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**INTERNATIONAL JOURNAL OF  
 ADVANCED RESEARCH (IJAR)**

Article DOI:10.21474/IJAR01/3377  
 DOI URL: <http://dx.doi.org/10.21474/IJAR01/3377>



**RESEARCH ARTICLE**

**LEGAL ASPECT OF ENVIRONMENTAL HEALTH ON SANITATION HYGIENE OF REFILL  
 DRINKING WATER DEPOT.**

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**Manuscript Info**

**Manuscript History**

Received: 15 December 2016  
 Final Accepted: 17 January 2017  
 Published: February 2017

**Key words:-**

Environmental Health Law, Sanitation  
 Hygiene and Refill Drinking Water Depot

**Abstract**

The lack of quality guarantee of drinking water produced then the community should be protected from the risk of water-borne diseases due to consumption of drinking water comes from refill drinking water depot that does not meet quality standards and sanitation hygiene requirements. The study aimed to how the legal provisions governing the sanitation hygiene of refill drinking water depot and how requirements and control of the use of refill drinking water depot in the perspective of environmental health laws. To achieve the objectives then author using a normative research method. The result of study about the development of refill drinking water depot has the potential to cause negative impacts on public health, if the lack of effective regulation. Every effort of drinking water depot must through acceptance tests because if not met the acceptance it will cause uncertainty of license of refill drinking water depot. The lack of water quality appears as caused by the low quality of controlling and it indicates by the amount of refill drinking water depot that does not meet health requirements. It becomes a factor for people who consume the water to be careful. The Decree of Health Ministry No. 43 of 2014 on sanitation hygiene of refill drinking water depot in standardization is less clear in determining refill drinking water depot as their existence. This is a problem and a shared responsibility between manufacturers of drinking water, consumers and government. To ensures the feasibility and safety of refill drinking water depot.

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**Introduction:-**

In everyday life, water as a component that closest to human and become a basic need for quality and sustainability of human life, therefore it should be available in sufficient quantity and quality. This is not independent with the need of drinking water for humans. The fulfillment of drinking water for communities today is very varied. There are people who get drinking water from source water, river water, and groundwater either by using shallow and deep wells or in piping water that produced by the Local Company of Drinking Water, which is cooked before consumed. And also includes through drinking water depots. Drinking water depot is a business that process raw water into drinking water in bulk and sell directly to consumers.

Sanitation hygiene is a health effort to reduce or to eliminate factors that become the cause of contamination of drinking water and the means used for processing, storage, and distribution of drinking water at drinking water depots. The purpose of hygiene sanitation is the protection of communities from bad influence due to the consumption of drinking water comes from drinking water depots.<sup>1</sup>

Thus, the community will be protected from the exposure to risk of water-borne. The activities of industrial, domestic and other in drinking water depot impacted negatively to water resources, including water quality degradation. This condition can cause interference damage and danger for living organisms that depend on the water. It should be in accordance with Government Regulation No. 66 of 2014 on environmental health in article 13:

“The requirements of water health for hygiene and sanitation at least consist of: (a) the water in a protected state from sources of pollution, disease-carrying animals, and vector breeding; and (b) safe from possible contamination.”

The decree of Health Minister No. 43 of 2014 in article 17:

“Every owner of a drinking water depot must supervise or control the fulfillment of the requirements.”

The problem of water quality degradation arises due to the low quality of supervision is the amount of refill drinking water depots that do not meet health requirements. It found empirical facts in North Sumatra, the killing of people related to the poisoning after consuming a refill drinking water suspected to be contaminated by *Escherichia coli*. And *Coliform.Coli*, it indicates contamination of feces (human). While, *Coliform* indicates unhygienic handling of the drinking water production process. Throughout in 2014, cases of diarrhea were found in the province of North Sumatra as many 215.651 cases, with the highest number is found in Medan city. Based on data obtained from the Health Office of North Sumatra Province, the prevalence of diarrhea in Medan throughout in 2015 as many as 29.769 cases.<sup>2</sup>

The development of refill drinking water depot potentially causes negative impact for public health, if the lack of effective regulation. Unclear license owned by refill drinking water depot is also a concern for users to be careful. Its standard is less clear to determine the refill drinking water as the existence is not in accordance with the Regulation of the Health Minister No. 907/ Menkes/SK/VII/2002 on requirement and supervision of drinking water quality.<sup>3</sup> Depot that fulfill requirement have a guarantee letter of raw water supply from the Drinking Water Company or the company has a license to get water from the competent authority.<sup>4</sup>

The company is also required to have a test result report of drinking water from water quality analysis laboratories that appointed by district or city governments. Not all refill depots have such requirements. Even some person use water from the water replenishment as a raw material. Depot is not according to the rules outlined by the Health Minister. Because they do not brush gallon when washed. Drinking water depot is usually just simply rinse gallon and do not turn on the Ultra Violet (UV) light for sterilization. Moreover, depot looked slovenly and did not pay attention to sanitation.<sup>5</sup>

Issue raised today is the lack of guarantee of quality to resulting drinking water. The peoples need to be protected from the risk of water-borne diseases due to consumption of drinking water that comes from drinking water depot does not fulfill the quality standards of hygiene sanitation and requirements.<sup>6</sup>

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<sup>1</sup>Muhammad Navis Mirza.(2014).Hygiene sanitasi dan jumlah coliform air minum *Jurnal kesehatan masyarakat*. 9 (2): 167 -173

<sup>2</sup>Yudha Manggala P Putra.(2014).BBPOM Manado Find Air Refills Contain *E.coli*.See:<http://www.republika.co.id/berita/nasional/daerah/14/11/13/neyph5-bbpom-manado-temukan-air-isi-ulang-mengandung-ecoli>.

<sup>3</sup>Meithyra Melviana Simatupang, surya dharma, evi naria.(2014).Hubungan Sanitasi Jamban Dan Air Bersih Dengan Kejadian Diare Pada Balita Di Kelurahan Terjun Kecamatan Medan Marelan Kota Medan. *Jurnal kesehatan Lingkungan dan keselamatan* , 3 (3).31-36

<sup>4</sup>Perisai D. Rumondor, Jhon Porota'o,Olivia Waworuntu.(2014) Identifikasi Bakteri Pada Depot Air Minum Isi Ulang Di Kota Manado.*Jurnal Ebiomedik*,2(2):41-50

<sup>5</sup>*ibid*

<sup>6</sup>FikriFaqih.2016.Cheating depot refillwater.available.from,<http://www.merdeka.com/khasmaincurang-depot-air-isi-ulang-bisnis-depotair-isi-ulang-2.html>.

In relation it, this paper aimed to how the legal provision of sanitation hygiene of drinking water depot, and how the requirements and control of the use of drinking water depot in the perspective of environmental health laws.

### **Method:-**

The method of study was library-research as a process to find the rule of law, principles of law, and legal doctrines in order to address the legal issues faced. This is consistent with the prescriptive character of jurisprudence at this writing. It can be seen that the prescriptive character of jurisprudence is a normative research that trying to assess what should be on every issue.<sup>7</sup> Then, as analysis materials includes primary legal materials which are materials that are authoritative in the form of legislation. With a statute approach is done by examining all laws and regulations pertaining to the legal issues that are being addressed.

### **Discussion and Analysis:-**

Drinking water depot and then refers to a business that process raw water into drinking water in bulk and sell directly to consumers.<sup>8</sup> This can be carried out continuously using a fixed gallon. Hygiene and sanitation are inseparable things because it is very closely related. The principles of hygiene and sanitation for both food and drinks is about knowledge, attitudes, and human behavior in obey the principles of health, hygiene, and safety in the handling of food products and beverages.

According to the authors based on the principle of State's responsibility that the State guarantees the utilization of natural resources will benefit as much as possible for the welfare and quality of life of the people of both present and future generations, the State guarantees the rights of citizens on the environment is good and healthy. So, based on that the legislation related to the obligations of State and the government provides the publics' right to obtain monitoring the national drinking water quality in high health standard, by providing a healthy environment in the form of drinking water that meets the health requirements based on the results of monitoring the quality of drinking water, so that the community that consume drinking water free of health problems.<sup>9</sup>

### **Government Regulation No. 66 of 2014 concerning environmental health:-**

1. Article 39 paragraph 1 on Quality Standard of Environmental Health and health requirements set out in the medium of environment that includes: a. water;
2. Article 8, paragraph 1 the medium of environmental set out quality standards of Environmental Health and Health Requirements as referred to in paragraph (1) is an environmental media relating to or drinking water depot impacted directly to public health.
3. Article 9 on Quality Standards of Environmental Health and Health Requirements for water referred to in Article 8 paragraph 1 letter (a) consist of: a. Quality standards and health requirements for drinking water; b. Quality standards and health requirements of water for hygiene and sanitation;
4. Article 11 on health requirements of drinking water as referred to in Article 9 letter a at least consist of: a. Water in a protected state; and b. Processing, storage, and the serving must meet the principles of hygiene and sanitation.

The regulation of Health Minister No. 416/Permenkes/IX/1990 on the requirements and water quality control by issuing the regulation of Health Minister No. 736/Permenkes/VI/2010, then the regulation of Health Minister No. 416/Permenkes/IX/1990 along concerns drinking water, this regulation does not apply again. But to the requirement and controlling of clean water is still apply. Similarly, the regulation of Health Minister No. 492/Permenkes/IV/2010 on the requirements of Drinking Water Quality.

All drinking water facilities should be fulfilling the requirements as set out in this regulation. Furthermore, the regulation of Health Minister No. 736/Permenkes/VI/2010 on Procedures for Drinking Water Quality Monitoring. This regulation becomes main reference in conducting surveillance of drinking water quality. The regulation of

<sup>7</sup>Peter Mahmud Marzuki. 2011, *Penelitian Hukum*, cetakan ke-11, Jakarta: Kencana. Page. 35

<sup>8</sup> Regulation of Health Minister No. 43 year 2014 article 1 point 1 concerning sanitation hygiene of drinking water depot

<sup>9</sup>Ridho Adiputra Tambunan. (2014). Peran PDAM Dalam Pengelolaan Bahan Air Baku. Air Minum Di Kota Yogyakarta *Jurnal Ilmiah Hukum Pertanahan Dan Lingkungan Hidup*. See: <https://ejournal.uajy.ac.id/5020/.../Jurnal%20ridho%20adiputra%20tambunan>.

health of drinking water depot as the Regulation of Health Minister of the Republic of Indonesia No. 736/Permenkes/IV/2010 concerning the requirements of physical, chemical, biological and radioactive to refill drinking water products that must be obeyed.

Supervisory activities were conducted on the quality of refill drinking water by the Health Office both municipal/district. For the examination of bacteriological quality, the raw water is checked at least one sample of three months once, as well as bottled water in at least two samples of at least once a month. Drinking water supply and sanitation are still experiencing difficulties, resulting in access to drinking water and sanitation is still weak.<sup>10</sup>

Based on the Regulation of Government No. 122 of 2015 on the development of Water Supply System in common explanation among others argued that:

“The development of water supply system is the responsibility of the government and the local government was organized in the framework of people welfare by ensuring the basic needs of community in drinking water that meets quality, quantity and continuity.”

That to realize the implementation of a supplying means optimally the people have access to drinking water and good sanitation requires cooperation in coordination, synergy and integration between government, public, and private or corporate, so that in its period all people both urban and rural areas can access drinking water that meets the requirements through the development of water supply system. The purpose of environmental quality improvement is the percentage in monitoring of drinking water facilities were carried out by 50% in line with efforts to achieve access to drinking water and sanitation, the percentage in monitoring of drinking water quality is an integral part in the achievement of universal access to drinking water.<sup>11</sup> Referring to the Regulation of Government No. 122 of 2015, stated that:

“Drinking water that produced from water supply system used by the public.”

Consumers must qualify based on the regulation of minister that implementation to be carried out through Drinking Water Quality Monitoring. This is an effort to provide guarantee to the public to use water from the water supply system whose quality meets health standards so that safe from disease or other health disorders. Supplying of safe drinking water includes the supply of water through piping network.<sup>12</sup>

Development of Drinking Water Supply System and Control of Drinking Water Quality requires coordination, integration, synchronization for implementation so that the people get the services such as access to drinking water optimally.<sup>13</sup>

The Regulation of Health Minister No. 416/Permenkes/IX/1990 concerning the requirements and water quality monitoring, its activity includes field monitoring and water sampling, water sample testing, analysis of test results, formulation of suggestions and ways of solving the problem and result monitoring and follow-up.

The Regulation of Health Minister No. 736/Permenkes/VI/2010 mandates the drinking water depots must conduct internal and external supervision. The process of Drinking Water Quality Monitoring must follow the regulation. In relation to the drinking water depot in which its existence is not yet clear in terms of licensing and registered, the main steps that need to be taken is to manage drinking water depot database with an inventory of existing drinking water depot, which has been monitoring the quality of drinking water both internally and externally.<sup>14</sup> In terms of trade in drinking water depot based on the decree of industry and trade minister No. 651/MPP/K/10/2004, drinking water depots must have an operating license, drinking water depots are prohibited from taking raw water source coming from the Local Water Company and should come from mountain springs that are free from contamination.

<sup>10</sup> Ronny, Dedi Mahyudin Syam. (2016) Studi Kondisi Sanitasi Dengan Kualitas Bakteriologis Depot Air Minum Isi Ulang di Kecamatan Panakkukang Kota Makassar. *Journal. Uinalauddin* ,2.(2).

<sup>11</sup> Effendi, H. 2003. *Telaah Kualitas Air Bagi Pengelolaan Sumber Daya dan Lingkungan Perairan*. Kanisius. Yogyakarta. Page 55

<sup>12</sup> Suripin. 2002. *Pelestarian Sumberdaya Tanah dan Air*. ANDI. Yogyakarta. Page.32

<sup>13</sup> Effendi, H. *Op.cit*. page.56

<sup>14</sup> See detail review in each supervision objects in the Regulation of Health Minister No. 43 of 2014 concerning sanitation hygiene of drinking water depot.

Safe and healthy guarantees to consume drinking water depot based on laboratory testing by the National Agency of Medicine and Food, the steps that need to be done on drinking water depot addressed to related parties includes:

1. Before drinking water depot allowed to produce and sells produced drinking water, should the treatment system of drinking water must obtain certification from an agency that has the competence.<sup>15</sup>
2. At least once every six months are required to refill drinking water depot to check their products to laboratories that have been accredited and report the results to relevant agencies.

As the regulation of Health Minister No.736 of 2010 concerning the procedure of drinking water quality, mandates that as a target of external monitoring and retrieval as well as sample tests for physical and bacteria should be performed on drinking water depot.

#### **Acceptance Test of Sanitation Hygiene:-**

Acceptance test of sanitation hygiene is an assessment of the efforts of drinking water depot to control the factors of food or drinks, people, places and its equipment that may lead to illness or health disturbance or not, as well as the technical provisions of health are assigned to drinking water products, personnel, and its equipment that include requirements of biological, chemical and physical.<sup>16</sup>

Acceptance test of sanitation hygiene is conducted by the Municipal Health Office/district to drinking water depots are located in each region. Based on the regulation of Health Ministry No. 43 of 2014 concerning sanitation hygiene of drinking water depot.<sup>17</sup> To test the acceptance or not a sanitation hygiene is characterized by the Certificate of Sanitation Hygiene which is written evidence issued by the Health Office both district/municipal or the Port Health Office stating that drinking water depots have met quality standards or requirements of drinking water quality and requirements of Sanitation Hygiene. Drinking water depot is said to be accepted when the value obtained from the assessment of acceptance test at least 70% of sanitary hygiene including laboratory results qualified.

In conduct a business of refill drinking water depot, there are several requirements that must be met by businesses, includes about business license and locations of refill drinking water depot.

- a. Refill drinking water depot shall have:<sup>18</sup>
- b. Industrial business license or registration certificate of industrial and trading license;

<sup>15</sup> Article 19 (1) in order to improve the knowledge and skills of sanitation hygiene the owners and workers of drinking water depot must attend training/courses about sanitation hygiene. (2) Training/courses about Sanitation Hygiene referred to in paragraph (1) may be organized by the Ministry of Health, Provincial Health Office, District/Municipal Health Office, port health office or another agency/institution in accordance with laws and regulations. (3) Participant of training/courses that have passed can be given a certificate signed by the Head of Health Office both district/municipal or the Head of Port Health Office and the organizer of the training/courses. Sanitation hygiene is continuously; (4) the material of training/courses refers to the curriculum and training modules are issued by the Ministry of Health.

<sup>16</sup>Ender Budi Sasangko, Endang Widyastuti, Rawuh Edy Priyono.(2014).Kajian Kualitas Air Dan Penggunaan Sumur Gali Oleh Masyarakat Disekitar Sungai Kaliyasa Kabupaten Cilacap. *Jurnal Ilmu Lingkungan*.12(2):72-82.

<sup>17</sup>Article 2 (1) Each water depots must: a. ensure produced drinking water meet the standard quality or requirements of the quality of drinking water in accordance with laws and regulations; and b. meet the requirement of sanitation hygiene in the management of drinking water. (2) to ensure drinking water meets standards quality or requirements of drinking water quality as referred to in paragraph (1) letter *a*, water depots must follow the procedure of drinking water quality supervision in accordance the legislation.”

“Article 4 paragraph (1) each water depots must have a business license in accordance with laws and regulations. (2) to issue a business license of drinking water depots as referred to in paragraph (1), the local government both district/municipal should require the Certificate for Acceptance of Sanitation Hygiene.”

“Article 5 (1) The Certificate for Acceptance as referred to in Article 4 paragraph (2) was issued by the Head of Health Office both district/municipal. (2) Excepted from the provisions referred to in paragraph (1), the Certificate for Acceptance of sanitation hygiene for drinking water depots in the area of ports, airports, land cross post or issued by the Head of Port Health Office”

“Article 6 the Certificate for Acceptance of sanitation hygiene is valid for 1 (one) business place of Drinking Water Depot”

<sup>18</sup>.Decisionsof industry and trade minister. No.. 651/MPP /K/10/2004, drinking water depots must have an operating permit

1. License to get water or guarantee letter for raw water supply or other companies that have license to get water from the relevant authorities.
  2. Test result certification for drinking water products produced from the laboratory which has been accredited or designated by the minister.
- c. Refill drinking water depot should be in locations permitted by the local government both district and municipal.

Raw water is water that meets the requirements of water quality as stipulated in the decision of health minister No.416/Menkes/PER/IX/1990. As source of raw materials of refill drinking water depot, at least there are 3 (three) sources that come from mountain springs or tap water that ready to drink, ground water and tap water as clean water category.

Raw water used by refill drinking water depot must meet the standard quality of health minister. The attention of raw material source is substantially influences the tools that will be used for the production of drinking water sold in the drinking water depot. While the process of production of refill drinking water depot conducted themselves in the home industry with the production process using simple tools, such as the following:<sup>19</sup>

1. In principle, the treatment process of refill drinking water include raw water reservoirs, filtration, disinfection (ultraviolet light and ozone for sterilization) for heating and fill.
2. Refill drinking water depot must comply with the technical guidelines for good production.

### Conclusions:-

Legal Aspects of environmental health on sanitation and hygiene of drinking water depot in its implementation should be appropriate and referring to the Regulation of Government No. 122 of 2015 concerning Drinking Water Supplying System, the Regulation of Government No. 66 of 2014 concerning Environmental Health, Presidential Decree No. 185 of 2014 concerning the Accelerating of Drinking Water Supply and Sanitation the Regulation of Health Minister No. 43 of 2014 concerning sanitation hygiene of water depot.

The regulation of Health Minister of the Republic of Indonesia No.907/Menkes/SK/VII/2002, concerning the requirements and Water Quality Monitoring, Health Minister No. 492 of 2010 concerning the Requirements of Drinking Water Quality, the Regulation of Health Minister No. 736 of 2010 concerning the Procedures for Monitoring Drinking Water. Products of refill drinking water depot must have quality and healthy water qualities are clear, odorless, colorless and free from all kinds of harmful bacteria.

Each water depots must:<sup>20</sup>

- a. Ensure the produced drinking water meets the standard quality or requirements of drinking water quality in accordance with laws and regulations; and
- b. Meet the requirement of sanitation hygiene in the processing of drinking water.

As well as food safety in general, it is basically a question of the feasibility and safety of drinking water is a problem and a shared responsibility between producer of drinking water, consumers and government. In this case, drinking water producer should be able to control the process so that it generates decent drinking water and safe to drink. Consumers are entitled to obtain suitable drinking water and safe to drink and has right to refuse that does not comply with the requirements and raise objections. While, the task of government is to regulate and supervise in order circulating drinking water guarantee the feasibility and safety. The role of government (in this case the Ministry of Industry and Trade) for the supervision of deviations that occur, providing sanctions and brave issued a production ban for the creation of a quality refill drinking water depots and provide safety and comfort to its customers. The government is expected to play a role in terms of guidance and supervision of refill drinking water depots are proper safe for consumption.

<sup>19</sup> *Op.cit.* Muhammad Navis Mirza.2014.

<sup>20</sup> Regulation of Health Minister No. 43 year 2014 article 2 point 1 concerning sanitation hygiene of drinking water depot

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