

Home Industry Waste Impact Analysis for Environmental Health

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Abstract

Since the beginning of this century, large towns like Bandung have been seeing an increase in the number of environmental issues as a direct result of water pollution caused by residential wastewater generated by their home industries. As a result, there are a great deal of actions that need to be taken in order to solve the problem of water pollution. In Indonesia, a great number of environmental rules and policies have been developed, but the implementation of these policies and regulations has not been carried out to the best of their potential due to a number of flaws in the text of environmental regulations. Developing an ideal policy framework for the administration of wastewater is one potential approach to the problem. Laws governing the management of domestic wastewater must be perfectly supplemented in order to be effective, particularly in the areas of standards, operations and procedures, wastewater quality standards, adequate and quality technology, landscape and building planning, and institutional coordination. This is especially important in large cities. It will be much simpler to implement all of the environmental standards if they are properly synced with one another. The prevention of water pollution will be effectively managed if this practice is followed regularly.

Keywords

impact; waste; home industry; health; environment; pollution



I. Introduction

Environmental pollution that occurs in big cities in Indonesia seems increasingly difficult to control (Fransisca, 2011). An example is the complexity of the problem in overcoming water pollution, especially surface water (Yohannes et al., 2019). Based on the results of research from various groups in the last ten years, both research conducted by government agencies or non-governmental organizations, it shows that river water pollution in two big cities, namely Jakarta and Bandung, is dominated by pollutant sources originating from the river. from residential areas or domestic liquid waste (Komarawidjaja, 2017).

Prior to industrial activities that released a lot of pollutants into the water environment caused by domestic waste due to human activities, fecal pollution (feces, human feces) on drinking water sources often caused waterborne diseases that had destroyed the population in the area. a number of cities (Yuda & Purnomo, 2018). Many urban water supplies still contain high concentrations of pathogenic bacteria, especially in densely populated and slum settlements and settlements close to riverbanks (Rukaesih, 2004).

Waters are the last place for all waste disposal, both household and industrial waste and some heavy metals in high concentrations (Pamungkas, 2016). So that waste becomes a logical consequence of every establishment of an industry even though not all industries produce waste. When waste containing certain chemical compounds with certain hazardous and toxic materials is released into the environment, it will result in pollution, both in rivers,

soil and air (Nasir et al, 2016).

Article 20 paragraph 3 of Law No. 32 of 2009 on Environmental Protection and Management permits anybody to dispose of waste into environmental media under the following conditions: a. Comply with environmental quality criteria; b. Obtain approval from the Minister, Governor, or Regent/Mayor based on their respective authority. Article 67 mandates that every individual must ensure the preservation of environmental functions and prevent pollution and/or environmental damage.

It is our responsibility to conserve the irreplaceable gift from God that is nature and its biodiversity, thus we must preserve this nature, uphold the quality standards of wastewater, and safeguard the ecosystems inside it (Damanhuri & Padmi, 2010). Consideration of letter (a) of Law No. 7 of 2004 regarding Water Resources, which states that water resources are a gift from God Almighty that benefits the welfare of the entire Indonesian population in all fields; consideration of letter (c), which states that the management of water resources must be geared toward achieving harmonious synergies and integration between regions, between sectors, and between generations.

In Government Regulation No. 20 of 1990 pertaining to the Control of Water Pollution, it is stated that water, a natural resource required by a large number of people, must be maintained to protect water quality so that water remains clean and beneficial for human life and ecosystems that live in waters in the future. To preserve water quality so that it may be used sustainably with the appropriate degree of quality in the future, it will be important to limit water pollution for human life and achieve a clean living environment (Zammi et al, 2018).

The development of the home industry along with the development of time has experienced quite high growth and development, in the current era of industrial development 4.0, the home industry still exists and survives (Ginting, 2017). Industrial activities cannot be separated from the existence of an impact that is generated, both from the production results produced there are also negative impacts for both protection and humans . From industrial activities, it is the end result that is not used at all (Indrianeu & Singkawijaya, 2019). This waste is sourced from industrial activities according to Ginting (2008) either due to direct processes or indirect processes. Waste that comes directly from industrial activities is waste that is produced simultaneously with the ongoing production process. Meanwhile, indirect waste is produced before and after the production process. Waste is a logical consequence of every establishment of an industry (factory) although not all industries produce waste. When waste containing certain chemical compounds as hazardous and toxic materials with certain concentrations is released into the environment, it will result in pollution, both in rivers, soil and air (Kristanto, 2004).

II. Research Methods

The descriptive qualitative research method is what was used for this study. The objective of this descriptive study, according to Arikunto (2010), is research that is described in the form of descriptive words rather than numbers, so that what is collected might become the key to what has been researched. According to Bogdan and Taylor's definition in Moleong (2000), qualitative research methods are defined as procedures that create descriptive data in the form of written or spoken words from individuals and observable behavior. When it comes to absorbing difficulties that are relevant to the study focus, the use of this kind of descriptive research in conjunction with a qualitative approach is regarded as being more helpful and meaningful. Interviews and careful documentation make up the next

step in the data collection process. An interactive model was used for the data analysis in this particular research project. The data that has been gathered is reviewed, studied, and analyzed in the process known as interactive analysis, and then an abstraction is created. After the data has been abstracted, it is subsequently organized according to units while the validity of the data is checked. The final phase is the interpretation of the data.

III. Discussion

3.1 The Impact of Home Industry Waste on the Environment

In order to ensure the effectiveness of environmental impact control, government regulations (PP) and regional regulations (Perda) are needed to further regulate environmental protection and management planning, which includes environmental inventory, ecoregional area determination, and RPPLH (environmental protection and management plan).

In order to mitigate this negative influence on the environment, it is necessary to draw attention to a number of key points. First and foremost, the identification of ecoregions is a brand-new feature of Law Number 32 Year 2009, which was passed in haste. According to the logic that environmental boundaries do not exist, it is a good idea. Based on the similarity of landscape characteristics, watersheds, climate, flora and fauna and socio-cultural, economic, community institutions and environmental inventory, the environment has diverse regional maps (Article 7 Paragraph 2). Since all environmental impact restrictions, such as environmental permits issued by environmental authorities, are based on an ecoregion's carrying capacity and capacity of the environment, this ecoregion has a strategic advantage.

Secondly, environmental impact control encompasses three critical components: prevention, mitigation, and recovery (or restoration) (article 13). Preventing environmental harm is the most heavily regulated of these three kinds of control. Many preventive measures are allowed and regulated by the law, including: One of the leading causes of environmental degradation and a potential source of disease for humans is domestic industry waste pollution. Regardless of the risks, the domestic business will do anything to maximize its own financial gain.

Environmental risk analysis is also a preventive tool that has just been adopted in Law No. 32 of 2009. Analyzing environmental risks is mandatory for companies "which have the potential to cause significant impacts on the environment, threats to ecosystems and life, and/or health and safety. humans" (Article 47 paragraph 1). Most of the home industry disposes of their waste into waters. The kinds of pollutants that are produced may be organic pollutants (smelling bad), inorganic pollutants (frosty and colored).

Because industrial waste contains organic and inorganic pollutants, the waste water cannot be directly dumped into the river, but must be cleaned first before being discharged so that pollution does not occur. Soybeans have exceeded quality standards in the measurement of the acidity of liquid waste from boiling water. Wastewater from industrial activities and waste products can alter the water's pH, which can affect aquatic species' ability to grow and reproduce. Normal drinking water has a pH between 6.5 and 7.5, which is sufficient for human consumption. In the event of water contamination, water ecosystems can do "repair." There are limitations to what you can do with this power (Adack, 2013).

As a result, water pollution must be prevented and eliminated. Water contamination can be avoided with simple preventative actions, such as not dumping industrial trash into rivers. The practice of disposing rubbish into rivers and other bodies of water should be discouraged by strictly enforcing the restrictions in place there. The containers provided for industrial waste disposal should be used. People living near rivers need to pay more attention to environmental cleanliness and better appreciate the role rivers play in their communities, so

that rivers are no longer treated as rubbish disposal sites. Industrial waste disposal regulations should be closely monitored and those who break them should be punished (Cita & Adriyani, 2013).

When the quality requirements of the quality standards have been met, the newly created wastewater may then be discharged into ditches or rivers. The initial step in the process is the processing of industrial waste through waste treatment processes. This will result in the creation of a river that is pristine and serves an important ecological purpose. The construction of wastewater treatment ponds is one of the things that the community needs to get involved in doing. The Minister in Charge of the Environment is the One Who Determines the Quality Standard for the Additional Water. After consulting with the Minister, the Governor has the authority to establish a quality standard for liquid waste that is higher than the quality standard for liquid waste established by the Minister. This is done with the goal of preserving water quality. Other ministers and the heads of government agencies that are not departmental in nature have this authority (MOEF, 1995).

Regarding actions that have the potential to identify the quality standard of liquid waste in accordance with the Decree Number: Kep03/MENKLH/II?1991, issued by the Minister of Population and the Environment. The decision includes procedures for granting a permit for the disposal of liquid waste, which are determined based on the maximum level of each parameter and the maximum discharge of liquid waste that must not be exceeded. The maximum level of each parameter is determined by the maximum discharge of liquid waste that must not be exceeded. It is permissible to exceed the maximum level of each parameter as well as the maximum liquid waste discharge, but only provided that the maximum pollution load is not also exceeded.

Waste pollution is very dangerous for biota in the waters of various types of ecosystems experiencing poisoning. Waste management system that is not in accordance with the technical standards is due to the system of waste management that has not functioned optimally and the lack of concern of residents in waste management is one of the causes of the system has not run well (Tobing, 2021). The waste was significantly influenced by the socio-demographic characteristics of the households such as gender, age, income and residency (Huho, 2020). Each species in the waters is different, there are species that are resistant to pollution and some are not resistant to pollution that occurs in the waters. Every ecosystem always adapts to its place. Even so the level of adaptation is limited, if the limit exceeds the limit, then the fish will die. The extinction of a certain species will have an impact on human life and also other living things.

What will happen if the waste from home industry pollutes our environment? Our country is an archipelagic country, and is rich in natural resources such as flora and fauna in the waters. All pollution events that occur on the environment will definitely have an impact on ecosystems (waters and seas), because home industry liquid waste causes environmental damage, and can also have an impact on human health.

3.2 Implementation of Home Industry Waste Management Policy in Bandung

To overcome the problem of home industry waste, it is necessary to improve regional/municipal government policies and regional regulations which are the main tools in the environmental management system, namely the formulation of Environmental Management Regulations for Home Industry Activities. By referring to pre-existing regulations, such as the Environmental Law, Government Regulations, Decrees of the State Minister of the Environment and Regional Regulations of West Java Province, it is still necessary to develop and refine Regional Regulations or Regulations, either at the provincial or regional level. II (district level), especially those closely related to the problem of waste management systems in general and especially for household industrial liquid waste.

Based on a direct field survey to the locations of home industries in the city of Bandung, it is known that there are still many environmental problems that occur in residential areas, as well as in processing plants to produce either services or goods. Therefore, a Standard Operating Procedure for Household Industrial Waste Management is needed for each type of industry or business. As a result of this lack of standardization, without realizing it, irregularities continue to occur in the management of this household industrial waste.

It is conceivable that if this problem is left unchecked and is not dealt with immediately, then the problem of environmental pollution will accumulate and one day will cause a significant decrease in the quality and potential of natural resources. Good management is reflected in the regulation of waste management operational activities in an operating standard. The operating standard must cover every stage of activities that must be carried out by waste management operators to control, drain, process waste to carry out recording and documentation activities.

In accordance with regulations from the Central Government, each region or city must have regulations on wastewater quality standards as a means of controlling waste water disposal. Wastewater that exceeds quality standards will result in environmental pollution, especially pollution in water bodies, both surface water and ground water. The city government of Bandung has issued a policy regarding the Quality Standards for Home Industry Wastewater through the Mayor's Regulation on the Management of Home Industry Wastewater.

The regulation that regulates the quality standard of industrial wastewater is the Decree of the State Minister of the Environment in 1995. However, even this regulation is not yet complete for various types of industries. With reference to the Decree of the State Minister for the Environment in 1995, it is still necessary to develop regulations that regulate the quality standards of industrial liquid waste, especially home industries, and for the city of Bandung. As is the case with the Bandung City Regional Regulation Number 02 of 2014 concerning Waste Management and Control, the management of household industrial liquid waste should also be regulated by a governor regulation. In the management of liquid waste has included the treatment of liquid waste. Therefore, the governor's regulation also includes technical requirements, for example regarding the process technology used, or even the processing equipment units. However, it must be observed that every liquid waste from a certain type of industry must have different characteristics from other industries. So regulations for technical standards must also be made per type of existing home industry.

Furthermore, in overcoming the impact of home industry waste, it can be implemented by implementing spatial policies related to waste water management for cities whose points include: 1. Development of wastewater infrastructure to minimize pollution levels in water bodies and soil and improve city sanitation through regulating drainage functions. . 2. Expanding wastewater management services with a closed piping system through the development of a centralized system in residential areas, central business areas, industrial areas and ports. 3. Development of a modular system with the best applicable technology. 4. Waste water treatment services are planned through the division of service zones.

This policy needs to be supported by the provision of simple WWTP technology that can be provided by the community themselves. In addition, the policy to develop the construction of a communal system of wastewater treatment units in dense and slum residential areas, apart from the difficulty of acquiring land, is not in accordance with the waste water management policy in the Governor's Regulation which prohibits the use of septic tanks and replaces them with IPAL/STP.

IV. Conclusion

From the results of the study, it can be concluded that the waste from home industry contains organic and inorganic pollutants which are dangerous when discharged into the river because they cannot be decomposed directly. Therefore, to overcome the home industry waste can be done with preventive measures such as prohibiting the disposal of home industry waste directly into the river but provides a temporary shelter and treatment until the waste is not dangerous. In addition, for the long term, in overcoming the problem of home industry waste, it is necessary to improve regional/city government policies and regional regulations which are the main tools in the environmental management system, namely the formulation of Environmental Management Regulations for Home Industry Activities. From the results of field searches to locations of home industries in the city of Bandung, it is known that there are still environmental problems so that more serious handling is needed. In handling home industry waste, aside from making policies on waste water treatment, it can also be done by implementing environmental policies based on environmental care.

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