

## LEGAL ASPECT OF CLEAN WATER NEEDS PROCESS

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### Abstract

This research aims to examine the legal aspects and the impact of the conversion of tea plantations and protected forests on clean water processing carried out in the Puncak Bogor area to contribute ideas about legal aspects that must be considered by processors who carry out clean water processing which includes aspects of welfare and justice, environmental impacts, and law enforcement. The research method used is an empirical juridical analysis method, namely examining legal issues arising from community activities which are the object of study. The object of study in this research is the legal symptoms that arise from water treatment activities carried out in the peak area. This research approach is normative, namely analysis using a statutory regulation approach. The results of this research indicate that the legal aspects of water treatment in the Puncak area must meet the welfare of the community following the mandate of the opening of the 1945 Constitution, and must create a sense of justice, namely not ignoring the community's need to consume clean water, paying attention to environmental aspects, namely not causing damage to the environment which results in disasters, nature, and law enforcement, namely the process of implementing laws and regulations relating to administrative sanctions and criminal sanctions.

Keywords: Aspect, Legal, Processing water.

## 1. Introduction

Water is a natural resource that was given by Allah as a blessing to humans to fulfill human water needs. Water is the most basic need for humans, without water humans certainly have difficulty meeting their fluid needs, causing dehydration and health problems [1]. Apart from that, water is also used for bathing, washing, cleaning dirt and unclean, performing ablution, watering plants, and other uses carried out by people every day. Thus, water stock for these needs must always be available. Water, which is a natural resource, must be maintained that it continues to be available that it can be used continuously by the community, namely by not over-exploiting, and development that takes into account water absorption. Development that does not consider environmental aspects can be detrimental to the community, especially if the development carried out impacts the community's basic needs such as clean water [2]. Every development must consider sustainability, environmental impacts, and meeting community needs. Several factors cause water availability to decrease and become polluted, namely excessive exploitation, deforestation of mountainous land, and dense development. So it needs to be seen from a legal perspective.

Some previous research is shown in Table 1. It is relevant to this research is research conducted show in table 1.

**Table 1. Previous research regarding drinking water quality.**

No.	Title	Ref.
1.	Utilization and legal protection of water resources in investment and welfare	[3]
2.	Development of river water resources law based on local wisdom "opportunities and challenges	[4]
3.	Study of water law and the problems of fulfilling human rights to water in indonesia	[5]
4.	Microbiological and biochemical contamination analysis of refilled drinking water in Abeli, Kendari, Southeast Sulawesi	[6]
5.	The influence of service quality and price on customer loyalty at graha air minum refill tirta segah trenggalek through customer satisfaction	[7]
6.	Perceptions of sanitation hygiene refill drinking water depot in the region of Indonesia; [percepciones sobre el depã³sito de agua potable para recarga de hygiene en el saneamiento en la region of Indonesia]	[8]
7.	Hygiene and sanitation of refill drinking water depots in Banyuwangi district, Banyuwangi Regency, East Java	[9]

The previous studies related to the process of clean water processing, the research has differences with previous research objects.[10-13].

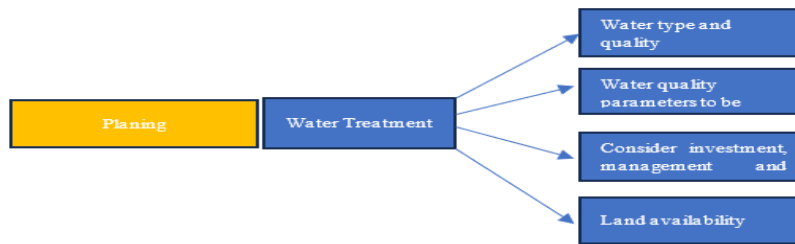
The novelty of this research is related to the legal aspects of clean water processing, because this is what distinguishes it from other people's writings.

This research aims to examine the legal aspects of clean water processing carried out by Nusantara Plantation manufactory in the Puncak Bogor area to contribute ideas about the legal aspects that clean water processing. This research

differs from other *research* in that the object of the research is the legal aspect of water treatment which has its originality and is not a continuation of other people's research or plagiarism of other people's research results. This study supports current issues in the Sustainable Development Goals (SDGs) regarding food.

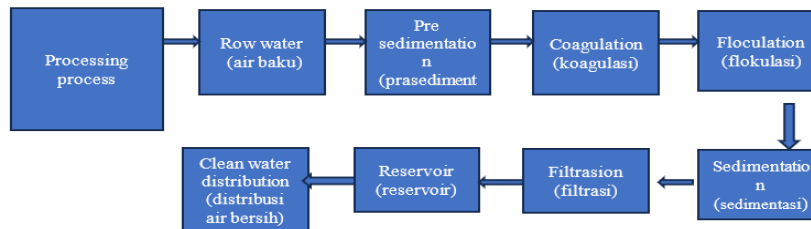
## 2. Literature Review

Figure 1 explains about clean water processing planning. In Fig. 1 clean water processing begins with planning that includes water type and water quality, water quality parameters to be produced, consideration of investment costs, management, and maintenance, land availability.



**Fig. 1. Clean water processing planning.**

In Figure 1, we noted several points: Identify types of raw water for processing, Determine the water quality meters to be produced, Analysis of costs that will be incurred for processing, management, and maintenance, Select the location of the land that will be processed [14]. Drinking Water Treatment Process Flowchart is shown in Fig. 2. The water treatment process starts from several stages, namely raw water, then pre-sedimentation, coagulation, flocculation, sedimentation, filtration, reservoir. This process will produce clean water and will be distributed to consumers.



**Fig. 2. Processing process.**

In Figure 2, we noted several points:

- (i) Preparing raw water to be processed into clean water.
- (ii) Presedimentation is the process of deposition of discrete particles. Discrete particles are particles that do not change shape, size, or weight when they settle
- (iii) Coagulation is the process of collecting fine-sized particles that can be deposited, into larger-sized particles that can be deposited by gravity, by adding coagulation materials. Materials that are often used in the coagulation stage are alum ( $Al_2(SO_4)_3$ ) [15]. ferrous sulfate ( $FeSO_4$ ), sodium aluminate

(naalo 2), ferry sulfate ( $fe_2 (so_4)_3$ ), ferrous chloride ( $feci_2$ ), ferry chloride ( $feci_3$ ).

- (iv) Flocculation is the process when colloids come out of suspension in the form of flocs or flakes, either spontaneously or due to the addition of a clarifying agent [16].
- (v) Coagulation and flocculation are important processes in water treatment with coagulation to destabilize particles through chemical reactions between coagulants and colloids, and flocculation to transport unstable particles that will cause collisions with floc [17].
- (vi) Sedimentation is a process in which solid particles carried by water, wind, or glaciers settle and accumulate in one place.
- (vii) Filtration is a physical separation method, which is used to separate liquids (solutions) and solids.
- (viii) A water reservoir is a place that can hold water before the distribution process is carried out to the community.
- (ix) Next is the distribution of clean water to consumers.

From this sequence, it can be understood that to carry out the clean water processing process, water must be beneficial for public health.

### **3. Method**

The research method used is an empirical juridical analysis method, namely examining legal issues arising from community activities that are the object of study. The object of study in this research is the legal symptoms that arise from water treatment activities carried out by PT. Nusantara Plantation. This research approach is normative, namely analysis using a statutory regulation approach. The data sources in this research consist of primary data, namely data obtained from the field, and secondary data which is divided into primary legal materials and legal materials, namely statutory regulations, secondary legal materials, namely legal theories, legal research results, and doctrine.

### **4. Result And Discussions**

Data obtained in the field through mass media and direct observation shows that the conversion of tea plantations and protected forests into hotel, cafe, restaurant, and inn development projects has caused resistance from local residents. The local community is having difficulty with clean water as a result of this development. The following is some data that researchers obtained through several media. There is also the process of opening a construction road carried out in the Puncak Bogor tea plantation and protected forest area. Many elements of society voiced their rejection of the construction of the area which is synonymous with tea plantations and protected forest areas: residents, especially those in the area, question the feasibility and study of the environmental impact of this project, which residents say is the exploitation of nature which is synonymous with destroying the environment. Based on Maulana mind deeply regrets the construction of tourist attractions in areas that are intended for plantations and protected forests.

Changes in land use in Cisarua district in 2015-2022 can be seen that residential buildings experienced a very dominant increase of 39.39 ha (0.53%), the land class includes villas and residential houses, trade and services increased by 7.34 ha (0.10%), tourism increased by 4.50 ha (0.06%). The land classes that experienced a decrease were mixed plantations of 49.87 ha (-0.67%), vacant land of 9.87 Ha (-0.13%), and dry fields/fields of 0.53 ha (-0.01%). The use change is very visible in

residential building land classes, such as villas and residential houses. This change occurs slowly but surely [18]. Based on studies conducted on development developments that have an impact on water treatment, it is presented in the following is an overview of development progress in puncak Bogor from 2015 to 2022. building construction, residential buildings, industry and warehousing, health, tourist, yard, education, trade and services, worship, office, road, forest, mixed garden, pool/lake, burial, grass, ricefield.

The legal aspect of industrial development projects regarding water treatment is a part that cannot be ignored in a legal state [19]. then clean water processing must have a positive impact on the community, namely meeting the community's water needs. The aspects that must be fulfilled in water treatment are:

- (i) Well-being, in the preamble to the constitution of the Republic of Indonesia, hereinafter referred to as the 1945 constitution, it is stated that one of the goals of the state is to create prosperity that all economic activities carried out by the state and the private sector must aim to realize the prosperity of the state [20]. This is then confirmed in Article 33 paragraph (3) which states that the earth and water and the natural resources contained therein are controlled by the state and used for the greatest prosperity of the people.
- (ii) According to Aristotle, there are two types of justice, namely distributive justice, for example in distribution related to honor, wealth, and other goods that can be obtained in society. corrective or remedial justice is the basis for all theoretical discussions of various problems [21]. Water treatment must not ignore the rights of the community in meeting their basic water needs. Distribute fairly to the community with sales that are affordable and do not cause discrimination against residents in meeting their water needs. According to Socrates and Francois, justice is the crown of law. in natural law theory it is called the search for justice [22].
- (iii) Impact on the environment. Every activity carried out by the company must carry out an environmental impact analysis (amdal) that the activities carried out do not have an impact on environmental damage.

The environment is a natural resource that, if maintained, can provide many benefits, for example, human health, maintaining beauty, and is a source of clean water that can be consumed by humans, so water processing must not damage the environment. In article 1 point 16 of law number 32 of 2009 concerning environmental protection and management, it is stated that environmental destruction is the action of a person who causes direct changes to the physical, chemical, or biological characteristics of the environment that it exceeds the standard criteria for environmental damage [23].

In article 76 of the law number 32 of 2009, it is emphasized that sanctions will be imposed on manufactory, people or government who in carrying out production activities can cause environmental damage, they will be subject to administrative sanctions given by the minister, governor, regent/mayor if there is a violation of environmental permits. The sanctions imposed are in the form of written warnings, government coercion, freezing of environmental permits, and revocation of environmental permits.

Law enforcement is an effort made to implement the provisions of laws and regulations relating to water treatment if the activities carried out are contrary to the provisions of laws and regulations, sanctions as contained in article 76 of the enviroent law [24]. According to Martin Roestamy, the law is a set of regulatory

provisions that regulate the life of society and the state which originate from society and the state to realize justice, peace, order, and prosperity [25]. Thus, based on this expert opinion, law enforcement aims to realize justice to realize prosperity, because the law is an instrument used to realize prosperity.

The direct impact of the transfer of tea plantations and protected forests in the Puncak Bogor area on the processing of clean water for community needs is: Decreased Water Availability: Protected forests and tea gardens play an important role in maintaining the balance of the hydrological cycle. Cutting down trees and changing vegetation can reduce the area's ability to absorb and store rainwater. As a result, the availability of clean water may decrease. Increased flood risk: land conversion can reduce the soil's ability to absorb water, increasing the risk of flooding and soil erosion. it can also worsen the quality of available water due to increased stormwater runoff carrying pollutants from built-up areas. decreased water quality: poorly regulated development often leads to water pollution through construction waste and run-off from unvegetated surfaces. this can reduce the quality of clean water available for consumption and other uses. ecosystem disruption: removal of protected forests disrupts ecosystems that depend on that vegetation. Impacts include changes to local species and ecological functions that are important for water resource management.

Mitigation Steps include: spatial planning, wise spatial arrangements must be implemented to minimize negative impacts on water resources. establishing conservation zones and limiting land conversion can help protect areas important for providing clean water. reforestation and reforestation: reforestation and reforestation efforts can help restore the soil's ability to absorb water and reduce the impact of land conversion.

The need for clean water for the people in Puncak Bogor is a top priority as a basic need. Clean water processing is a process carried out in several stages as described in the literature review section, but for people who do not have complete equipment to process clean water, it will certainly be difficult to meet their clean water needs.

## **5. Conclusion**

The legal aspect of the transfer of tea plantation and protected forest functions into a development project for water treatment in the Puncak area must meet the welfare of the community following the mandate of the opening of the 1945 constitution, must create a sense of justice, namely not ignoring the community's need to consume clean water, paying attention to environmental aspects, namely not causing harm. damage to the environment resulting in natural disasters, and law enforcement, namely the process of implementing laws and regulations relating to administrative sanctions and criminal sanctions.

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