

The Role of Women in Management of Mask Waste in Indonesia in the Era of the Covid-19 Pandemic

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Abstract. This study aims to determine the role of women in the management of mask waste in Indonesia in the era of the covid 19 pandemic. This is considering that in the era of the covid 19 pandemic the amount of mask waste as medical waste is increasing every day. Mask waste if not managed properly will pose a potential hazard to health and the environment. Lack of control over the disposal of mask waste leads to increased environmental damage. In such conditions, the existence of women cannot be underestimated. Women have many roles in influencing public policy, either directly or indirectly. This research method is descriptive with normative juridical research, using a statutory approach and a conceptual approach. The results showed that the implementation of the mask waste management regulation did not go well. The government as a policy maker must produce policies that directly touch the needs and justice in the community. Based on this, women are considered to have a strategic role in the family and are considered capable of having a dual role in increasing family awareness as a small part of society towards preventing environmental damage. Through this study, the author is of the view that optimizing the role of women can help the government in suppressing environmental damage due to mask waste in the era of the COVID-19 pandemic. The government as a policy maker must produce policies that directly touch the needs and justice in the community. Based on this, women are considered to have a strategic role in the family and are considered capable of having a dual role in increasing family awareness as a small part of society towards preventing environmental damage. Through this research, the author is of the view that optimizing the role of women can help the government in suppressing environmental damage due to mask waste in the era of the COVID-19 pandemic. The government as a policy maker must produce policies that directly touch the needs and justice in the community. Based on this, women are considered to have a strategic role in the family and are considered capable of having a dual role in increasing family awareness as a small part of society towards preventing environmental damage. Through this study, the author is of the view that optimizing the role of women can help the government in suppressing environmental damage due to mask waste in the era of the COVID-19 pandemic.

1. Introduction

Covid 19 is a public health emergency of international concern. Then, on March 12, 2020 WHO declared Covid 19 a pandemic.[1] The year 2020 is a year of crisis and worrying experienced by all countries in the world due to the Covid 19 pandemic. Covid 19 is a new disease that has a relatively fast transmission rate and high mortality rate.[2] In these circumstances, the use of personal protective equipment is a necessity. So that with the policy of using personal protective equipment such as masks, in its management it cannot be separated from the role of women in the management of disposable masks waste through the management of waste masks in the household.

The discussion about mask waste is not a new topic. Previous studies have conducted many studies related to mask waste, including:

1. Mohamad Hermanto Oktama, in 2021 with a journal entitled the urgency of regulating the management of used mask waste in preventing the transmission of covid 19;
2. Vindia Pertiwi, Tri Joko, Hanan Lanang Dangiran, in 2017 with a journal entitled Evaluation of hazardous and toxic waste management (B3) at Roemani Muhammadiyah Hospital Semarang.
3. Syafiq Ade Priyatama, Undiana Bambang, Devi Eka Septiyani Arifin, in 2021 with a journal entitled Design of a three-layer mask waste recycling machine with a capacity of 2.5 kg/process.
4. Anggun Budiastuti, Desri Maulina Sari, Elvi Sunarsih, Yuanita Windusari, in 2021, with a journal entitled education on the use of masks and management of mask waste management as an effort to prevent the transmission of covid 19.
5. Kokoh Tangga, Rahmat Dilta Harahap, Bunga Wirda, Desi Maulida, Safrida, in 2021 with a journal entitled analysis of marketing strategies to increase competitiveness in the waste mask bag product business.

The first study discusses the handling of used medical mask waste. The second study discusses the characteristics of B3 waste at Roemani Muhamadiyah Hospital Semarang and evaluates the procedures and technical requirements for the reduction and segregation of B3 waste. The third study discusses the design of a three-layer mask waste recycling machine. The fourth study discusses increasing public understanding regarding the use of masks and the management of their disposal. The fifth study discusses the marketing strategy of the waste mask bag product business. While the research conducted by the author is the role of women in the management of mask waste in Indonesia in the era of the Covid 19 Pandemic. Therefore, women are expected to play a more active role starting from the family environment.

Based on the formulation of the problem above, the purpose of this study is to find out and understand the role of women in the management of mask waste in Indonesia in the era of the Covid 19 Pandemic. This research method is descriptive with normative juridical research, using a statutory approach and a conceptual approach. The specification of the research used descriptive analytical method. This research was conducted by taking an inventory of policies and looking at the potential and opportunities possessed by women in managing single-use waste by increasing education, counseling and socializing the use of disposable masks and their management.

2. Method

This research method is descriptive with normative juridical research, using a statutory approach and a conceptual approach. The research specification uses descriptive analytical method, a study that describes, finds legal facts thoroughly and systematically reviews secondary data. This research was conducted by taking an inventory of policies and looking at the potential and opportunities possessed by women in managing single-use waste by increasing education, counseling and socializing the use of disposable masks and their management.

3. Results and Discussion

1. Policy and use of mask waste

Environmental problems get great attention of citizens of the world along with the development of issues of environmental damage, especially during the COVID-19 pandemic, namely the existence of an increase in demand followed by an increase in the production of disposable masks that are not matched by proper management. The total medical waste generated in Asia in 2020 is around 16,659.48 tonnes/day. Countries with the highest medical waste were India (6,491.49 tons/day), followed by Iran (1,191.04 tons/day), Pakistan (1,099.30 tons/day), Saudi Arabia (1,083.17 tons/day), Bangladesh (927.81 tons/day) and Turkey (908.07 tons/day). [3] WHO estimates that every month people in the world need 129 billion face masks. The consequences of pollution caused by disposable masks can be seen from the wrong disposal that can be found in waters where this mask waste is difficult to decompose because it is made of microplastic which if not handled properly can cause pollution and environmental damage. can reach 6.30 tons of waste per

year.[4]Meanwhile, in Indonesia, from March 2020 to June 2021, 18,460 tons of medical waste were produced in the hazardous and toxic (B3) category.[5]

Garbage or waste containing microplastic material requires a very long time to decompose. Therefore, the irresponsible disposal of used masks into the environment, and the mismanagement of waste results in, a large pollution burden on the ecosystem. The slow degradation of mask-derived polypropylene and polyethylene fibers creates a large reservoir of microplastic pollutants and these have acute and chronic effects on the physiology of organisms.[6] Based on this, it is important to carry out single-use mask waste management through local wisdom. Local wisdom is a view of life and knowledge as well as various life strategies in the form of activities carried out by local communities in responding to various problems in meeting their needs. In foreign languages it is often also concentrated as a local policy "local wisdom" or local knowledge "local knowledge" or local intelligence "local genius".[7]

Based on the above, in preventing environmental damage through local wisdom efforts, things that must be considered are conservative values.[8] Saam quoted by Amri said that local wisdom develops in everyday life. Local wisdom is not only related to the knowledge and understanding of indigenous peoples about humans and how good relations between humans are, but also concerns the knowledge, understanding and customs about humans, nature and how relationships among all residents of this ecological community must be built so that it is expected to lead to resource management. nature and environment for the better.[9]

Local wisdom is seen as very valuable and has its own benefits in people's lives. The system was developed because of the need to live, maintain, and carry on life in accordance with the situation, conditions, abilities, and values that are lived in the community concerned. In other words, the local wisdom then becomes part of their wise way of life to solve all the life problems they face. Thanks to local wisdom, it is hoped that they can achieve sustainable development.[10]

Operationalization of policies and strategies in the context of preserving and developing local wisdom must be pursued in a more integrated and sustainable manner by synergizing cultural aspects and other strategic aspects through mainstreaming regional cultural principles and values in the process of implementing spatial planning at the central, provincial, district and local government levels. city in accordance with the spirit of decentralization and regional autonomy. [11] In general, the management of disposable masks in Indonesia still faces various challenges, such as from the aspect of regulation, processing capacity, the role of local governments, coordination between institutions, human resources, infrastructure, licensing, the role of the private sector and financing. Therefore, it is important to systematically use disposable mask waste management techniques.

To absorb and transform local wisdom in the formal legal system, the most logical thing is to accommodate it in local regulations. The Regional Government Law requires and requires public participation in the formation of Regional Regulations, as well as the Public Information Disclosure Act which requires involvement, participation and participation at the regional level, including the regional regulations referred to in the Law on the Establishment of Legislation.[12] Local wisdom requires an effort to protect the environment in order to maintain its existence. These efforts must be accompanied by awareness of the role of local wisdom which is very important in dealing with problems and does not damage the environment itself.[12]

Law No. 32 of 2009 provides an understanding of local wisdom, namely the noble values that apply in the life of the community to, among other things, protect and manage the environment in a sustainable manner. Awareness to protect the environment is evident by the inclusion of provisions for environmental protection and conservation of living natural resources and their ecosystems on land and at sea in all laws and regulations governing natural resources, according to their respective sectors. Even the concept of development carried out by countries in the world including Indonesia as a country that is very dependent on natural resources,[13]

The government issued a circular regarding the processing of PPE infectious waste through the Circular Letter of the Minister of Environment and Forestry Number SE.2/MENLHK/PSLB3/PLB.3/2020 dated March 24, 2020 concerning Management of Infectious Waste (B3) and Household Waste from Handling Corona Virus Disease (Covid-19). The circular describes the steps for handling infectious waste in households as follows (Minister of Environment and Forestry, 2020), namely: collect PPE infectious waste in the form of masks,

gloves, and protective clothing, medical masks before being disposed of are required to be cut first to avoid misuse, packaged separately from other waste in closed containers labeled infectious waste. Infectious waste is picked up by officers from the agency responsible for collecting it from each source, then transported to a designated collection location before being handed over to a B3 waste processor and cleaning and waste management officers are required to use PPE such as masks, gloves, and safety shoes every day. disinfected. The circular also states that local governments have an obligation to prepare special trash bins/drop boxes for masks in public spaces.[14]

In addition, the government has also issued Circular No. SE.2/MENLHK/PSLB3/PLB.3/3/2020 concerning Management of Infectious Waste (B3 Waste) and Household Waste from Handling Corona Virus Disease (COVID-19). Where the implementation in handling infectious waste and managing household waste from handling Covid-19, the following handling steps are carried out: Infectious waste from ODP originating from households: a. Collecting infectious waste in the form of PPE waste, including masks, gloves and personal protective clothing; b. Packaged separately by using a closed container; c. Transport and destroy in hazardous waste treatment; d. Delivering information to the public about the management of infectious waste sourced from the community, as follows: 1) PPE waste includes, among others, masks, gloves, personal protective clothing, packaged separately by using a closed container marked "Infectious Waste"; 2) Officers from the agency responsible for the environment, hygiene and health shall collect from each source to be transported to a designated collection location before being handed over to the hazardous waste processor. 3. Management of household waste and similar household waste: a. All cleaning staff or garbage collectors must be equipped with PPE, especially masks, gloves and safety shoes which must be disinfected every day; b. In an effort to reduce mask waste, healthy people are encouraged to use reusable masks that can be washed every day; c. People who are healthy and use disposable masks are required to tear, cut or cut the masks and pack them neatly before throwing them in the trash to avoid misuse; and D. The local government prepares a special trash bin/drop box for masks in public spaces.[15]

Medical waste management policies in the community do not run optimally due to various obstacles and challenges in carrying them out, such as the lack of officers and infrastructure in managing medical waste originating from households. Therefore, medical waste management should be done through local wisdom, but first it is important to understand and make solutions to problems that become obstacles in using local wisdom. The principles of openness and community participation are very important in environmentally sustainable development, especially in the administrative process of environmental permits and AMDAL as an instrument for preventing environmental pollution. In addition, environmental education aims to increase awareness, concern about the environment with all its problems and with knowledge, skills, attitudes, motivation and commitment to work individually and collectively towards solving problems and maintaining the sustainability of environmental functions. Thus, environmental education needs to meet 2 (two) related community needs, namely:

- a) Develop technically capable human resources equipped with in-depth knowledge, skills needed to assess and manage the environment;
- b) Cultivate attitudes and behavior in people who are sensitive and responsible for the environment.

Education efforts and increasing the role of women need to be balanced and supported by government policies to optimize the role of women in society, the government policy can be in the form of optimizing the role of BUMDes, where in the BUMDes activities social service activities are carried out through the procurement, development, development and maintenance of facilities and infrastructure. such as the existence of garbage dumps, garbage carts, waste transport vehicles, waste processing machines, construction of village waste banks, waste management, household-scale waste management, waste water treatment facilities management, waste treatment training. With the use of appropriate technology, it is hoped that the community's economic business will be created for the advancement of the household economy. Where the processing of disposable mask waste is specifically for domestic waste that comes from households not from health service facilities. Currently there is a recrystallization method that has been developed by LIPI in recycling disposable mask waste that can be utilized by women's groups which in turn can produce

new products which are a circular economy that can improve the economy. The process of processing disposable mask waste goes through the recrystallization stage, where disposable mask waste can produce pure plastic that can be reused with the same quality. In addition, there is also the use of disposable mask waste treatment technology using the extrusion process or the process of melting objects that can be used as other forms.[15] In this regard, it is necessary to have the role of women from all aspects, especially in the management of disposable mask waste through local wisdom, especially in the household environment in the era of the Covid 19 pandemic. Therefore, the handling of medical waste management originating from households can produce new products that have economic value or what is known as a circular economy. Circular economy is a concept that implements sustainable development goals related to responsible and sustainable levels of consumption and production.[16] Waste selection can be done independently and participatively in a community. In this case, it is necessary to increase the role of women as initiators in society. In addition, through the formulation of accelerated application of research and innovation of mask waste management technology in the community and industry, and can provide opportunities for collaboration between researchers and the community, as well as industry for the application of mask waste management technology.[17]

2. The Role of Women in Disposable Mask Waste Management

The COVID-19 pandemic has had a multi-sectoral impact on the health, education, social, economic, political, legal and defense and security sectors and so on. During the COVID-19 pandemic, as it is today, everyone is forced to face all changes and adapt to these changes. On the one hand, the role of women is limited by various policies such as the PSBB policy, PPKM and so on, where at this time people study from home, work from home, worship from home and so on which of course aims to prevent the spread of the covid 19 virus. Others, this situation has an impact on the dual role of women during the covid 19 pandemic. Where women have a strategic role in the family and in society. The role of women in the family can be carried out by carrying out their duties as citizens as well as conveying, implementing policies issued by the government as well as identifying and developing problems in managing disposable masks so that they are able to have an impact on society at a macro level and can benefit the environment in particular and in general for the nation and state. his country. Therefore, women should be an alternative force in producing a public policy. implement policies issued by the government and identify and develop problems with the management of single-use mask waste so that they are able to have an impact on society at a macro level and can benefit the environment in particular and in general for the nation and country. Therefore, women should be an alternative force in producing a public policy. implement policies issued by the government and identify and develop problems with the management of single-use mask waste so that they are able to have an impact on society at a macro level and can benefit the environment in particular and in general for the nation and country. Therefore, women should be an alternative force in producing a public policy.

The activities carried out in order to implement the policies issued by the government are by providing program socialization and assistance through training in making masks, starting from the technique of using sewing, cutting patterns, initial training in making to product delivery.[18]

Health service waste, especially medical waste, if not managed properly will pose a potential hazard to health and the environment. Environmental pollution caused by medical waste will again have an impact on the health of both individuals and the surrounding community. Potential hazards from medical waste management can occur from collection, storage, transportation and disposal to destruction. PThe government issued a circular regarding the processing of PPE infectious waste through the Circular Letter of the Minister of Environment and Forestry Number SE.2/MENLHK/PSLB3/PLB.3/2020 dated March 24, 2020 concerning Management of Infectious Waste (B3) and Household Waste from Handling Corona Virus Disease (Covid-19). The circular describes the steps for handling infectious waste in households, namely: collect infectious waste such as disposable masks before disposal are required to be cut first to avoid misuse, packaged separately from other waste in a closed container labeled Infectious waste. Infectious waste is picked up by officers from the agency responsible for collecting it from each source, then transported to a designated collection location before being handed over to a B3 waste processor and cleaning and waste management officers are required to use PPE such as masks, gloves, and

safety shoes every day, disinfected. The circular also states that local governments have an obligation to prepare special trash bins/drop boxes for masks in public spaces.[19] However, in practice the management of single-use masks is felt to be not optimal, this can be seen from the piles of single-use mask waste in the final waste disposal site (TPA).

At the level of implementation in carrying out policies issued by the government, it does not run optimally, this can be seen from the medical waste scattered in the final disposal site (TPA). Medical waste management also has problems because it is still concentrated on the island of Java. In addition, relaxation policies issued by the government such as acceleration of permits and easing of unauthorized use with the condition that the temperature is 800 degrees Celsius[20], is a policy that must be balanced with increased supervision and create an alternative force in producing a public policy, namely through optimizing the role of women in suppressing environmental damage due to mask waste in the era of the covid 19 pandemic. The role of women can be realized through counseling on the use of masks, types of masks, due to not using masks and managing masks and producing new products which comes from disposable mask waste to the community, both at the Village Office and women's associations. These activities have a positive impact on increasing the socialization of government policies through optimizing the role of women as drivers of family welfare empowerment (PKK) which are able to have an impact on society at a macro level.

4. Conclusion

Until now, waste management is still a shared PR, especially where the Covid 19 pandemic is managing disposable mask waste which is medical waste facing its own challenges in its management, such as from the aspect of regulation, processing capacity, the role of local governments, coordination between institutions, human resources, facilities, infrastructure, licensing, the role of the private sector and financing. However, women are considered to have a strategic role in the family and are considered capable of having a dual role in increasing family awareness as a small part of society towards preventing environmental damage through proper and correct management of mask waste. Where the selection of waste can be done independently and participatively in a community. These efforts can be carried out through local wisdom, which is carried out by reducing the use of disposable masks, sorting and selecting medical waste with other household waste and packaging it and then labeling it according to the type of waste, such as B3 waste. Government support is needed through providing tools to recycle single-use masks in every village and providing dropboxes in every Resident's House (RW), so that the waste can produce new products that have economic value or what is known as a circular economy. Therefore, optimizing the role of women is able to help the government in suppressing environmental damage due to mask waste in the era of the COVID-19 pandemic, namely: increasing the role of women as initiators in society.

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