



Implementation of Prudential Principles in the Use of Disinfectants as an Effort to Prevent Covid-19 Pandemic for Legal Protection of Ecosystems

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ABSTRACT

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The Covid-19 pandemic spreads almost all over the world, including Indonesia. The rapid spread of many fatalities resulted in the government using various means to overcome the pandemic, among others, with preventive efforts through massive disinfectant spraying. This research aims to lysis on applying the principle of prudence in the use of a disinfectant. This research is doctrinal/normative legal research with a statutory approach. Data is collected with literature studies, qualitatively analyzed. The results describe the use of large and inappropriate disinfectants that cause environmental pollution and adverse effects on public health. Environmental law analysis using Law No. 32 of 2009 and the regulations below can protect legal certainty and protect everyone's right to a good and healthy environment to protect the entire ecosystem.

1. Introduction

A individual contracted the coronavirus from animals traded in the seafood market of Huanan, Wuhan City, Hubei Province, China, at the end of 2019. The World Health Organization's epidemic of coronavirus or Covid-19 as a pandemic persists (WHO). (Karjoko et al. 2020) Tedros Adhanom Ghebreyesus, Director-General, reported the determination given the troubling dissemination and magnitude of the coronavirus. The pandemic refers to diseases that occur simultaneously to several individuals in many countries. The current outbreak of COVID-19 has spread to 215 nations, infecting more than 27.4 million individuals and killing more than 890,000.(Karjoko, Santosa, and Rachmi Handayani 2019)

The number of casualties has crossed more than 190,000 people in Indonesia alone, with over 8,100 deaths. This event, documented by the Centers for Disease Control and Prevention, is reminiscent of the Spanish flu pandemic of 1918, which infected 500 million people and killed 50 million people. In the absence of a vaccine, Non-Pharmaceutical Interventions (NPI), which are steps to avoid the transmission of the virus by minimizing population contact, are the way it is done. (Leonard et al. 2020)

In conjunction with the Covid-19 pandemic, this non-pharmaceutical action started to be adopted by many countries worldwide to avoid the spread of Covid-19. (Handayani et al. 2018) Starting from the lockdown or quarantine of the territory carried out in the city of Wuhan by

China and in 15 other countries including the Philippines, Italy, Spain, France and Malaysia. (Karjoko 2017)

Lockdown implies the closure of inside and out access. Lockdown is an emergency protocol that can only be developed by government officials in general. In the context of shielding persons within the building, the word may also be used. In the case of Covid-19, to avoid the wider spread of Covid-19, infected countries are locked in and out. (Respati et al. 2017) On economic grounds, the Indonesian government has not been able to adopt a lockdown policy. The growing number of casualties and their spread have forced the government to take solutive steps to counter this pandemic, including large-scale social restrictions (LSSR), social distancing, physical distancing, rapid testing and disinfectant spraying. (Utomo and Karjoko 2018)

Like chlorine compounds, hydrogen peroxide, creosote, aldehyde, quaternary ammonium compounds (quats), iodofor, and alcohol, disinfectants have a diverse compound material. The use of disinfectants must be assessed and targeted at preventing the ecosystem from producing harmful side effects. (Sudarwanto and Handayani 2019) Not only are disinfectants used in public areas on a wide scale by government departments, but also by non-governmental organizations in their respective settings. Indeed the government's effort is to carry out the constitutional mandate, which is to safeguard all Indonesians and all Indonesian spills. (Ismoyo 2020)

However, it should also be remembered that the human right of every Indonesian citizen is a good and healthy environment, as required by Article 28H of the Constitution of the Republic of Indonesia of 1945, which is the basis of consideration of Law No. 32 of 2009 on the security and management of the environment. Based on the above context, how to apply the concept of prudence in disinfectants to avoid the COVID-19 pandemic by government agencies are the problems that can be posed in this writing. (Dahlan 2018) And how, as part of preserving the whole ecosystem, the legal

defense of everyone's right to a good and stable climate. (Hutomo and Karjoko 2018)

2. Research Methods

This research includes a doctrinal/normative legal research that is descriptive, in the form of diagnostic research that aims to get information about the causes of the ons and symptoms. Secondary data comes from the primary legal material in the form of Law No. 32 of 2009 on Environmental Protection and Management and Government Regulation of the Republic of Indonesia No. 41 of 1999 on Air Pollution Control, secondary legal materials consisting of books, research results, scientific findings, and tertiary legal materials in the form of materials from internet media. The data collection technique is done with literature studies, qualitative, with a problem approach, *namely Statute approach*. (Karjoko 2017)

3. Results and Discussion

Environmental law or "*environmental law*," according to Siti Sundari Rangkuti concerning the determination of values, current values and values that are expected to be enforced in the future and can be called "laws governing the environmental order." Environmental law is a law governing the reciprocal relationship between humans and other living beings that, if violated, may be penalized. (Candrasari and Karjoko 2018)

Munadjat Danusaputro distinguishes environmental law in modern environmental law and classical environmental law. A feature of modern environmental law is environmentally oriented law. Modern environmental law sets out provisions and norms to regulate human acts to ensure their sustainability to be directly used by current and future generations. On the contrary, classic environmental laws are oriented law. (Subekti, Sulistiyono, and Handayani 2017) The classical environment law stipulates provisions and norms with the aim primarily to ensure the use and exploitation of environmental resources with a variety of human resources and cleverness in order to achieve the maximum

possible results in the shortest possible time. (Sari and Karjoko 2018)

Modern environmental law is environmentally oriented, so its nature and disposition also follow the environment's nature and nature. Modern environmental law is more about ecology that reveals and displays the nature and nature of the environment and a comprehensive ecosystem. In this relationship, modern environmental law governs the environment and is oriented towards it, having an integral comprehensive or comprehensive intact nature. (Soediro, Handayani, and Karjoko 2020)

According to Mochtar Kusumaatmadja, a comprehensive, integrated or intact approach system must also be applied by law to regulate the human environment appropriately and well. This approach system has led to Indonesia's development of environmental law. Environmental law has two dimensions: provisions community behavior, all aimed at encouraging members of the public even if they need to be compelled to comply with environmental laws whose purpose is to solve environmental problems; second, a dimension that gives the rights, obligations, and authority of government agencies in the environment. (Handayani 2013)

Some literature's environmental problems are grouped into three forms: pollution, land misuse, and drainage or depletion of natural resources depletion. According to scholars, environmental problems are driven by technological, population, economic, political, and value factors. On June 5-16, 1972, in Stockholm, Sweden, the United Nations produced an environmental document, the Stockholm Declaration. In 1983 the UN General Assembly established a body, the World Commission on Environment and Development (WCED), produced a report that was later published "Our Common Future. (Handayani 2015) Indonesia submitted Indonesia's country report in conference Stockholm 1972, with an official document originally submitted by the ECAFE Seminar on development and

environment forum in Bangkok, dated 17-23 August 1971. (Ketut Rachmi Handayani 2013)

Based on the presidential decree No. 60 of 1972 dated October 17, 1972, on the establishment of a formulation committee and work plan for the government in the field of environmental development formed an inter-departmental committee to compile, create an inventory and activity plans for the government in the field of environmental development. On March 11, 1982, Law No. 4 of 1982 on the Basic Provisions of Environmental Management (UULH) was ratified by the president and enacted in statute book No. 12 of 1982, TLN RI No. 3215. Then, on September 19, 1997, such was enhanced by the enacting of Law No. 23 of 1997 on Environmental Management abbreviated as UUPLH. UUPLH was enacted in LNRI Year 1997 No. 68 and TLNRI No. 3699. (Handayani 2015)

On October 9, 2009, it was updated with Law No. 32 of 2009 on Environmental Protection and Management. Environmental pollution is specially regulated in Regulation No. 41 of 1999 on Air Pollution Control. Article 2 letter (f) of Law No. 32 of 2009 on Environmental Protection and Management states that environmental protection and management are implemented based on "prudence." The explanation mentioned that yang referred to as the "principle of prudence" is that uncertainty regarding the impact of a business or activity due to limited mastery of science and technology is not a reason to delay minimizing or avoiding threats to pollution and the environmental. (Akhmaddhian, Hartiwiningsih, and Handayani 2017)

The principle of prudence, commonly called *the precautionary principle*, was adopted from the 15th Principle of the Declaration of Rio 1992. The 1992 Rio Declaration mentions 'to protect the environment, and states should widely apply the precautionary approach according to capabilities. (Hanum 2020) Where there are threats of serious or irreversible damage, lack of full scientific uncertainty should not be used as a reason for postponing cost-effective measures to prevent

environmental degradation'. ('To protect the environment, a cautious approach must be applied by countries. Suppose there is a serious or serious threat or loss that is not recovered. In that case, the absence of scientific certainty cannot be used as an excuse not to decide that prevents the deterioration of the environment). (Ismoyo 2020)

The environment is the creation of God, Lord YME, the government as a trustee is required to carry out the principle of prudence, protect and manage the territory space properly and responsibly so that optimally beneficial for the sustainability and survival of qualified human beings namely, a happy life, based on harmony, harmony, and balance, both in. The protection of the law is a description of the workings of the legal function to realize the purposes of the law, according to Gustav Radbruch, namely justice, benefit, and legal certainty. (Ismoyo 2020)

Legal protection is a protection given to the law's subject following the rule of law, be it *preventive* (prevention) or in a *repressive* form (coercion), both written and unwritten to enforce the rule of law. Environmental law's main purpose is to maintain and protect the environment, which means maintaining and protecting the environment itself. In order for the purpose and efforts to maintain and protect the environment can take place regularly, surely, followed and obeyed by all parties, it is poured into the laws, namely environmental law. (Rosidah 2020)

There are several definitions of pollution among others; Pollution can be defined as an undesirable change in the physical, chemical, or biological characteristics of the air, water, or land that can harmfully affect the health, survival, or activities of humans or other living organisms. (Candrasari and Karjoko 2018) Darmono (2001) states that changes in abiotic factors, both naturally and because human beings who have exceeded the biotic ecosystem tolerance threshold, are pollution or pollution. Article 1 figure (14) of Law No. 32 of 2009 on Environmental Protection and Management defines environmental pollution as the entry or inclusion of living things, substances, energy, or

other components into the environment by human activities exceeding the established environmental quality standards. (Erina and Yanis 2020)

The grouping of pollution based on the nature of various pollutants in nature is divided into 5, namely: air pollution, noise pollution, water pollution, soil pollution, and radiation pollution. As for the general source of pollution can be grouped into 2 large groups, Pollution derived from the results of human activities in meeting the needs of daily life and pollution stemming from the process of change that occurs naturally in the wild. Regarding the current situation in which the Covid-19 pandemic occurs, one of the government's efforts is to accelerate its confectionery by spraying disinfectants. Spraying is carried out using water cannons, fleets of damkar cars, *road* sweeper cars, drones, even currently provided disinfectant booths reserved for people, including entrance to Istana Negara on Jalan Medan Merdeka Utara Jakarta. (Erina and Yanis 2020)

With massif spraying tools scattered in various areas, especially in major roads and public places in almost all areas of Indonesia resulting in areas exposed to disinfectants becoming widespread, not only the surface of inanimate objects that have the potential to be nesting places of Covid-19 that are affected but also living creatures such as plants, animals and even humans do not escape exposure to disinfectants. (Leonard et al. 2020)

Indeed, disinfectants can only be used on the surface of objects, such as tables, doorknobs, and others, in contrast to antiseptics as a killer ingredient of bacteria and viruses used in the body. Incorrect use is not only fatal to living beings but also the environment in which living beings themselves; in other words, improper use can result in ecosystem damage or at least environmental pollution, given that one of the compounds in the disinfectant is chlorine. Chlorine (Cl), derived from the Greek Chloros, meaning green. Researchers reporting the results of their study in the journal

Environmental Science & Technology (ACS) have found that bleach fumes derived from chlorine in combination with light and other compounds can form particles that get carried away harmful air when inhaled by pets or humans. Chlorine in the form of artificial chemical products has an impact on the environment, such as the depletion of the ozone layer and global warming. (Hutomo and Karjoko 2018)

Apart from having an impact on health (airway irritation, difficulty breathing, sore throat, coughing, chest tightness, eye irritation, and skin irritation), chlorine compounds also impact the environment, both in the form of products and waste produced. Chlorine, which is used as a disinfectant, also reacts with organic compounds in the water. (Hutomo and Karjoko 2018)

Besides having an impact on health, chlorine also impacts the environment, be it air, water, and the living communities in the affected environment. The impact of chlorine depends on the level, type of chlorine compound, and, most importantly, the compound's level of toxicity. The effects of chlorine on health, especially organochlorine compounds such as PCBs, Dioxins, DDT, and others are: it can interfere with the immune system, damage the liver and kidneys, indigestion, disorders of the nervous system (neurological), can cause cancer and disorders of the reproductive system. can lead to miscarriage. (Hutomo and Karjoko 2018)

Chlorine is irritating to the respiratory system and, at high concentrations, can cause health effects in animals. Symptoms that arise are the same as symptoms that occur in humans. When chlorine gas hits plants, the leaves on these plants turn white and are damaged. Chlorine gas inhibits or even stops plants from producing chlorophyll, thus slowing the growth of these plants. When Chlorine molecules become Hydrogen Chlorine gas and fall to the earth carried by rainwater, it will contribute to acid rain. (Handayani 2013)

The use of disinfectants as an effort by the government to accelerate the confectionery of the Covid-19 pandemic by spraying disinfectants using water cannons, fleets of damkar cars, rood sweeper cars, drones, even with disinfectant chambers in the environment is very dangerous, and this is because disinfectant is intended for inanimate objects (doors, windows, etc.). In living beings, used is antiseptic and the disinfectant contains chlorine compounds, which will be very dangerous when in direct contact with living creatures. (Kuncoro et al. 2019)

Environmental settings and oriented towards it also have a comprehensive intact or comprehensive integral nature as conveyed by Mochtar Kusumaatmadja, namely by applying *precautionary principle* as article 2 letter (f) of Law No. 32 of 2009 by minimizing or avoiding threats to pollution or environmental damage so that legal protection for ecosystems consisting of humans, plants, animals and the environment can be guaranteed to be directly used by current and future generations. In the event of continued violations, administrative, civil, criminal, or disciplinary action can be punished, this is in order to maintain dignity and dignity, as well as recognition of human rights owned by the subject of law based on the provisions of the law of arbitrariness as article 28H paragraph (1) of the Constitution of the Republic of Indonesia year 1945 gives everyone the right to have a good and healthy environment. (Kuncoro et al. 2019)

4. Conclusion

Based on the description that has been discussed in the Covid-19 pandemic should be handled quickly without ignoring accuracy; disinfectant spraying activities carried out by government agencies have not implemented a *precautionary principle*; this appears to be from the spraying's inaccuracy area. Disinfectants that should be used only for inanimate objects are now in the ecosystem in humans, plants, animals, and the environment. This is contrary to the purpose of Law No. 32 of 2009 on Environmental

Protection and Management, which is guaranteed sustainability directly used by current and future generations. Suppose violations of the ecosystem continue to occur. In that case, administrative, civil, criminal, or disciplinary sanctions can be imposed, this is in order to maintain dignity, as well as recognition of the human rights possessed by legal subjects based on legal provisions of abuse as Article 28H paragraph (1) of the 1945 Constitution of the Republic of Indonesia gives everyone the right to have a good and healthy living environment.

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