

## PARADIGM OF ENVIRONMENTAL PROTECTION AND MANAGEMENT OF HOUSEHOLD MEDICAL WASTE IN THE COVID-19 PANDEMIC: EXPECTATIONS AND CHALLENGES

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### Abstract

The Covid-19 outbreak has had an impact on various sectors of life, including the environment. Medical waste in the community has increased in the new normal era of the Covid-19 pandemic, this can be seen from the existence of new adaptations in society, but in its application, household medical waste management is still an obstacle to this day. The approach method used is juridical-normative, with the type of dogmatic research, a form of prescriptive research on legal relations. The specification of this research is descriptive-analytical, the government continues to make various efforts in handling household medical waste. State responsibility as the basis for the implementation of environmental protection and management is carried out through the enforcement of environmental laws, namely administrative, civil and criminal law enforcement. Formulation of a new policy on the management of Infectious and Household Waste from Handling Covid 19.

**Keywords:** covid-19, household medical waste, environment, country

## INTRODUCTION

COVID-19 is a new virus and the disease it causes was unknown before the start of the outbreak in Wuhan, China, in December 2019. COVID-19 is now a pandemic occurring in many countries around the world (WHO, 2020). Currently has spread in 235 countries. It was reported that positive cases of the corona virus in the world had infected in January 2021 around 99,821,837 million people with the death of nearly 2,140,280 million people and it is predicted that this number will continue to grow (WHO, 2020). In Indonesia, the corona virus was found to have started to spread in early March 2020 and in January 2021 there were 1,012,350 positive cases with 28,468 deaths (Ministry of Health RI, 2021) (Axmalia & Sinanto, 2021).

Everyone wants to live a healthy life with ideal environmental conditions. Health is one of the basic needs (basic neet) of humans in addition to other necessities of life (meting neet). One's activities require physical health and spiritual health, so that one's goals are easily achieved. However, a person's health condition is not directly achieved by someone without the community's concern and participation in the environment (Ilvira, 2020).

Health requires continuous maintenance. Healthy living is the goal of every human being so that they can work well and provide beneficial results for themselves, their families and the social environment. However, lately many events related to diseases caused by the environment, such as bird flu, dengue dysentery and other types of diseases. Health is a universal problem and a basic need, especially for humans (Ibid).

Health is a human right and is one of the main elements of well-being, as the expression that health is not everything, but without health everything is nothing. Health has broad meanings and dimensions according to the definition according to WHO and the Health Law, namely a state of health which includes physical, mental, spiritual and social aspects and can be productive socially and economically. This shows that a person's health status is not only measured from the physical and mental aspects alone, but also assessed based on social or economic productivity (Ibid).

The COVID-19 pandemic has changed the dynamics of global waste so it needs special attention. Personal protective equipment, used masks, gloves are the main contributors to waste volume. Handling of infectious waste is a major global concern for public health and environmental sustainability if handled improperly. This can lead to the spread of consuming diseases because waste acts as a vector for the corona virus disease which lasts up to 7 days in COVID-19 waste such as masks.

Treatment of COVID-19 patients who are carried out in hospitals or through independent isolation at home has the potential to produce hazardous and toxic solid waste (B3) (Prihartanto, 2020). The waste is in the form of goods or leftover materials resulting from activities that are not reused which have the potential to be contaminated with infectious substances or come in contact with patients or health care workers, especially those who handle COVID-19 patients, including masks, used gloves, used bandages, used sus, used plastic. drinking and food, used food paper, used syringes, used infusion sets and personal protective equipment This waste of used masks and gloves will create new problems for household waste, even though this waste is not categorized as household infectious medical waste but as domestic waste it still has the potential to be infectious waste (Ibid).

Damage to the environment that is intentionally done is a form of violation of a right, both human rights and environmental rights. Violation of a right results in injustice. Therefore, ignoring aspects of environmental protection in every activity is a form of violation of ecological justice, namely justice for humans and the environment which is manifested in the form of respect for and protection of the environment, so that a good and healthy environment can be maintained, which guarantees the realization of balance in the ecosystem. The demands of economic needs often make people ignore aspects of environmental protection. Natural resource management policies in Indonesia are often based more on efforts to attract as much investment as possible (Sentosa, 1999).

Regulation of environmental issues in Indonesia has undergone several major leaps since the promulgation of Law Number 4 of 1982 concerning Basic Provisions for Environmental Management, then replaced by Law Number 23 of 1997 concerning Environmental Management, and finally replaced by the enactment of Law Number 32 of 2009 concerning the Protection and Management of the Environment. One of the concerns in these three laws is the strengthening role of the state in providing a good and healthy environment as a means for the Indonesian people to live. The 1945 Constitution of the Republic of Indonesia has stated that a good and healthy environment is a human right and a constitutional right for every Indonesian citizen.

Society and the government must look after and support each other in protecting the environment, because if a problem occurs in the environment, it can determine the survival of humans and other living things which can also affect a country. But the situation is the other way around,

humans and other living things can maintain the sustainability of the environment by protecting it and making regular and regular use and re-repairing the environment so that no damage occurs as a result of human use.

With the promulgation of Law No.32 of 2009, it can be said that: the law has placed a good and healthy environment as a guarantee for the human rights of citizens as regulated in Article 28H of the 1945 Constitution of the Republic of Indonesia concerning obtaining a place to live and a good and healthy environment is not fulfilled due to the lack of enforcement in the restoration of the former waste environment, especially during the current pandemic conditions (Muhjad, 2015).

## RESEARCH METHOD

The approach method used is juridical-normative, with the type of dogmatic research, the form of research is prescriptive legal relations. The specification of this research is descriptive-analytical. The data collection method used was through the library research method (library method) by examining document materials and library materials used in this study. Data were analyzed qualitatively-normatively, researching by interpreting and constructing statements contained in statutory documents. Qualitative analysis method, built on the basis of secondary data in the form of theory, meaning and substance from various literature, laws and regulations.

## RESULTS AND DISCUSSION

### Treatment of Medical Waste Originating from Households Using Guidelines issued by WHO

The public still does not fully know, and have not done household infectious waste treatment, lack of information regarding medical waste and the effectiveness of handling infectious waste is one of the factors that influence the handling of COVID-19 B3 waste. Most of the people do not know the types of infectious waste, people still dispose of all types of waste in a mixed manner. The lack of information in the community regarding the safe management of infectious waste has become an obstacle during the COVID-19 pandemic in the community. Lack or absence of a place to dispose of garbage, unavailability of medical waste disposal facilities (Ibid).

The increase in the amount of medical waste originating from households during a pandemic is not proportional to the availability of waste management facilities. Waste generated in homes with people without symptoms or positive for COVID-19 such as medical masks, food scraps and food wrappers has the potential to transmit the corona virus to other people who come in contact with this waste. For the management of infectious waste, starting from the container, collection, lifting and processing, it is necessary to separate infectious waste from other waste. Through the stages of collecting infectious waste in the form of PPE waste, including masks, gloves and clothespersonal protective equipment with separate packaging using a closed container, which can be in the form of bonded plastic, to be subsequently transported and destroyed in the B3 waste treatment (Ibid).

Infectious waste generated by households during the COVID-19 pandemic has increased. Management and handling of household infectious waste to be known and carried out by the community to reduce the rate of spread of the Corona virus. Management of medical waste during the COVID-19 outbreak in Wuhan i.e. Development of a comprehensive disposal mode that includes a combination of centralized disposal and on-site emergency disposal of medical waste. This process directs all districts in the city to utilize a variety of emergency disposal equipment such as incineration equipment, mobile treatment equipment, household, and industrial incineration furnaces for the disposal of medical waste. In addition, adequate storage and backup capacity of medical waste treatment facilities is essential, which can prevent the accumulation of waste generated during emergencies such as COVID-19.

The thing that must be done for the management of household infectious waste is the segregation between domestic waste and infectious waste. Several ways of managing household waste or waste that can be done are by carrying out good planning for the management of waste or waste such as recycling, burning, separation, composting, and decomposition. Domestic waste is household waste originating from daily activities in the household, which is not classified as specific waste (Regulation of the Minister of Public Works of the Republic of Indonesia, 2013). Several ways of managing household waste or waste that can be done are by carrying out good planning for the management of waste or waste such as recycling, burning, separation, composting, and decomposition. Domestic waste is household waste originating from daily activities in the household, which is not classified as specific waste (Regulation of the Minister of Public Works of the Republic of Indonesia, 2013). Several ways of managing household waste or waste that can be done are by carrying out good planning for the management of waste or waste such as recycling, burning, separation, composting, and decomposition. Domestic waste is household waste originating from

daily activities in the household, which is not classified as specific waste (Regulation of the Minister of Public Works of the Republic of Indonesia, 2013) (Ibid).

While infectious waste is in the form of tissue waste, masks, gloves, handkerchiefs, disposable cloths and other PPE. It is recommended that mask waste be disinfected first by immersing it in a disinfectant/chlorine/bleach solution and then changing its shape, such as damaging the rope or tearing it, this is done to prevent it from being reused (Ministry of Health RI, 2020). Furthermore, containers and disinfection are carried out. The container for household infectious waste can be carried out in stages, namely: 1) Waste is collected in single-use plastic. 2) Waste must be tightly closed, so that there is as little air as possible (bag 1). 3) Bag 1 must be placed in the second bag (bag 2). 4) Pouch 2 should not be too full to ensure the bag is tightly closed and not broken, waste does not need to be pressed to add additional space. 5) The bag is tightly tied with a swan neck model. Then spray a disinfectant liquid on the outside of the bag, namely a 0.5% chlorine disinfectant solution (1% household cleaning solution) (Asian Development Bank, 2020) (Ibid).

The last step is labeling. Infectious waste originating from the community in the form of PPE waste includes masks, gloves, personal protective clothing, packaged separately using closed containers marked "infectious waste". Handling of infectious waste originating from health facilities is by:

- 1) store in closed packaging for a maximum of 2 days from the time it is produced.
- 2) transport and/or destroy for B3 processing using an incinerator facility with a minimum combustion temperature of 800°C or an autoclave equipped with a chopper. 3) residues resulting from burning or chopped autoclaves are packaged and tagged with the "Toxic" symbol and labeled LB3 which are then stored in the LB3 temporary storage area for further submission to the B3 manager. Double trash bags containing household infectious waste must be transported as soon as possible (ACR, 2020). The special means of transport used must have a cargo area that is impermeable, sealed, lockable, disinfected and separated from the driver's cabin. Then the infectious waste is transported to the B3 waste management center (Ministry of Environment and Forestry, 2020). With various treatments, it can be Autoclave, Mechanical Biological Treatment (MBT), or incinerator with temperatures above 800°C (Asian Development Bank, 2020).
- 3) Further processing of ash from the incinerator process must be processed further because it still contains toxic materials. It can be processed at a TPA designated for treating infectious and B3 waste and through a vitrification process. The high urgency for the government to immediately prepare legal products regarding the problem of handling infectious waste, including those that regulate the management of infectious waste in households. Based on the Minister of Environment and Forestry (2020) regarding the management of infectious waste (B3 waste) and household waste from handling the corona virus disease (COVID-19), namely conveying information to the public about the management of infectious waste originating from the community in the form of PPE waste, including in the form of masks, gloves, personal protective clothing. As well as raising awareness about procedures for handling infectious waste and the risk of contamination.
- 4) The lack of public concern for the environment, the community has not done household waste processing as a form of a clean and healthy lifestyle (Dewi, Syahrin, & Arifin, 2014). Changes in behavior can occur because of understanding, the process of interaction with the environment and with regard to certain objects. Therefore, it is necessary to conduct further research using research methods that can provide information to the public about the importance of managing and handling household infectious waste. Standard procedures for handling medical waste and households during the COVID-19 pandemic have been made by several international and national institutions. The limitation in this research is that not many studies in Indonesia have examined the effectiveness of applying this procedure in handling waste in hospitals and in the community during a pandemic (Ibid).

### **State Enforcement of Environmental Laws Against Medical Waste Originating from Households During the Covid-19 Pandemic**

The fulfillment of a good and healthy environment is a human right and a constitutional right for every Indonesian citizen (Mukhlis & Luthfi, 2010). Therefore, the government, regional governments and all stakeholders are obliged to protect and manage the environment in the implementation of sustainable development so that the Indonesian environment can remain a source and support for life for the Indonesian people and other living things (Makarao, 2006). So that good and correct waste management is a manifestation of fulfilling a good and healthy environment. With regard to waste management for the government and regional governments, it cannot be separated from the

principles contained in Article 2 of the PPLH Law which regulate the principles of state responsibility, participatory principles, good governance principles; and the principle of regional autonomy. Therefore waste management is a form of state responsibility through the government and local governments. Where community participation is needed to carry out its management (Arifin, 2012). In addition, it is strengthened by Article 63 of the PPLH Law which regulates the authority of the government and regional governments in protecting and managing the environment. Which is based on the principles of good governance; and a. Based on the mandate of Article 18 paragraph (2) and paragraph (5) of the 1945 Constitution of the Republic of Indonesia, it states that the Regional Government has the authority to regulate and manage its own Government Affairs according to the Principles of Autonomy and Co-Administration and is given the widest possible autonomy.

On the basis of this article and its explanation, the administration of regional administration must be based on the principles of decentralization, deconcentration and co-administration. So that Law no. 32 of 2004 which regulates the authority of regional governments, both provincial and district/city related to environmental control. Even though the law was replaced by law no. 23 of 2014 continues to provide authority to local governments. In Article 12 of Law no. 23 of 2014 that the authority to regional governments (concurrent government) to carry out mandatory government affairs that are not related to Basic Services is one of them is the environment. With the granting of the widest possible autonomy to the Regions it is directed to accelerate the realization of social welfare through service improvement, empowerment and community participation. So that the authority in waste management is a service provided by the local government by empowering the community and waste management based on community participation in regional autonomy can be used as a reference in waste management. 23 of 2014 continues to provide authority to local governments. In Article 12 of Law no. 23 of 2014 that the authority to regional governments (concurrent government) to carry out mandatory government affairs that are not related to Basic Services is one of them is the environment.

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In the context of environmental management based on Law Number 32 of 2009 concerning Environmental Protection and Management, administrative environmental law enforcement can be carried out in two ways, namely in a preventive and repressive manner (Rahmadi, 2011). Preventive administrative environmental law enforcement is carried out through supervision, while repressive law enforcement is carried out through the application of administrative sanctions. The monitoring and application of administrative sanctions is aimed at achieving community compliance with administrative environmental legal norms. The concept of environmental management oversight policies in the context of UUPPLH needs to be comprehensively regulated which includes self-monitoring, self-recording and self-reporting by reporting the results to relevant agencies, and is open to the public; primary supervision by inspectors from the licensing agency; second supervision from a provincial or government agency (central) if the first agency fails to carry out its supervisory function (Mukhlis, 2016).

Realizing environmental management based on sustainable development requires the concept of open public oversight and is as broad as possible, especially by imposing an administrative objection mechanism if licensing procedures and public input are ignored by the permit issuing agency (Sulistiani, 2009). Of course, for effective supervision, an appropriate punishment strategy (sanctioning strategy) is needed, starting from the imposition of light administrative sanctions (warnings one, two, and three) up to the revocation of the license. This sanctioning strategy is needed to avoid imposing sanctions based on arbitrariness (Hamzah, 2008).

## CONCLUSION

Treatment of medical waste originating from households uses guidelines issued by WHO, which can be done by carrying out good planning for the management of waste or waste such as recycling, incineration, separation, composting and decomposition. For mask waste, it is recommended to disinfect it first by immersing it in a disinfectant/chlorine/bleach solution and then changing its shape, such as damaging the rope or tearing it, this is done to prevent it from being reused. Furthermore, container and disinfection is carried out. The container for household infectious waste can be carried out in stages. The last step is labeling. Infectious waste originating from the community is in the form of PPE waste, including in the form of masks, gloves, personal protective clothing,

State responsibility as the basis for implementing environmental protection and management is carried out through enforcing environmental law, namely enforcing administrative, civil and criminal law. Among the three available forms of law enforcement, administrative law enforcement is considered the most important law enforcement effort. This is because administrative law enforcement is more aimed at efforts to prevent pollution and environmental damage. In addition, enforcement of administrative law also aims to punish the perpetrators of environmental pollution and destruction.

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