CATRA RESEARCH INSTITUTE
PJLEL
P-ISSN - 2830-4675 (PRINT)
E-ISSN - 2964-724X (ONLINE)
PROTECTION: JOURNAL OF LAND AND ENVIRONMENTAL LAW
KSI
Indexed By : GARUDA Google ISJD ROAD EBSCO

THE ROLE OF THE GOVERNMENT IN THE IMPACT OF HOSPITAL HAZARDOUS TOXIC WASTE POLLUTION IN PONOROGO

Sela Angelita KARIZ[1], Yogi PRASETYO[2]
[1,2]Faculty of Law, Universitas Muhammadiyyah Ponorogo, Indonesia.
Corresponding Author: Sela Angelita
E-mail: Selaangelita27@gmail.com

Info Artikel:
Received: 2024-09-18 Revised: 2024-10-20 Accepted: 2024-11-15
Vol: 3 Number: 2 Page: 53 - 59
Keywords:
Government, Waste, Hazardous Toxic waste, Environmental Services

Abstrak:
In Indonesia, the COVID-19 pandemic is closely linked to the rise in infectious waste produced by the general public and medical professionals. Assuming that many individuals are tainted with Coronavirus, the medical clinics' limit can influence how much irresistible waste has produced an increment. Irresistible waste remembers for the Hazardous Toxic Waste **(**B3) squander classification, which contains unsafe and harmful materials that can contaminate, harm, and jeopardize the climate, well-being, and endurance of living things. The amount of medical waste produced will rise as the number of hospitals in Indonesia grows annually. If it is not handled correctly, this condition can make it more likely that hospital waste will pollute the environment, resulting in workplace accidents and disease transmission. As a healthcare facility, the hospital facilitates disease transmission, environmental pollution, and health issues and serves as a gathering place for healthy and ill individuals. Ponorogo Regency, known as a "red zone" for spreading COVID-19, is unavoidably affected by Hazardous Toxic **(**B3) waste. With the expansion in that measure of Hazardous Toxic **(**B3) squander, the public authority job is expected to satisfy the prudent rule and closeness standard of B3 squander the board. As the mandatory environmental affairs executor, DLHK Ponorogo, the regional government must address Hazardous Toxic **(**B3) waste management issues at the regional level.

INTRODUCTION

The development of hospitals in Indonesia has increased rapidly in recent years. From year to year, the demand for high-quality hospital services rises due to public awareness and health consciousness. The amount of medical waste produced will rise as the number of hospitals in Indonesia grows annually. If it is not handled correctly, this condition can make it more likely that hospital waste will pollute the environment, resulting in workplace accidents and disease transmission. As a healthcare facility, the hospital facilitates disease transmission, environmental pollution, and health issues and serves as a gathering place for healthy and ill individuals.

Hospitals have a positive impact as health facilities and produce waste, necessitating attention. Direct contact with sharp items such as needles can cause Hepatitis B and C diseases and HIV. A few medical issues connected with ill-advised removal of emergency clinic squander include typhoid, cholera, jungle fever, skin sicknesses, gastrointestinal parasitosis, and hepatitis. Hospitals can be broken down into public and private types. The number of clinics in all locale/urban communities in Focal Java in 2015 was 276. The Ministry of Health, Provincial Governments, City/ District Governments, Army/Police, other Ministries, and private non-profits manage Indonesia's public hospitals. (Social and religious organizations). State-owned enterprises (BUMN) and the private sector manage private hospitals.

CATRA RESEARCH INSTITUTE
PJLEL
P-ISSN - 2830-4675 (PRINT)
E-ISSN - 2964-724X (ONLINE)
PROTECTION: JOURNAL OF LAND AND ENVIRONMENTAL LAW
KSI
Indexed By : GARUDA Google ISJD ROAD EBSCO

The inclusion of clinics in Indonesia that do clinical waste administration as per principles is 10.29%. According to the data from the 2015 Indonesian Health Profile, all of the hospitals in 11 provinces—Papua, West Papua, West Sulawesi, Central Sulawesi, Southeast Sulawesi, North Sulawesi, North Kalimantan, West Kalimantan, NTT, NTB, and Bengkulu—have not followed standards for managing medical waste. Between 70 and 90 percent of the waste generated by health facilities is either general waste that resembles household waste or waste that does not contain risks. The remaining 10 to 25 percent of waste is hazardous and has the potential to harm health in a variety of ways. The estimated daily production of solid medical waste for hospitals in Indonesia is 376,089 tonnes. This waste has the potential to pollute the environment, lead to accidents at work, and spread diseases. Administration of emergency clinic clinical and non-clinical waste is required for the solace and tidiness of emergency clinics since it can break the chain of transmission of irresistible illnesses, particularly nosocomial contaminations.

Medical waste and non-medical waste are the two main types of waste that can be found in hospitals. 101 of 2014 that clinical waste has irresistible qualities. Waste of Hazardous and Toxic Materials (B3) that is disposed of directly into the environment can harm people's health, the environment, and other living things. Due primarily to its unstable nature, Hazardous Toxic (B3) waste differs from general waste in terms of properties and characteristics. Reactive, explosive, flammable, and toxic are the characteristics of Hazardous Toxic (B3) waste.

According to Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 56 of 2015, hospitals are required, as one of the health service facilities, to manage B3 waste, which includes reducing and separating Hazardous Toxic (B3) waste, storing (B3) waste, transporting (B3) waste, treating (B3) waste, burial (B3) waste, and/or (B3) waste landfilling. In the underlying overview directed at the emergency clinic, signs of sub-par the executives of Hazardous Toxic (B3) squander were found.

In Tonatan district, Ponorogo City March 2014, medical waste in tubes, needles and infusion hoses was found in the 3R (reduce, reuse, and recycle) integrated waste disposal site (TPST). According to a resident, thousands of medical wastes weigh around 10 kilograms. Until now, the disposal of medical waste is unknown. Because of this, TPST reported the findings to several related parties, including the Ponorogo District Health Office and Environment Office and the local police. Disposing of medical waste anywhere violates environmental law. The regulations in question are Law Number 32 of 2009, concerning environmental protection and management, and Law Number 18 of 2008, concerning waste management. The Head of the Ponorogo Environmental Office, Adam Parikesid, confirmed that he had received a report from the Tonatan TPST management. Medical waste must be disposed of in an incinerator or a particular place, whereas in Ponorogo, there is only one incinerator, namely at Harjono Hospital; of course, the very minimal availability is not optimal.

Because improper management of Hazardous Toxic (B3) waste can result in injuries, environmental pollution, and nosocomial diseases, an examination of the management of B3 waste in hospitals is necessary. It is hoped that by adequately managing medical waste, it will be possible to save money and protect the officers who handle it. Based on the explanation above, the author has decided to conduct a research with the title "The Role of The Government in The Impact of Hospital Hazardous Toxic Waste Pollution in Ponorogo".

METHODS

The research approach used in this study is to use a qualitative approach that aims to systematically describe the facts or characteristics of a particular population factually and carefully to obtain a general picture of an event or phenomenon. Referring to the background of the problem,

CATRA RESEARCH INSTITUTE
PJLEL
P-ISSN - 2830-4675 (PRINT)
E-ISSN - 2964-724X (ONLINE)
PROTECTION: JOURNAL OF LAND AND ENVIRONMENTAL LAW
KSI
Indexed By : GARUDA Google ISJD EBSCO

problem formulation, and research objectives described earlier, descriptive research is the type of research used. This study collected data through in-depth interviews with informants, observation, and documentation. The informant determination technique used in this study is a purposive sampling technique on key informants. The type of data used in this study is primary data, namely data obtained directly from respondents through interviews as a result of research, as well as secondary data obtained from various literature relevant to the research topic, including electronic documents and collections of physical documents from the intended research location (Sugiyono, 2019). Technical data analysis using interactive models from Miles, Huberman & Saldana (2014) is carried out through several stages, ranging from data collection, data condensation, and data presentation (data display) to conclusion drawing or verification (conclusion drawing or verification). This research was conducted for approximately one month at the Environmental Office of Ponorogo Regency. The Ponorogo Regency Health Office is an implementing element of government affairs that is the region's authority and is responsible to the Regent through the Regional Secretary in the health sector.

Table 1. Number of Health Service Facilities in Ponorogo

Health Services	Total
Local government hospital	1
Private hospital	6
Inpatient health centers	19
Outpatient clinics	12
Auxiliary clinic	56
Village health hut (Ponkesdes)	184

Source: Data Processed 2023

RESULT AND DISCUSSION

Impact Of Hazardous Toxic Waste. Hazardous and Toxic Waste (B3) is waste generated by production activities, both in type, concentration and quantity, containing hazardous and toxic materials that can pollute the environment and pose health risks. Hazardous and Toxic Waste (B3) waste has properties and characteristics that are very different from conventional waste, especially because it does not change frequently. The characteristic instability is influenced by many external factors, such as temperature, pressure or friction, and mixing Hazardous and Toxic Waste (B3) waste with different materials. It can activate the activities of Hazardous and Toxic Waste (B3) substances such as explosion, flammability or hepatotoxicity. With the continuous growth of industrial diversity, B3 industrial waste is increasing yearly. The increase in this industry certainly brings negative impacts, one of which is that the amount of waste generated is also increasing.

The hospital is one of the industries that contributes the most hazardous and toxic material waste. Each hospital can produce 100-250 kg of waste per month. It is undoubtedly a phenomenon that needs to be studied by many parties; of course, the local government, which in this area is represented by the Environmental Service, to control the disposal and treatment of hazardous and toxic waste more optimally.

The Impact of Hospital Waste on the Environment and Health Waste generated by health service facilities, particularly hospitals, can pollute the environment if not properly managed. In order to ensure that the public is shielded from the risks of environmental pollution and infectious diseases brought on by hospital waste, several significant efforts have been made to ensure the best

CATRA RESEARCH INSTITUTE
PJLEL
P-ISSN - 2830-4675 (PRINT)
E-ISSN - 2964-724X (ONLINE)
PROTECTION: JOURNAL OF LAND AND ENVIRONMENTAL LAW
KSI
Indexed By : GARUDA Google ISJD ROAD EBSCO

possible management of hospital waste. The principal normal for emergency clinic squandering is clinical waste (because notwithstanding clinical waste, clinics likewise produce homegrown waste, even radioactive waste). Non-medical waste is waste from kitchens, offices, parks, yards, and other places other than hospitals that are not medical. Waste that comes from providing medical services is known as medical waste.

As per WHO, some emergency clinic waste can convey a more serious gamble to well-being. Specifically, irresistible waste (15% to 25%) of the complete clinic squander. Among these squanders are sharps (1%), body parts (1%), restorative and substance squandering (3%), radioactive waste and toxins or broken thermometers (<1%). The entirety of the waste produced by hospital activities and other supporting activities constitutes hospital waste. It is possible to distinguish between medical and non-medical waste, which is a source of danger to human health and the spread of disease, and hospital waste, which can be in the form of solid, liquid, or gas and results from patient diagnosis, disease prevention, treatment, research, immunization of humans, and laboratories. locally

Emergency clinic squandering is all waste produced from medical clinic exercises comprising clinical and non-clinical waste. Clinical waste comprises irresistible waste, neurotic waste, sharps squander, drug squandering, cytotoxic waste, compound waste, radioactive waste, and compressed compartments endlessly squandered with highly weighty metal substances.

A portion of the impacts brought about by the presence of clinic squanders, particularly on the corruption of ecological quality and on well-being, incorporates the unsettling influence of solace and style, predominantly because of the variety that comes from dregs, arrangement, phenol smell, defecation scent, pee and regurgitation which are not set well and taste of natural, synthetic compounds. The presence of the medical clinic can mentally affect administration clients since there is a troublesome impression because of waste that is not taken care of appropriately.

In the above case, the disposal of industrial waste intended by hospitals or some health services must be further highlighted by the government and business actors (private). Industrial waste disposal by hospitals is a problem that needs to be resolved appropriately and quickly. Moreover, the waste produced by hospitals is waste containing certain chemical compounds (such as hazardous and toxic compounds). Pollution and environmental damage are closely related to human development activities, among others, caused by industrial activities; in various types of waste, There are types of hazardous waste, such as radioactive substances, heavy metals and et cetera. Proper and appropriate B3 industrial waste treatment is needed so that if not carried out, treatment will endanger the environment, human health and other hazards. Integrated B3 industrial waste management can be an important milestone in reducing pollution and environmental damage. Various types of common violations are related to industrial B3 pollution cases, such as:

1. Manufacturers (companies) independently dispose of Hazardous Toxic (B3) waste, send it to unauthorized personnel, and burn it with tools that do not meet technical requirements.
2. Utilization does not always utilize Hazardous Toxic (B3) waste; the waste is disposed of without permission. The use of waste was initially only to demand legality from the government.
3. Every waste carrier must have a manifest (waste document) as proof of shipping and processing Hazardous Toxic (B3) waste. However, in the field, there is often a sale of blank manifests (fake waste documents).
4. Collectors, processors and hoarders also usually engage in illegal dumping. Insufficient sewage treatment capacity can lead to high waste transportation and disposal costs. Finally, some companies cut corners and pile up Hazardous Toxic (B3) waste in open spaces.

CATRA RESEARCH INSTITUTE
PJLEL
P-ISSN - 2830-4675 (PRINT)
E-ISSN - 2964-724X (ONLINE)
PROTECTION: JOURNAL OF LAND AND ENVIRONMENTAL LAW
KSI
Indexed By : GARUDA Google ROAD ISJD EBSCO

Many violations are related to industrial B3 pollution, and efforts are needed to prevent and overcome such pollution. Hasibuan (2016) emphasized the need to enforce laws on pollutants and impose severe penalties to ensure a deterrent effect. Regarding industrial waste, clear and firm rules are needed, as continuous socialization for entrepreneurs when handling industrial waste. Supervising compliance with industrial waste disposal regulations and imposing penalties on violations is essential. Industrial waste should be processed early with waste treatment techniques, and after meeting quality standards, it will create a clean water source and have an ecological function.

The Role of Government in The Management of Hazardous and Toxic Waste. The Role of Government in Existing Policy The handling of medical waste needs to be highlighted. The placement of medical waste is carried out in containers corresponding to chemical, radioactive and volume properties. The collected medical waste must first undergo a treatment process before it can be disposed of at a home waste disposal facility. It has a mechanism for decreasing gas and dust emissions during waste disposal.

The accumulation of existing medical waste is one of the issues that we need to pay more attention to, especially considering the Covid-19 that has occurred, the accumulation of medical waste will increase, so there needs to be more attention to optimization here (Nugraha, 2020). Statutory regulation is a set of codified legal standards with the force of law that can be used to impose order on a community. The legislation includes those made by lawmakers and those made by law enforcement agencies, which receive delegated authority from the law to make specific regulations following applicable regulations. Other regulations are Government Regulations, Ministerial Regulations, Regional Regulations, et cetera (Fartini, 2022).

Government Regulation No. 22 of 2021 concerning implementing Environmental Protection and Management strengthens the Ministry of Environment Regulation No. 56 of 2015. Especially in article 1 concerning b3 waste management, the government means that the Environmental Agency has dramatically tightened its supervision of business licenses that produce b3 waste. Administrative sanctions are given to companies that do not comply with related laws and regulations provisions.

Some businesses or activities that impact the environment must have three environmental permits. In the low-impact category, it is enough with SPPL (Statement of Environmental Management and monitoring capability), in the impact category that needs UKL/UPL (Environmental Management Efforts and Environmental Monitoring Efforts) permits. An AMDAL (Environmental Impact Analysis) permit is required in the much larger impact category. Several hospitals in Ponorogo, almost all of them, have obtained environmental permits from AMDAL, except Yasyfin Hospital and Griya Waluya Hospital, which are still producing moderate impacts, so it is enough to pocket permits from UKL/UPL.

The lack of availability of incinerators in Ponorgo, which is only available at Hardjono Hospital as one of the b3 waste processors, therefore the government represented by the Ponorogo environmental office to support B3 waste management in health facilities throughout Ponorogo, the Environmental Office collaborates with PRIA.Co is located in Mojokerto, where PRIA.Co has completeness in medical waste management from upstream to downstream, and one of the advantages is processing waste with a capacity of 1000 tons/hour. PT. Putra Restu Ibu Abadi was founded in 2010 by sons and daughters of the Indonesian nation. Companies engaged in transportation services, utilization, processing and collection of waste by carrying out the 3R concept (recycle = reuse-recovery). This company is present among people who are starting to realize how important it is to preserve the environment on earth with increasing technological advances in the

CATRA RESEARCH INSTITUTE
PJLEL
P-ISSN - 2830-4675 (PRINT)
E-ISSN - 2964-724X (ONLINE)
PROTECTION: JOURNAL OF LAND AND ENVIRONMENTAL LAW
KSI
Indexed By : GARUDA Google Scholar Crossref INDEX COPERNICUS ROAD ISJD Indonesia OneSearch EBSCO

industrial sector, which will have a major impact on environmental sustainability from the waste produced, which can be troubling and detrimental to the survival of other creatures (humans, animals, and plants), especially hazardous and toxic waste. With related cooperation, the government can tackle the problem of hazardous and toxic medical waste more orderly and optimally.

The Environment Agency requires healthcare facilities in the Ponorogo area to submit quarterly reports for waste monitoring. Yasyfin Hospital serves as an example of a hospital that complies with this requirement by reporting to the environmental service. In January 2023, Yasyfin Hospital recorded various types of hazardous waste: solid medical waste weighing 144.7 kg, sharp medical waste measuring 22.85 kg, pharmaceutical waste amounting to 5.35 kg, and liquid waste totaling 51.05 kg. The total waste managed by the hospital during this period was 223.95 kg.

In terms of waste treatment, Yasyfin Hospital utilized different methods. They kept 24.32 kg of waste, while no waste was utilized, processed, or hoarded. A significant portion of the waste, specifically the medical waste weighing 223.95 kg, was submitted to a third-party provider. No waste was exported or subjected to other treatment methods. The total waste managed during the period amounted to 248.27 kg. Notably, no residue was observed, which refers to waste resulting from treatment processes such as incinerator ash or storage and collection of used oil. Furthermore, there was no unmanaged waste beyond the designated management time scale.

Yasyfin Hospital exhibited exceptional performance in hazardous waste management, achieving a 100% compliance rate. PT. Wastec International Semarang, a third-party waste management service, received the waste from the hospital. These findings are integral to Yasyfin Hospital's UKL-UPL implementation report for 2023, which encompasses environmental management efforts and monitoring initiatives.

The provided data includes the amounts of various hazardous waste types, such as solid medical waste, sharp waste, liquid waste, and pharmaceutical waste. Additionally, the hospital reports the monthly volume of wastewater generated. It is important to note that these reports serve not only as a formality but also as a means for the local government, particularly the Environmental Service, to regulate the management of hazardous medical waste effectively.

After the COVID-19 pandemic, Yasyfin Hospital experienced a decrease in total waste generation compared to the pre-pandemic period. As a newly established private hospital, Yasyfin Hospital produces less waste compared to regional hospitals like Hardjono Hospital, which generate a significantly higher amount of medical waste and wastewater discharge.

CONCLUSION

The Impact of Hospital Waste on the Environment and Health Waste generated by health service facilities, particularly hospitals, can pollute the environment if not properly managed. In order to ensure that the public is shielded from the risks of environmental pollution and infectious diseases brought on by hospital waste, several significant efforts have been made to ensure the best possible management of hospital waste. The principal normal for emergency clinic squandering is the presence of clinical waste (because notwithstanding clinical waste, clinics likewise produce homegrown waste, even radioactive waste). Non-medical waste is waste from kitchens, offices, parks, yards, and other places other than hospitals that are not medical. Waste that comes from providing medical services is known as medical waste.

Waste management towards the intensity of hazardous and toxic waste products needs to be something that we observe and study together handling it, especially the government, which has a vital role in determining policies to create an environment free from waste pollution, which can

PJLEL
P-ISSN - 2830-4675 (PRINT)
E-ISSN - 2964-724X (ONLINE)
PROTECTION: JOURNAL OF LAND AND ENVIRONMENTAL LAW

damage the surrounding ecosystem. Even though Ponorogo is a relatively small city compared to other cities, environmental preservation needs to be realized in order to become a milestone for change in the broader scope, both provincially, nationally and even globally, because environmental management is not only the government's role but also our role as people who are aware of this things.

REFERENCES

Brown, P. (1992). Popular epidemiology and toxic waste contamination: lay and professional ways of knowing. *Journal of Health and social behavior*, 267-281. https://doi.org/10.2307/2137356

Hamid, H. (2007). Pengawasan industri dalam pengendalian pencemaran lingkungan. Yayasan Obor Indonesia.

Hartami, A., Karjoko, L., & Najicha, F. U. (2023). Optimalisasi Peran Pemerintah Dalam Kebijakan Penanganan Limbah Medis. *PLEDOI (Jurnal Hukum dan Keadilan)*, 2(1), 12-19. https://doi.org/10.56721/pledoi.v2i1.168

Peraturan Menteri Negara Lingkungan Hidup. (2009). Peraturan Menteri Negara Lingkungan Hidup Nomor 10 Tahun 2006 Tentang Baku Mutu Air Limbah Bagi Usaha Dan/Atau Kegiatan Industri Vinyl Chloride Monomer Dan Poly Vinyl Chloride.

Peraturan Menteri Negara Lingkungan Hidup. (2009). Peraturan Menteri Negara Lingkungan Hidup Nomor 17 Tahun 2009 Tentang Pedoman Penentuan Daya Dukung Lingkungan Hidup Dalam Penataan Ruang Wilayah. Jakarta (Id): Klh.

Komilis, D., Fouki, A., & Papadopoulos, D. (2012). Hazardous medical waste generation rates of different categories of healthcare facilities. *Waste management*, 32(7), 1434-1441. https://doi.org/10.1016/j.wasman.2012.02.015

Kriswibowo, A., Wahyuningtiyas, A., Kusmayadi, N. W., & Prasetyo, K. (2021). Kerjasama pemerintah dan swasta dalam pengelolaan limbah medis Covid-19 di Kota Madiun. *Public Inspiration: Jurnal Administrasi Publik, 6(1)*, 8-18. https://doi.org/10.22225/pi.6.1.2021.8-18

Matin, H. H. A., Purwono, P., Alfajrin, A. C. A., & Inaku, A. H. R. (2022). Solid Medical Waste Management of Hazardous and Toxic at UNS Hospital Surakarta. *Jurnal Presipitasi: Media Komunikasi Dan Pengembangan Teknik Lingkungan*, 19(2), 398-407. https://doi.org/10.14710/presipitasi.v19i2.398-407

Nursabrina, A., Joko, T., & Septiani, O. (2021). Kondisi Pengelolaan Limbah B3 Industri Di Indonesia Dan Potensi Dampaknya: Studi Literatur. *Jurnal Riset Kesehatan Poltekkes Depkes Bandung*, 13(1), 80-90. https://doi.org/10.34011/juriskesbdg.v13i1.1841

Purwanti, A. A. (2018). Pengelolaan limbah padat bahan berbahaya dan beracun (B3) rumah sakit di RSUD dr. Soetomo Surabaya. *Jurnal Kesehatan Lingkungan*, 10(3), 291-298. https://doi.org/10.20473/jkl.v10i3.2018.291-298

Putra, T. I., Setyowati, N., & Apriyanto, E. (2019). Identifikasi Jenis Dan Pengelolaan Limbah Bahan Berbahaya Dan Beracun Rumah Tangga: Studi Kasus Kelurahan Pasar Tais Kecamatan Seluma Kabupaten Seluma. *Naturalis: Jurnal Penelitian Pengelolaan Sumber Daya Alam dan Lingkungan*, 8(2), 49-61. https://doi.org/10.31186/naturalis.8.2.9209

Sumampouw, O. J., & Risjani, Y. (2018). *Indikator Pencemaran Lingkungan*. Deepublish.

Tsakona, M., Anagnostopoulou, E., & Gidarakos, E. (2007). Hospital waste management and toxicity evaluation: a case study. *Waste Management*, 27(7), 912-920. https://doi.org/10.1016/j.wasman.2006.04.019