and sanitation workers as all of them were put at high risk of contracting this virus. This example is not an extraordinary once in a while occurring situation, every state has seen a violation of all the central waste disposal guidelines repeatedly. Even with the fund given to make new CBMWFS and incinerators, there were several states and districts wherein the waste had to go untreated or use unsafe disposal methods which are doing more harm than good.<sup>42</sup>

While everyone who is creating the waste has the onus to look into the safe disposal but the majority of responsibility and duty lies with the state. Via these guidelines, the state is providing a procedure that is to be followed. In case of breach of these rules, the state also has the power to hold the irresponsible accountable for their actions. Under Section 268 of the Indian Penal Code,<sup>43</sup> any act that leads to public nuisance including affecting public health in rem by any illegal omission which causes any common injury, danger, or annoyance to the people will be charged under this<sup>44</sup>. To hold the state authority accountable for its action, a case can be made to apply the principle of *Absolute Liability* in the current scenario as well. The scope of this principle was defined and extended in the Indian context with cases like the *Shriram Gas leak case*<sup>45</sup> and the *Bhopal Gas tragedy*<sup>46</sup> where the industries were liable for the loss caused by hazardous and inherently dangerous activities.<sup>47</sup> Hazardous or Inherently Dangerous Activity (HOIDA) poses a potential threat to the health and safety of the people

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<sup>41</sup> Ankit Tyagi and Ajay Kumar, 'Mountain of coronavirus-related waste raises alarm in Delhi' (*India Today*, 25 June 2020) <<https://www.indiatoday.in/mail-today/story/mountain-of-coronavirus-related-waste-raises-alarm-in-delhi-1692419-2020-06-25>> accessed 01 December 2021

<sup>42</sup> *Ibid*

<sup>43</sup> Indian Penal Code 1860, s 268

<sup>44</sup> *Ibid*

<sup>45</sup> *MC Mehta & Anr v Union of India & Ors* 1987 AIR 1086

<sup>46</sup> *Union Carbide Corporation v Union of India* 1990 AIR 273

<sup>47</sup> *Ibid*

working in the factory and residing in the surrounding areas<sup>48</sup>. Prima facie, via the application of the same ratio to the current unsafe disposal of Bio-medical Waste by the state or any authority appointed by the state, is an inherently dangerous activity and it has a potential threat to the health of the people who are living around the landfills, waste pickers, informal waste pickers and other people who come in contact due to insufficient precaution taken by them.<sup>49</sup> This can be additionally supported by the principle of 'Polluter pays' which was established in *India Council of Enviro-legal Action vs. Union of India*<sup>50</sup>. This principle holds health care establishments legally accountable for damages caused by waste management processes. This is a very recognized and celebrated principle since it set out responsibility on the generator. The rationale behind this principle is to hold these enterprises accountable and leave them with no exceptions or reasoning like due diligence or non-negligence on their part. The court held that authorities have the responsibility of working together and if any particular enterprise work is isolated from the chain of actions, there is a chance that there will be a shift in blame which will defeat the entire process of allocating responsibility to them.<sup>51</sup>

However, In reality, none of these actions were ever taken by the judiciary while it took cognize of non-compliance with the provision of the bio-medical waste management rules,<sup>52</sup> 2016 by the state and the UTs in *Shailesh Singh v Sheela Hospital & Trauma Center, Shahjahanpur & Ors, 2020*<sup>53</sup> and other similarly situated cases that were mentioned above. Shailesh Singh's case only zero in on the gaps in respect to compliance to the BMW Rules, 2016, and pointed out different stakeholders who should have taken steps to avoid any non-compliance and how crucial it is for all the hierarchy to function properly. It mentioned that the ratio of the waste that is being produced to the safe prescribed method of disposing of is disproportional which leads to unsafe disposals. This case highlighted the problems of other States and why there are still using deep burial pits for disposal which is clearly ruled out as per the BMW Rules and

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<sup>48</sup> Sridhar Madabushi, 'Hospital Waste Management and Principles of Liability: Efficient Law Minus Enforcement' (NALSAR, 29 January 2003) <<https://www.mondaq.com/india/healthcare/19672/hospital-waste-management-and-principles-of-liability>> accessed 01 December 2021

<sup>49</sup> *Ibid*

<sup>50</sup> *Ibid*

<sup>51</sup> *Shailesh Singh & Ors v Sheela Hospital & Trauma Centre, Shahjahanpur & Ors* No 710/2017

<sup>52</sup> *Ibid*

<sup>53</sup> Green Tribunal (n 24)



mention the undiscussed situation in rural India<sup>54</sup>. It stated that around 20 percent of the HCFs are yet to be brought under authorization process while others are not registering their reports properly<sup>55</sup>. The court in response to the violation merely directed to constitute a District Planning Committees to monitor District Environment plans to cover these issues.<sup>56</sup> This body would then receive information and reports on a daily basis in respect to compliance and state authorities were asked to submit their reports to CPCB online for a better understanding of the situation<sup>57</sup>. None of the previously stated liability or principles were imposed or even discussed when the inaction or reckless behavior of the hospitals and other agencies were discussed. No action was taken nor discussed the liability in case of future breach by the state or the hospitals which raises the question of whether the state is protecting its citizen and performing its duties as promised. We understand the intention of the judiciary and CPCB while making recommendations and creating frameworks but to not impose any consequences in breach makes us rethink if these rules are enough and if they are ever going to be followed given the poor infrastructure in India and lack of implementation and consequences.

These questions started to get in the limelight and this forced the Centre government to come up with stringent laws and overlook the implementation of the new recommendations. This however led to another issue where there was a surge in BMW. The state authorities and low-level municipal corporations started mislabelling the household waste also as yellow-colored waste since they were skeptical of the waste given by the households and quarantine households.<sup>58</sup> The healthcare facilities were aware of segregation<sup>59</sup> and practiced it way better than households and quarantine centers could<sup>60</sup>. This led the occupiers to take a drastic protective step to avoid any liability. NGT emphasized that even a small amount of discharge of lethal waste can lead to liability against any person who handled any hazardous substance.

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<sup>54</sup> *Ibid*

<sup>55</sup> *Ibid*

<sup>56</sup> *Ibid*

<sup>57</sup> Green Tribunal (n 24)

<sup>58</sup> Siddharth Ghanshyam Singh, 'COVID-19 will place India's biomedical waste management under terrible strain' (*Downtoearth*, 30 June 2021) <<https://www.downtoearth.org.in/news/waste/covid-19-will-place-india-s-biomedical-waste-management-under-terrible-strain-77714>> accessed 01 December 2021

<sup>59</sup> *Ibid*

<sup>60</sup> *Ibid*

Any accident by them could lead to relief and compensation for damages that occurred concerned persons, property, and the environment. The increased inspections to look into any non-compliance led to mislabelling of solid waste as BMW. During the second wave of covid, the number of cases went up by 200 percent but the Covid related waste only went up by 11 percent in the same period<sup>61</sup>. This load was supposed to increase significantly due to vaccination drives which would at least generate over 1.3 billion used syringes and needles and more than 100 million discarded glass vials<sup>62</sup>. With all the mislabelling, vaccination drive, and the second wave of Covid BMW, the percentage of waste collection of BMW should have inflated but rather the low numbers look implausible. CPCB said that this was due to better segregation by the occupiers but this is clearly a case of under-representation of waste. These conflicting views on the situation undeniably show how the center is not ready to take up responsibility for the disturbing situation in India.

#### **STEPS THAT SHOULD BE TAKEN TO OVERCOME THE ISSUE**

The Rules that are to be followed were focused on environmentally sound management of bio-medical waste and its impact on the environment.<sup>63</sup> However, we have clearly seen its implementation on the grounds in the above statements. The rules did try to become an easy handbook for the stakeholders by incorporating things like allocating specific duties unto authorities to create a systematic process, gave Health care facilities a broad definition to include all different kinds of places creating a different kind of biomedical waste under this rule's ambit. This ensured that the responsibility lies on every person creating the waste but also provided a proper chain of actions that are to be followed to tackle the situation.<sup>64</sup> This could have been improved if non-legal discourses were also taken up by the state. Swachh Bharat Abhiyan was a country-wide campaign initiated by the government in 2014 to spread awareness about waste and how one should eliminate open defecation and improve solid

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<sup>61</sup> Neel Kamal, 'Under-counting, under-representation of data dogs management of Covid biomedical waste: CSE' (The Times Of India, 2 July 2021) <<https://timesofindia.indiatimes.com/india/under-counting-under-representation-of-data-dogs-management-of-covid-biomedical-waste-cse/articleshow/84061844.cms>> accessed 01 December 2021

<sup>62</sup> *Ibid*

<sup>63</sup> Guidelines by CPCB (n 32)

<sup>64</sup> *Ibid*

waste management by creating an onus of responsibility by looking after their own waste<sup>65</sup>. This initiative created a major buzz in India and made people aware of the waste crisis. Similar initiatives should have been taken by the government to discuss the harmful effects of Bio-medical waste. This fight is also against the mentality of the people. Most of the people while giving away their waste to the waste collectors, often forget there is no such thing as away.<sup>66</sup> This topic needs to be de-stigmatized in schools and households and the stakeholders should come up with better mechanisms and facilities to dispose of waste like setting up a self-regulatory mechanism to monitor the situation or adopt alternative ways to dispose of their BMW such as microwave technology, autoclaving, electro-Crysis or chemical-mechanical systems over medical waste incineration<sup>67</sup>. Some of these methods do require good infrastructure and funding which defeats the purpose of moving forward from incinerators but creating on-site segregation and using autoclaving can reduce the burden of waste at low cost. For developing countries like India, a framework is essential which lays down a comprehensive action plan, distributes responsibilities while allocating resources for handling and disposal of waste. However, it is equally important for authorities to be penalized for not following the prescribed guidelines. India should first start by inculcating segregation at home and ethical disposal of biomedical waste then move on to incorporating better technological methods of Management.<sup>68</sup> This has been pushed by the government via mandates and notices that are circulated by the municipal corporations but for the general public to actually follow these segregation guidelines, they should be given the proper equipment to segregate these waste, there should be designated bins in societies for it, the waste collectors should be adequately equipped in terms of handling and disposing of the waste. Use of heavy-duty boots, splash-proof aprons, goggles, masks, and face shields, and adherence to hand hygiene after handling waste is recommended for waste handlers but this is not our ground reality<sup>69</sup>. Sanitation workers and waste handlers both formal and informal are exposed to harmful

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<sup>65</sup> 'Swachh Bharat Abhiyan Major Initiatives Carried out' (*Rajiv Gandhi National Institute of Youth Development*) <[https://rgniyd.gov.in/sites/default/files/pdfs/admin/key\\_activities\\_10.pdf](https://rgniyd.gov.in/sites/default/files/pdfs/admin/key_activities_10.pdf)> accessed 01 December 2021

<sup>66</sup> *Ibid*

<sup>67</sup> K Zimmermann, 'Microwave technologies: An emerging tool for inactivation of Waste' (*mdpi.com*) <<https://www.mdpi.com>> accessed 01 December 2021

<sup>68</sup> *Ibid*

<sup>69</sup> Capoor M (n 16)

chemical waste and cause occupational health hazards since they are not made aware of the difference in bio-medical waste and how it should be handled.<sup>70</sup>

## CONCLUSION

The issue of Biomedical Waste doesn't end with the above-listed problems that this paper encompasses. Coronavirus is not only a health crisis but also a sustainability challenge.<sup>71</sup> This issue is not isolated and every country in the world is facing the nuances this virus brought with it. The world is not lifted off this worry and greater challenges are in the future for which we are not prepared. Most of the countries are unable to cope up with the additional waste due to either economic or poor implementations. Underdeveloped and developing countries who have faced crumbling economies now do know how to support their people for their livelihood and removing the limited resources to deal with BMW seems impossible. The world at this hour of need should come together and build infrastructure to deal with this issue since we all are the custodians of the next generation because if this continues, there won't be a world to live in. India did come up with guidelines, recommendations, tracking apps, designated committees to tackle the new challenges and even revised them to improve their chance at this fight. However, this was not enough and more resources should be devoted to saving tomorrow.

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<sup>70</sup> *Ibid*

<sup>71</sup> *Ibid*