

Environmental Damage Due to Hazardous and Toxic Pollution: A Case Study of Citarum River, West Java, Indonesia

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Abstract: Until now, environmental crimes in the Citarum watershed, especially the disposal of hazardous and toxic waste (HTW) still occurs. Consequently, there are a countless number of disasters that are happening in a day. However, where is the social control of bureaucrats of the State Ministry for the Environment of the Republic of Indonesia? This research approach method was the qualitative method. The research results showed that the perpetrators of environmental damage to the Citarum watershed were not aware that the impact of environmental damage was more violent than other crimes. It was because this type of crime sometimes had unexpected impacts related to the intensity, duration, and extent of the area affected. Therefore, the efforts to prevent environmental crimes against the Citarum river water should cover various aspects. These include very strict supervision in terms of check and balance of the independent state institutions as well as the discretion given to the authorities in the disposal of hazardous and toxic waste into the Citarum River.

Keywords: Environment, Hazardous and Toxic Waste, Damage, Citarum River, Regulations.

1. INTRODUCTION

Even though pollution and environmental damage caused by human activities often occur, this brings awareness of the importance of protecting and preserving the environment at the least. One of the efforts made in this regard is by making various statutory instruments containing various important rules, including the classification of actions that are considered crimes against the environment. This in turn gives birth to various terms, especially new scientific terms, including green criminology, environmental crime, conservation crime, and others.

The Indonesian Forum for the Environment (WALHI), West Java, finds organized criminal acts of environmental destruction in the Citarum watershed, such as a company in Majalaya, Bandung Regency

that still disposes of hazardous and toxic waste (HTW), which is coal waste. It is suspected that there are parties who still deliberately dispose of HTW and medical waste by misusing the permit from the Ministry of Environment and Forestry of the Republic of Indonesia.¹

Typologies of environmental damage, such as small-scale gold mining activities, are generally associated with several social and environmental impacts, including loss of biomass, contamination of land and water, interpersonal violence, and violation of land tenure. This type of illegal activity is generally associated with multiple dimensions of illegality.² This country is experiencing a great wave of white-collar

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¹Walhi (2019) Still Finds Companies that Dispose Hazardous and Toxic Waste (B3) into the Citarum Watershed. Cable News Network (CNN) Indonesia, February. <https://www.cnnindonesia.com/nasional/20190203004645-20-366029/walhi-masih-tentuk-percompany-buang-limbah-b3-ke-das-citarum>. Access. 30 September 2020.

²Adriana Abdenur et al. (2020) Typology of environmental crime, Environmental Crime in the Amazon Basin. Igarape Institute. p. 9.

crime, among them are offenses that endanger the public health and the safety of workers and consumers, as well as threaten the environment.³ In this case, the researchers on environmental damage due to the disposal of HTW waste in the watershed find that there are companies that dispose of a small quantity of coal waste. Although there is no factory there, the waste is disposed of by the river. At that time, the Environmental Office of Bandung Region investigates who disposes of the HTW.

The Indonesian Forum for the Environment of a non-governmental organization suspects that the number of findings in several areas also show that there are still companies that deliberately dispose of HTW waste illegally, such as in Bandung, Cirebon, Karawang, and Purwakarta Regencies. Usually, they get reports from residents who immediately report it to the Environmental Office of West Java and the Ministry of Environment and Forestry. The latest information is that HTW is disposed of in Karawang, West Java. The disposal of HTW and medical waste has been regulated in Government Regulation Number 101 of 2014 on HTW management. Regarding disposal management, people must obtain a permit from the Ministry of Environment and Forestry, including medical waste and toxic hazardous materials that might come from the processing industry of textile and leather, rubber, and others.⁴

The primary cause of incidents that are increasingly identified as crimes is acute regulatory failure that produces weak law enforcement to the perpetrator in addition to the lack of company effort for regulatory requirements⁵. In the pollution case of the Citarum river, West Java, starting from the upstream to downstream river flows, there is a regional government check and balance carried out by the Ministry of Environment of the Republic of Indonesia. Yet, it seems that might less care if there are companies that dispose of hazardous and toxic waste (HTW) into the Citarum River.

One approach to solve this problem is by applying a sequential sharing rule.⁶ In this case, environmental regulations regarding river flows from upstream to

downstream tend to be ignored, even the illegal disposal of (HTW) from pharmaceutical factories around the river. The bureaucrats from the regions to the center tend to ignore the criminal offenses against environmental pollution that are detrimental to the health of the surrounding community.

As directed by the Coordinating Minister for Maritime Affairs of the Republic of Indonesia, law enforcement will be carried out against industrial companies that dispose of waste carelessly into the Citarum watershed from upstream to downstream. This I carried out as a follow-up to the issuance of Presidential Regulation of the Republic of Indonesia Number 15 of 2018 on the Acceleration of Pollution Control and Damage to the Citarum Watershed.⁷

Citarum River is the largest river in West Java, which originates from the highlands of Bandung. This river flows on the lowest plains which divides the highlands from its upstream in Wayang Mount and empties into the north coast of Java. For a long time, Citarum has been the source of life for the people living around its stream, mainly as a source of irrigation for rice fields. Now, in the era of development, the Citarum River is increasingly becoming a strategic river with a major role for regional and national development, because it is in the cities that are located in the watershed. The Citarum river, especially in the upstream area, has grown rapidly with various kinds of industries. On the river body, two reservoirs namely Saguling and Cirata have been built as power plants. Likewise, the Jatiluhur reservoir has been built for agricultural irrigation as well as a source of clean water needs in Bandung, Purwakarta, and Jakarta.

The research problem is that in the area around the Citarum river flow from upstream to downstream, there are industrial companies that produce and dispose of hazardous and toxic waste (HTM). Most of these companies dispose of HTM in the Citarum River. Where is the social control by the bureaucrats of the State Ministry for the Environment of the Republic of Indonesia? Why do they grant building construction permits and other legality for industrial companies that produce and dispose of HTM in the Citarum watershed? It is suspected that there is a criminal conspiracy in the field of environmental damage in the watershed.

³Rena Steizor (2016) How Criminal Law Can Help Save The Environment, Environmental Law, Winter Vol. 46.No.1. p. 209. Lewis & Clark Law School.

⁴Walhi (2019) *Op.Cit.*

⁵Rena Steizor (2013), *Ibid*, p. 213.

⁶Erik Ansink (2015) Composition properties in the river claims problem, Social Choice and Welfare. Vol. 44 No.4. Journal. Springer, p. 811.

⁷Walhi (2019) *Op.Cit.*

2. RESEARCH METHOD

2.1. Research Approach

This research approach method was qualitative. Creswell defines a qualitative method as a research method that is based on the perspective of constructivism, where meanings are socially and historically constructed to develop a theory or pattern.⁸ The researcher open and developing the collected data to develop a theme from the data obtained.

The reason for choosing a qualitative approach was because this research was emphasized more to answer research problems through formal and argumentative ways of thinking. In other words, qualitative data processing and analysis emphasized its analysis on deductive and inductive inference processes as well as on the dynamics of relationships between observed phenomena by using scientific logic. In short, the reasons for environmental damage due to the disposal of HTM into the Citarum river would be sought.

2.2. Research Analysis

This study aims to analyze the environmental damage of Citarum river water pollution due to the presence of watershed industrial companies that dispose of HTM.

2.3. Research Objective

This research aims to provide advice in preventing damage to the waters of the Citarum river and make it clean and environmentally friendly academically and transparently without any conflict of interest to the Ministry of Environment of the Republic of Indonesia and the related state institutions.

3. DISCUSSION AND ANALYSIS

3.1. Analysis of Environmental Regulations on Environmental Damage Due to Pollution of Hazardous and Toxic Substances in the Citarum Watershed

Philosophically, as a gift from God, the Almighty to the Indonesian people should be grateful for the existence of the Citarum river as a whole natural ecosystem unit from upstream to downstream along with the wealth of natural resources and man-made

resources. Therefore, the Citarum river needs to protect, preserve, develop, and utilize optimally for the maximum welfare of the people.⁹ Sociologically, in the Citarum watershed, there has been pollution and environmental damage resulting in huge losses to health, economy, social, ecosystem, environmental resources. Furthermore, it also threatens the achievement of environmental protection and management objectives.¹⁰ Environmental protection and management are systematic and integrated efforts including planning, utilization, control, maintenance, supervision, and law enforcement that are carried out to preserve the functions of the environment and prevent environmental pollution and/or damage.¹¹

The principle of the Indonesian environment is Law of the Republic of Indonesia Number 32 of 2009 on Protection and Management of the Environment (LPME). It is a legal instrument for public or government policies in environmental protection and management, and the principles according to the LPME are as follows;

1. State responsibility: The state guarantees that the use of natural resources will provide the greatest possible benefit for the welfare and quality of life of the people, both present and future generations;
2. Sustainability: Each individual has an obligation and responsibility to future generations and each other in one generation by making efforts to conserve the carrying capacity of the ecosystem and improve the quality of the environment;
3. Harmony and balance: The use of the environment must pay attention to various aspects such as economic, social, cultural interests and protection and preservation of ecosystems;

Law of the Republic of Indonesia in LPME article 69 states that: Each individual is prohibited from committing an act that causes environmental pollution and/or damage; importing HTM which are prohibited by law and regulation into the territory of the Republic of

⁸John. W. Creswell. (2003). *Research Design Qualitative-Quantitative and Mixed Methods Approach*. London: Sage Publication. p.18.

⁹As stipulated in the preamble point a of Presidential Regulation of the Republic of Indonesia Number 15 of 2018 on Acceleration of Pollution Control and Damage to Watersheds.

¹⁰As stipulated in the preamble point b of Presidential Regulation of the Republic of Indonesia Number 15 of 2018 on Acceleration of Pollution Control and Damage to Watersheds.

¹¹Article 1 point 2 Law of the Republic of Indonesia Number 32 Year 2009 on Environmental Protection and Management.

Indonesia; importing waste originating from outside the territory of the Unitary State of the Republic of Indonesia into the environment of the Unitary State of the Republic of Indonesia; importing HTM into the territory of the Republic of Indonesia; disposing the waste to the environment; disposing of HTM and other waste to the environment; releasing genetically engineered products to the environment that are contrary to statutory regulations or environmental permits; clearing land by burning; preparing an EIA (Environmental Impact Analysis) without having a certificate of competence in drafting an EIA; and /or misleading information, destroying information, or providing false information.

Article 88: of LPME states that each individual whose actions, business, and/or activities use HTM, produce and/or manage HTM, and/or those who pose a serious threat to the environment are responsible for the losses incurred without the need to prove the element of error. Whereas in Article 58: each individual who enters the territory of the Unitary State of the Republic of Indonesia, produces, transports, distributes, stores, utilizes, disposes, and/or processes HTM is obliged to manage HTM.

Environmental crime is unique compared to other types of crime, both conventional and contemporary crimes. Several elements of study in criminology, such as perpetrators, victims, and social reactions which have always been the main topics of discussion, clarify the uniqueness of environmental crimes. However, with the formulation of environmental offenses as above, the scope is all actions formulated both in the LPME and other laws as long as they concern and fulfill the elements of environmental offenses. Furthermore, the LPME also contains criminal responsibility issues for corporations, which then can be imposed on people in charge so that the punishment for criminal acts of environmental pollution can be realized, regardless of these crimes that occur collectively. Different arrangements can also be observed in the role of the prosecutor's office which can coordinate with the agency responsible for life protection to execute doing additional crimes or disciplinary measures.

Environmental regulations bind on an act that fulfills certain conditions and results in a criminal form. In general, criminal law is based on two things. First, actions that fulfill certain conditions: It means an act committed by a person that makes the punishment possible. Such actions can be called punishable actions or evil deeds. Someone must do it so that the

actions can be separated into two; the prohibited act and the person who violates the prohibition. Second, criminal means that punishment is suffering that is deliberately inflicted upon a person who commits an act that fulfills certain conditions.

The principles of criminal acts contained in environmental law can be stated as follows:

1. The doctrine of strict liability: according to this teaching, criminal responsibility is borne by the person concerned without the need to prove that there is an error (intentionally or negligently) on the perpetrator. This is often referred to as absolute liability in Indonesia. This teaching is only applied to certain criminal acts, one of which is a crime that causes mass death or has caused mass physical suffering which is not in the form of death, pollution, and environmental damage that have the potential to create suffering and mass death.
2. The doctrine of vicarious liability: this teaching explains that other parties can be criminally responsible for the actions of other parties. In common law, an employer is vicariously responsible for the actions of his subordinates who have committed public disturbances or in making statements that can damage the reputation of others as well as in a corporation so the company must take responsibility.
3. The doctrine of delegation: this doctrine is one of the reasons for imposing vicarious criminal liability as there is a delegation of authority from one person to another to carry out the authority he/she has. This delegation of authority by the employer to his/her subordinates is a justification for imposing criminal charges on the employer for criminal acts committed by subordinates who have been delegated such authority.

Based on the three doctrines mentioned above which are included in formal offenses, the principles of criminal acts based on the administrative requirements of industrial companies located in the Citarum watershed who dispose of hazardous and toxic waste, are as follows:

1. Management of the company who knows and lets the company employees dispose of waste without going through any treatment is considered to have committed a criminal act on behalf of the business entity, so they must be

held responsible. The formulation of the provisions and explanations of Article 118 of LPME is a breakthrough or progress if it is seen as encouraging company management to seriously carry out the efforts to prevent, control, and restore environmental pollution or destruction when leading a business entity.

2. LPME also contains material offenses that are imposed on government officials authorized in the field of environmental supervision. The enactment of this material offense can be seen as an advanced criminal policy to encourage government officials to seriously carry out environmental management. The material offense is formulated in article 112 of LPME
3. The material offense is formulated in Article 112 LPME, where every authorized official who deliberately does not supervise the compliance of the person in charge of a business and/or activity with laws and regulations and environmental permits, as referred to in article 71 and article 72 of LPME which results in pollution and or environmental damage resulting in loss of human life, shall be punished with a maximum imprisonment of 1 (one) year or a maximum fine of Rp. 500,000,000.00 (five hundred million rupiahs).

3.2. Analysis of Pollution of Hazardous and Toxic Waste in the Citarum Watershed, West Java

The growth of various industries in the upstream area, especially Bandung and Cimahi, has played a major role in improving the welfare of the surrounding community, while they benefit from the construction of Saguling, Cirata, and Juanda reservoirs are not only felt by people in West Java. The Citarum watershed

contains several large reservoirs that have been built by the state. The reservoirs are used for hydroelectric power generation and irrigation for farmers around the reservoirs, as well as for the distillation of clean water for residents of big cities.

Wastewater is water that is mixed with solids (dissolved and suspended) from household activities, agriculture, trade, and industry. Therefore, it is ensured that wastewater or industrial wastewater can become one of the causes of polluted water if it is not treated before it is discharged into the water body. The composition of wastewater mostly consists of water (99.9%) and the rest consists of dissolved solid particles and suspended solids of 0.1%. Solid particles consist of organic substances ($\pm 70\%$) and inorganic substances ($\pm 30\%$), organic substances consist of protein ($\pm 65\%$), carbohydrate ($\pm 25\%$), and fat ($\pm 10\%$). Most of these organic substances are biodegradable which is a good food source and medium for bacteria and other microorganisms. The inorganic substances consist of grit, salts, and metals (heavy metals) which are important pollutants. Solids (dissolved and suspended) are very suitable for sticking and hiding microorganisms, both saprophytic and pathogenic.

Biological Oxygen Demand (BOD) is a parameter measuring the amount of oxygen needed by the bacteria to break down almost all dissolved and suspended organic substances in wastewater, expressed as BOD 5 days at 20°C in mg/liter or ppm. BOD5 examination is needed to determine the pollution load on domestic or industrial wastewater as well as to design biological waste treatment systems for polluted water. The decomposition of organic substances is a natural event, if a body of water is polluted by organic substances, the bacteria will be able to use up

Table 1: Reservoirs in the Citarum Watershed

No	Type	Saguling	Citarumflat	Juanda
	Location	Bandung	Bandung, Cianjur, Purwakarta	Purwakarta
1	Development	1985	1988	1967
2	Altitude (dpl)	645	221	116
3	Area (Ha)	5.340.	6.200	8.300
4	Volume (million m3)	982	2165	2970
5	Main function	Hydroelectric Power Plant	Hydroelectric Power Plant	Irrigation
6	Hydroelectric Power Plant (MW)	700	1.000	150
7	Management	PJB-I	PJB-II	PJT-II

Source: Central Bureau of Statistics, compiled.

Table 2: Estimated Pollution Load of BOD and COD from Industries and Settlements in the Citarum Watershed

NO	WATERSHED	Pollution Load (tons/day)					
		Industry		Settlement		Amount	
		BOD	COD	BOD	COD	BOD	COD
1	Sub Upper Watershed	291.9	437.9	47.02	107.21	338.92	545.11
2	Sub Downstream Watershed	40.0	60.4	40.05	91.30	80.05	151.70
3	Citarum Watershed	331.9	498.5	87.07	198.51	418.97	696.81

Source: Ministry of Environment, compiled.

dissolved oxygen in the water during the biodegradable process, so that it can lead to death in aquatic biota and conditions in the water body can become anaerobic which is indicated by the appearance of a foul odor.

Chemical Oxygen Demand (COD) is the amount of oxygen needed to oxidize organic substances contained in wastewater by utilizing potassium dichromate as an oxygen source. The COD figure is a measure of water pollution by organic substances which can naturally be oxidized through biological processes and can cause reduced dissolved oxygen in the water. There are several damages due to the contamination of hazardous and toxic waste from industrial companies in the Citarum watershed. The Citarum watershed operates 394 industrial companies consisting of 288 textile companies, 38 various companies, 17 metal companies, 14 food and beverage companies, 10 pharmaceutical companies, 8 chemical companies, 7 plastic companies, 6 leather companies, 4 oil & paint companies, and 2 paper companies. Most of the 282 industrial companies operate in the Citarum watershed.

Based on Table 2 above, the presence of the industry in the Citarum watershed produces waste with BOD and COD values of 331.9 and 499.5 tons/day. In the sub-watershed of the Citarum river from upstream, BOD and COD values were 291.9 and 437.9 tons per day respectively, while in the sub-watershed of the Citarum river in the downstream part, the BOD and COD values were 40.0 and 60.0 tons/day respectively, and the industries provide nutrient waste intake in the Saguling reservoir of 0.22 tons of nitrogen per day.

Based on the measurement results during the observation, the Dissolved Oxygen (DO) value was different at each station. The highest DO value was

located at station 1, which was in Situ Cisanti spring, the levels ranged from 4.01 to 4.6 mg /L. This occurred because there was no pollutant or waste in the spring that affected the DO levels at station 1. Then the lowest DO value was at station 3 (Dayeuh Kolot) with a value of 0.38 - 2.4 mg/L. According to Jaya (2005), this low DO value is due to the large amount of waste that enters the river waters. A decrease in dissolved oxygen levels in water is a strong indication of contamination. This results in the difficulty in living for aquatic biota in these waters because it has exceeded the DO level tolerance of aquatic organisms, although there are still some organisms that can live in it. Besides, the dilution that occurred in the Dayeuh Kolot area was not too large, seen from the width of the river, which began to narrow and shallow due to the large amount of garbage that had accumulated and was not dredged. It could be concluded that according to the Government Regulation of the Republic of Indonesia Number 82 of 2001 the DO level was class 3, which was a minimum of 3 mg/L in water since the Citarum watershed was already polluted at station 3. However, even though station 3 had a low DO level, at station 4 the DO level increased again with a value range of 1.47 - 3.31 mg/L. This was due to a large amount of input from the tributaries and station 4 it had the largest river area before entering the Saguling Reservoir.¹²

Biochemical oxygen fever or biochemical oxygen demand (BOD) is closely related to DO level in waters. Since BOD is the amount of oxygen consumed by aerobic microbial processes that are contained in these waters, the BOD value indicates the presence of organic material in the waters, which is the amount of

¹²Arief Happy R (2012) Distribution of Heavy Metal Content in the Upper Citarum River Basin, Journal of Fisheries and Marine Affairs Vol. 3 No.3 p. 179.

oxygen required by aerobic microbes to oxidize organic matter to carbon dioxide and water. However, it only describes organic material that can be composed biochemically by microbes. The highest average BOD value was located in the Dayeuh Kolot area or station 3 with the results of laboratory analysis of BOD ranging from 11.51 mg/L which caused DO level at station 3 also recorded to be the lowest DO value compared to other stations. This occurs because of the large amount of dirt and rubbish that we could see in Figure 8, which shows the bad environment and a large number of organic and inorganic waste in the river flow.¹³

The results of testing water samples containing COD levels along the Citarum River Basin ranged from 5 - 425.2 mg/L. It can be illustrated that the chemical content in the Citarum river flow is quite high at each observation station. After the analysis was carried out, station 4 was the area with the highest COD level by 69.5 - 425.2 mg/L. This main cause is the location of the Cipatik station which is a place of waste accumulation that enters the Citarum River before entering the Saguling Reservoir.

Based on the research results, it could be concluded that it was very dangerous to use Citarum river water as a source of water for activities in the Saguling Reservoir and as a need for clean water for the wider community in the urban area. This was caused by the water flowing in the Citarum watershed that had been polluted due to a lot of heavy metals heavy metal waste contained inside. As a result, the water quality became harmful to the aquatic organisms directly and it would affect humans as well.

3.3. Conspiracy of White-Collar Crime in Disposing Hazardous and Toxic Waste in Citarum Watershed

Luhut Binsar Panjaitan as the Coordinating Minister for Maritime Affairs who has been appointed by the President of the Republic of Indonesia, Joko Widodo as the Chief Steering Officer for the Citarum Watershed Team complains that there are still many companies that do not have hazardous wastewater treatment plants. He stated that the disposal of industrial waste is one of the problems major in efforts to clean up the Citarum River. Of the 3,226 textile industries in Jakarta and West Java, he found that 90 percent did not yet

have a wastewater treatment plant.¹⁴ He also says that since the Citarum river flows every day, it is estimated that the organic and inorganic solid waste in the Citarum River reaches 204,000 tons per day with 71 percent of it are not transported. Also, human and livestock manure reaches 35 tons and 56 tons per day, respectively¹⁵.

According to the West Java Governor, Mochamad Iriawan, he has identified a factory that disposes hazardous and toxic waste into the Citarum river, causing many victims such as environmental victims, human victims, and so on. We cannot allow this. In the future, we must uphold the law maximally so that it changes. President of the Republic of Indonesia Joko Widodo also receives a report that 3,000 industries dispose hazardous and toxic waste into the Citarum River. The Citarum River has an important role as a source of drinking water for 27.5 million people in West Java and the Special Capital Region of the State.¹⁶

Based on historical data and the analysis of environmental regulations and hazardous and toxic waste in the Citarum river, it is suspected that a white-collar crime conspiracy has been well organized between the regional and central government. Consequently, the industrial companies in the Citarum watershed have been established without considering the damage-causing pollution in the water that is used by the wider community in urban areas, such as the West Java area around it and the Jakarta community.

Crimes are created by the government to protect and maintain their power. Special crime laws, such as conspiracy law and traditional law, are designed to control and punish those who threaten the country. Perpetrators of political crimes generally do not feel like criminals. They even receive support for their behavior from certain segments of society. Government political crime is related to its belief in political sovereignty. Public acceptance of political crimes depends on the level of government policy that considers such actions to be legal. This means that a crime can be accepted by the public if the policies of the ruling government

¹³Arief Happy R (2012), *Ibid*, p. 180.

¹⁴Mesha Mediani (2018) About Citarum, Luhut is furious that thousands of companies do not have waste disposal permits, Cable News Network (CNN) Indonesia. <https://www.cnnindonesia.com/nasional/20180503172837-20-295494/soal-citarum-luhut-geram-ribuan->.

¹⁵Mesha Mediani (2018) *Ibid*.

¹⁶Agus Triyono (2018) Pollution of Hazardous Toxic Waste, Citarum River Flow, Production Machinery of Textile Factory is Closed, Cable News Network (CNN) Indonesia.

consider it as a legitimate action.¹⁷ In this case, the bureaucrats in the regional and central government are suspected to commit a conspiracy to cooperate with industrial company owners in the Citarum watershed, as well as being suspected of committing abuse of power.

Abuse of power is done by people in a high position where they have the opportunity for such abuse. White-collar crime does not refer to the social positions of offenders but rather to the context in which white-collar crimes are carried out or to the methods used in their commission. White-collar violations are violations of law to which penalties are given for those who involve in the use of a violator's position of significant power, influence, or trust in the legitimate economic or political-institutional order for illegal gain, or to commit an illegal act for personal or organizational interest.¹⁸ The main actor, in this case, is the regional and central governments who have the power to grant industrial development permits in the Citarum watershed. Even though they are aware of the existence of environmental regulations, which have stipulated prohibitions for industrial companies who dispose of hazardous and toxic waste into the Citarum river stream, they still provide the construction permits. It is suspected that there is a conflict of interest in the granting of the construction permit.

A conflict of interest contains three important elements; economic, financial interests of individuals, and interests of groups. This can occur in other types of interests, for example, guaranteeing benefits for family members. There is nothing wrong with pursuing personal interests. The problems arise when this personal interest conflicts with the prosecutor as a public duty/responsibility.¹⁹ Here, the power held by bureaucrats in the regional and central government is suspected to cause a conflict of interest in granting permits for the construction of industrial factory buildings in the Citarum watershed, even though they already know there are restrictions in the rules of the environment.

Regarding legal implications of abuse of power to the administration of public officials that harm state finances, administrative law is known as the term of authority, which is aligned with the term "*bevoegdheid*". The difference between authority and *bevoegdheid* is that they are used both in the concept of public law and private law, whereas in Indonesia it is always used in the concept of public law where the use of authority is intended to control the behavior of legal subjects. Authority must have the legitimacy and conformity of the law and contain an interpretation of authority standards, which are generally standard and special standards. Robert Klitgard once warns that corrupt behavior due to abuse of power develops when actors as perpetrators have superpowers.²⁰ In the case of the hazardous and toxic waste disposed of in the Citarum river, the bureaucrats within the Ministry of Environment of the Republic of Indonesia allegedly rationalize the violations of criminal acts of environmental pollution as regulated in the environmental legislation.

Law Number 28 of 1999 on State Administration that is Clean and Free of Corruption, Collusion, and Nepotism amended by Law Number 20 of 2001 on State Administration that is Clean and Free of Corruption, Collusion, and Nepotism, defines corruption, collusion, and nepotism. Article 1 (3) of Law no. 28/1999 defines that: "Corruption is agreement or cooperation in a manner against the law between State Administrators or between State Administrators and other parties that harm other people, society and or the state".²¹ This is particularly about the bureaucrats in the regions and at the center who grant the permits for the construction of industrial factories in the Citarum watershed, which are considered a crime that is regulated by criminal acts of corruption.

4. CONCLUSION

Until now, environmental crimes in the Citarum watershed, especially regarding hazardous and toxic waste disposal still occur. Consequently, there is a countless disasters that are happening in a day. The perpetrators of environmental damage to the Citarum

¹⁷Bambang Slamet Riyadi (2020). Culture of Abuse of Power in Indonesia from the Perspective of Criminology and Law. *International Journal of Criminology and Sociology*, Volume 9, p. 282.

¹⁸Bambang Slamet Riyadi and Muhammad Mustofa (2020). Corruption Culture on Managing Natural Resources: The Case Political Crime "Papa asking Stock of PT. Freeport Indonesia" *International Journal of Criminology and Sociology*. Vol 9 p. 28.

¹⁹Bambang Slamet Riyadi (2020). Culture of Abuse of Power in Indonesia from the Perspective of Criminology and Law. *Op.Cit.*

²⁰Bambang Slamet Riyadi (2020). Culture of Abuse of Power Due to Conflict of Interest to Corruption for Too Long on The Management form Resources of Oil and Gas in Indonesia, *International Journal of Criminology and Sociology* Vol 9 p: 251.

²¹Bambang Slamet Riyadi, et al. (2020) Culture of Corruption Politicians' Behavior in Parliament and State Official during Reform Government Indonesia (Genealogical Study) *International Journal of Criminology and Sociology*. Vol 9 p. 53.

watershed are not aware that the impact of environmental damage is more violent than other crimes, because this type of crime sometimes has unexpected impacts, related to the intensity, duration, and extent of the area affected. Therefore, the efforts to prevent environmental crimes against the Citarum river water should cover various aspects. These include very strict supervision in terms of check and balance of the independent state institutions as well as the discretion given to the authorities in the disposal of hazardous and toxic waste into the Citarum River.

Efforts to protect and manage the environment, especially environmental damage due to hazardous and toxic pollution like a case study of the Citarum River, is an obligation for the state, government, and all stakeholders in implementing sustainable development so that Indonesia's environment can remain a source and life support for the Indonesian people and other living creatures. Preventive measures in the context of controlling environmental impacts need to be implemented by making maximum use of monitoring and licensing instruments. If pollution and environmental damage have occurred, repressive measures are necessary for the form of effective, consequent, and consistent law enforcement against the pollution and environmental damage that has occurred. So, it is necessary to develop a legal system for environmental protection and management that is clear, firm, and comprehensive to guarantee legal certainty as to the basis for the protection and management of natural resources and other development activities.

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