

Controlling of Wastewater Disposal of Tofu And Tempe Industry By The Environment Service In Gandasari Village, Katapang District, Bandung Regency

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Abstract

Coinciding in Gandasari Village. The purpose of this research is to find out the Controlling of Tofu and Tempe Industrial Wastewater Disposal by the Environment Agency in Gandasari Village, Katapang District, Bandung Regency, to find out the relationship of this policy oversight with the State Administration Study Program, as well as to find out how it is implemented in the field. The research method used by the author is a descriptive qualitative research method which describes a phenomenon that exists in the field, by conducting observations, interviews, and documentation. This research is aimed at examining problems related to tofu and tempeh industrial waste water in Gandasari Village which still produces air pollution and water pollution that disturbs the comfort of local residents and has the potential to pollute the environment. The results of the study show that the supervision of industrial waste water disposal must meet the standards in the provisions of the Agreement Letter such as the Environmental Management Efforts and Environmental Monitoring Efforts (UKLUPL) which should be made by industrial actors but in practice this procedure cannot be carried out by the agency. environment due to obstacles from industrial business actors who do not make environmental documents and the lack of knowledge of residents regarding industrial waste water management, this results in the environmental service being unable to carry out supervision and even the environmental service itself does not know about the existence of the tofu and tempeh industry in the village Gandasari So there is a need for counseling related to Tofu and Tempe Industrial waste water management for Tofu and Tempe business people and a Wastewater Disposal Installation (WWTP) for Tofu and Tempe Industry in Gandasari Village.

Keywords: Controlling, Environment, Pollution Control, Sustainable Waste Practices

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1. Introduction

Tempe and tofu are one of the foods that are popular with Indonesian people, so the tempe and tofu making industry has spread everywhere from small, medium to large industries. In Gandasari Village itself there are 4 (Four) tofu and tempeh industries including 2 (Two) tofu industries and 2 (Two) tempe industries, these 4 (Four) industries can be classified as medium industries because they can produce up to 1 (One) Ton of processed soybean production every day. In this case, the industry produces waste water which has the potential to pollute the environment around Gandasari Village, so the disposal of tofu and tempeh waste water in Gandasari Village must be managed properly and correctly and monitored by the environmental service so that waste water disposal does not pollute the environment in the area. Gandasari village.

However, the production process of tempeh and tofu produces wastewater that has the potential to pollute the environment. Wastewater from the tofu and tempeh industries contains remnants of raw materials, chemicals, and microorganisms which, if not managed properly, can cause pollution. Therefore, the management and disposal of this wastewater is very important to preserve the environment in Gandasari Village. To ensure that wastewater disposal is done in the right way, supervision is needed from the local environmental agency.



This agency is tasked with ensuring that industries comply with existing environmental regulations and implement effective waste treatment systems, so that negative impacts on the environment are minimized. These measures include regular monitoring, licensing, and enforcement to keep waste from contaminating the soil, water, or air around the village.

Regulations regarding the disposal of industrial waste water have been explained in Minister of the Environment Regulation No. 05 of 2014 concerning Waste Water Quality Standards and Government Regulation Number 22 of 2021 concerning environmental administration and management. These regulations explain that a food industry business that can cause environmental changes must have an environmental permit in the nature of an agreement with the condition that the industry is registered and has a business permit. The permit letter includes an Environmental Management Statement Letter or abbreviated as SPPL which is usually made by small industrial business actors and a Document on Environmental Management Efforts and Environmental Monitoring Efforts which is abbreviated as UKL-UPL, this document must be owned by medium business actors who already have a NPWP and SIU. so that the environmental service can supervise the disposal of waste water from the tofu and tempe industry in Gandasari Village in accordance with the agreement that has been agreed by business actors in the tofu and tempe industry in Gandasari Village.

Supervision of industrial wastewater discharge by the Environmental Service in Gandasari Village is necessary because there are complaints from the public regarding the smell of polluted tofu and tempeh industrial wastewater which is pungent during the dry season. As well as industry players who do not yet understand the pollution caused by the disposal of tofu and tempeh waste water. The waste water should be disposed of at the Waste Water Disposal Installation or abbreviated as IPAL and periodic checks should be carried out by the environmental service for pollution to reduce the impact of waste water pollution that is not disposed of properly. So in this case the researcher is interested in examining the supervision of wastewater disposal from the tofu and tempe industry by the Environmental Service in Gandasari Village, Katapang District, Bandung Regency.

2. Method

This research was conducted to determine the supervision carried out by the environmental service regarding the disposal of waste water from the tofu and tempe industry in Gandasari village based on T. Hani Handoko's controlling theory which includes determining standards, measuring the implementation of activities, measuring the implementation of activities, comparing results with standards or evaluation. and taking corrective action if necessary. By using a descriptive qualitative research method which describes the condition of a particular object or event in accordance with the facts that occur in the field and explains the results of research related to problems found in the field including observation, interviews and documentation.

In accordance with Government Regulation Number 22 of 2021 concerning the implementation and management of the environment, it is explained that a food industry business that can cause natural changes and pollution is required to produce an environmental document in the form of an Environmental Management Statement Letter or abbreviated as SPPL for small industrial business actors and an Environmental Management Effort Document And Environmental Monitoring Efforts, abbreviated as UKL-UPL, for medium and top industrial players, is AMDAL or Environmental Impact analysis for large companies by following the Minister of Environment Regulation Number 05 of 2014 concerning Waste Water Quality Standards as a reference for quality standards for waste water disposal. The waste water quality standards for entrepreneurs or management of soybeans such as tofu and tempeh are as follows:

Table 1.
Wastewater Quality Standards for Soybean Processing Businesses and/or Activities based on Ministerial Regulation No. 5 of 2014 concerning Wastewater Quality Standards

Parameter	Soybean processing					
	Soy sauce		Know		Tempeh	
	Concentration) (mg/l)	Burden (kg/ton)	Concentration) (mg/l)	Burden (kg/ton)	Concentration) (mg/l)	Burden (kg/ton)
BOD	150	1.5	150	3	150	1.5
COD	300	3	300	6	300	3
TSS	100	1	200	4	100	1
pH	6-9					
Highest wastewater r quality (m3/ton)	10		20		10	
Information:						
1) *) except Power of Hydrogen (pH).						
2) The unit of waste water quality is 3 meters per ton of raw materials						
3) The load unit is KG per Ton of Raw Material						

Source: Data Processing

Controlling of waste water disposal by the environmental service

Controlling efforts carried out by the Environmental Service in Gandasari Village are carried out so that the disposal of tofu and tempe industrial waste water can run effectively and not cause greater pollution to the environment around Gandasari Village. must be carried out so that implementation can run well according to the supervision steps according to T. Hani Handoko (2019:261) which are as follows:

1. Determination of standards in accordance with Minister of Environment Regulation Number 05 of 2014 and waste disposal for industry by following standards from Government Regulation Number 22 of 2021
 2. In accordance with existing standards, the implementation of measurement activities can be determined based on Waste Water Quality Standards and laboratory tests by the Environmental Service.
 3. Next, it can be measured whether the implementation of activities is in accordance with standards after laboratory checks
 4. So that evaluation action can be taken regarding the results of the implementation of monitoring activities in the tofu and tempeh industry in Gandasari village by the environmental service
 5. If the controlling is not carried out according to the agreement in Government Regulation Number 22 of 2021 or Minister of the Environment Regulation Number 05 of 2014, corrective action will be taken against the company, in the form of a warning to the most severe punishment, namely termination of the industrial business.
- Each existing stage must be carried out well and correctly in accordance with existing theory by referring to supervision theory as a basis for determining research topics.

3. Results And Discussion

Controlling of Tofu and Tempe industrial wastewater discharge by the Environmental Service in Gandasari Village, Katapang District, Bandung Regency

Controlling of Tofu and Tempe Industrial Waste Water Disposal in Gandasari Village carried out by the Environmental Service is carried out based on the policy implemented, namely Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management. Supervision is carried out by regional environmental supervisory officials as determined by a Regent's Decree. The Bandung Regency Environmental Service plays an important role in monitoring solid waste, liquid waste and B3 waste (hazardous and toxic materials) which are the results of disposal containing residual industrial production materials that are no longer used. Supervision is carried out based on indicators which include determining standards, measuring the implementation of activities, measuring the implementation of activities, comparing results with standards or evaluations and taking corrective action if necessary.

Standard setting

Setting standards is the earliest stage of the monitoring process, the environmental service sets standards in the form of Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management. The regulation explains that an industrial business that causes environmental changes is obliged to make an agreement in the form of an environmental document such as an Environmental Management Statement Letter or abbreviated as SPPL for small industrial business actors and an Environmental Management Effort and Environmental Monitoring Effort document, abbreviated as UKL-UPL for medium industrial actors. and at the top is AMDAL or Environmental Impact Analysis for large companies. Furthermore, the Environmental Service has standards for the disposal of soybean industrial wastewater such as tofu and tempeh which are contained in Ministerial Regulation No. 5 of 2014 concerning Wastewater Quality Standards. These standards must be followed by Tofu and Tempeh industry players in Gandasari Village in order to maintain environmental sustainability and protect Gandasari Village from excessive environmental pollution that disturbs the comfort of the community. An environmental letter or document such as an Environmental Management Statement Letter (SPPL) or Environmental Management Efforts and Environmental Monitoring Efforts (UKL-UPL) is one of the standards that has been set by the Environmental Service in monitoring industrial waste disposal. This supervision will be carried out based on a Ministerial Regulation Environment No. 05 of 2014 concerning Waste Water Quality Standards To check how much pollution is produced from waste disposal so that in the next stage there is a second (two) indicator, namely determining the measurement of activity implementation.

Determining measurement of activity implementation

Implementation of activities is measured based on the intensity of Biological Oxygen Demand (BoD), Chemical Oxygen Demand (CoD), Total Suspended Solid (TSS) and Power of Hydrogen (pH) as well as the highest quality of waste water, according to Ministerial Regulation No. 05 of 2014 concerning Standards The quality of waste water that has been agreed upon by industry players in environmental documents that have been created. The quality of waste water that has been determined in the Minister of Environment Regulation No. 5 of 2014 concerning Waste Water Quality Standards for business actors or soybean management activities with quality standard provisions such as explained in Table 1 regarding Waste Water Quality Standards for Soybean Processing Businesses and/or Activities based on Ministerial Regulation No. 5 of 2014 concerning Waste Water Quality Standards

Measurement of activity implementation

As an Agency or Service that is responsible in the environmental sector for pollution and disposal of industrial wastewater, as a monitoring measure that has been determined in the Minister of Environment Regulation No. 5 of 2014, the controlling will then carry out these

measurements by taking samples of water from the industry and carrying out checks. levels of Biological Oxygen Demand (BoD), Chemical Oxygen Demand (CoD), as well as Power of Hydrogen (pH) and Water Quality from waste products in Waste Water Disposal Installations (IPAL). The above measurements are carried out as a test of whether the standards that have been set by an industry have been implemented based on what has been agreed upon or not, from there comparative action can be taken with standards or evaluation.

Comparison with standards (evaluation)

From the policies that have been set in an industry which are then measured and tested, a standard comparison will be carried out with what actually happens in the field, whether the standards that have been set are appropriate or not and whether there are deviations or not in the disposal of industrial waste water or No. From the four stages of supervision that have been carried out periodically, corrective action will then be taken. If the policy is not effectively implemented then corrective action will be carried out in various ways that have been determined.

Retrieval is not corrected if necessary

After the previous stage has been carried out and nothing works effectively for the next environment, in this policy the Environmental Service has provided relief for industrial business actors by not giving penalties to industrial actors who are not recorded in environmental documents in the form of Environmental Management Statement Letter (SPPL) or Environmental Management Efforts and Environmental Monitoring Efforts (UKL-UPL), penalties are only given to violators of the agreement itself, so in essence the letter or document is in the nature of an agreement where an industry will be given sanctions only when The industry violated the agreement they made in accordance with the provisions that had been set. If an industry does not make this document then the Environmental Service has no obligation to carry out supervision or guidance in waste water disposal in an industry, in this case waste water disposal is only carried out based on the control of each party and only relies on public complaints if there is a problem. Disposal of industrial wastewater has resulted in excessive pollution of the environment.

Obstacles and Effortscarried out by the Environmental Service in overcoming obstacles in controlling waste from the tofu and tempeh industry in Gandasari Village, Katapang District, Bandung Regency

In controlling the disposal of Tofu and Tempe industrial waste water by the Environmental Service in Gandasari Village, Katapang District, Bandung Regency, an obstacle was found that needed to be made to overcome the existing obstacles by the Environmental Service in Gandasari Village. These obstacles were obstacles and efforts were made. The Environmental Service's supervision of waste water disposal from the tofu and tempeh industry in Gandasari Village is in setting standards and implementing activity measurements.

Setting standards and implementing activity measurements

The Environmental Service as a body that acts as a supervisor in the disposal of waste water carried out by an industry in accordance with the standards set by Government Regulation Number 22 of 2021 concerning the implementation of environmental protection and management as well as Environmental Ministerial Regulation No. 5 of 2014 concerning Standards. Wastewater quality has various obstacles in implementing existing standards, including a lack of public knowledge regarding the environmental documents needed to run industry, this is due to the absence of survey officers or officers visiting villages that have sufficient industry. However, the establishment of standards from the Environmental Service in monitoring wastewater disposal from the tofu and tempe industry in Gandasari Village has obstacles in its implementation in the form of residents' knowledge regarding the documents they should make in running a relatively large industry. Apart from that, the Environmental Service does not have industrial data. operating in Gandasari Village so that monitoring steps

cannot be carried out as they should in accordance with established standard operational procedures. supervision of waste water disposal from the tofu and tempe industry in Gandasari Village which was carried out by the Environmental Service, researchers were able to find several findings including supervision that had not been carried out in Gandasari Village as well as standard operational procedures that had not been implemented properly in the tofu and tempeh industry in Gandasari Village .

Apart from the standard setting which has not been implemented, obstacles were also found in carrying out activity measurements due to the fact that the tofu and tempe industry in Gandasari Village only relies on irrigation which is built behind the factory, so that from this factor measurements are hampered by the industry's inadequate facilities which where they do not have their own Waste Water Disposal Installation (IPAL) in the industry they run. the waste water from their production is all thrown into the irrigation behind the industry. They don't know how much and how much liquid waste has been produced and thrown into the irrigation. The absence of a Waste Water Disposal Installation (IPAL) in the industry can hinder officers in carry out quality standard testing of wastewater produced by industry by following standards from the Minister of Environment Regulation No. 5 of 2014 concerning Wastewater Quality Standards

Existing obstacles can greatly influence the implementation of supervision itself so that in practice the stages of supervision according to Handoko (2019:361-363) cannot be implemented properly in the tofu and tempe industry in Gandasari Village, Katapang District, there are efforts that must be made. by the Environmental Service in monitoring the discharge of industrial wastewater in Gandasari Village. Controlling of waste water disposal carried out by the Environmental Service with the various obstacles described above, there are several efforts made by the Environmental Service to overcome the obstacles that exist in monitoring the disposal of waste water from the tofu and tempe industry in Gandasari Village which It is hoped that monitoring of wastewater disposal from the tofu and tempeh industry by the Environmental Service in Gandasari Village can be optimized, which is expected to reduce pollution caused by the tofu and tempe industry.

The Environmental Service can try to help the residents of Gandasari Village who have a tofu and tempeh industry by providing information regarding environmental documents that must be made by industry players in the village in the form of Environmental Management Statement Letters (SPPL) as well as Environmental Management Efforts and Environmental Monitoring Efforts (UKL-UPL) and directing as appropriate or community surveys regarding industrial data that has not been recorded by the Environmental Service so as to hinder the implementation of supervision in the policy or assist residents in making Waste Water Disposal Installation (IPAL) for an industry.

4. Conclusion

Based on the description of the discussion that has been determined by previous researchers, it can be seen from the research results and data in the field that have been obtained regarding the role of the environmental service in monitoring the disposal of waste water from the tofu and tempe industry in Gandasari Village, Katapang District, Bandung Regency. Researchers determined several conclusions as follows: Controlling carried out by the Environmental Service has been determined based on standards that have been determined in Government Regulation Number 22 of 2021 concerning the Implementation and Management of the Environment and Ministerial Regulation Number 5 of 2014 concerning Waste Water Quality Standards. From the statements and explanations that the researcher explained in the previous chapter, it can be concluded that standard operational procedures have not been implemented properly but there are already regulations that have been established. This is because the understanding of the people who are industrial actors regarding environmental documents containing agreements regarding the disposal of waste water is very minimal, so this is one of the main factors causing industrial players in Gandasari Village not to make Environmental Management Statement Letters (SPPL) or Environmental Management documents and Environmental Monitoring Efforts (UKL-UPL) even though the

industry they run has been running for more than 30 (thirty) years and has produced a total production volume of more than one ton per day. Factors that become obstacles in monitoring the disposal of waste water from the tofu and tempe industry in Gandasari Village are related to the determination of implementation standards. Residents do not know about environmental documents in the form of an Environmental Management Statement Letter (SPPL) or Environmental Management and Environmental Monitoring Efforts (UKL-UPL).) which should be made by industrial players who produce waste water, specifically the tofu and tempe industry in Gandasari Village, where basically supervision of industrial waste water disposal can only be carried out if an industry has made the environmental permit document. Another obstacle faced in the implementation of monitoring the disposal of tofu and tempeh industrial wastewater in Dsea Gandasari, Katapang District is related to measuring the implementation of activities where industrial players in Gandasari Village do not have licensing documents in the form of Environmental Management Statement Letters (SPPL) or Environmental Management and Environmental Monitoring Efforts (UKL-UPL) so that in practice the supervision of waste water disposal from the tofu and tempeh industry in Gandasari Village, Katapang District cannot run optimally, apart from that there is a lack of understanding among residents regarding environmental documents for an industry. Efforts made related to the establishment of implementation standards are by conducting socialization regarding environmental documents that must be made by industry players, directing residents who own industries in the process of making documents in the form of Environmental Management Statement Letters (SPPL) as well as Environmental Management and Environmental Monitoring Efforts (UKL-UPL). As well as helping industrial residents and guiding residents to build their own waste water disposal installations, apart from that, measuring the pollution levels of waste water resulting from the disposal of tofu and tempe production. The environmental service has a very important role in monitoring industrial waste from the tofu and tempe industry in Gandasari Village, therefore the researcher provides suggestions to provide more understanding to village communities who will build an industry regarding environmental documents in the form of Environmental Management Statement Letters (SPPL) and Management Environment and Environmental Monitoring Efforts (UKL-UPL). and giving more control to industries that are developing in a village. Apart from that, it can help village communities in the process of making environmental documents to make it easier to carry out monitoring of waste water disposal because from what researchers have found, village industry players have difficulty in making documents, whether business permits or environmental documents. At the time of the interview and research process, the tofu and tempeh industry players in Gandasari Village did not yet know how waste water should be disposed of, so it was suggested to provide guidance regarding what the waste water disposal systems and techniques should be, along with the benefits and uses of the environmental documents. because basically the village is the closest place to the location of the tofu and tempe industry in Gandasari Village. Before going to the industrial agency, the industry actor will make a report to the relevant agency regarding the environment around the industry so that it can also play an important role in helping residents in making documents easier to produce. and environmental management

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