



Conference Paper

Good Environment as Part of Human Right: A Case Study on Plastic Waste Post Pandemic

Fenty Puluhulawa*, Mohammad Rusdiyanto Puluhulawa, Amanda Adelina Harun

Faculty of Law, Universitas Negeri Gorontalo, Indonesia

ORCID

Fenty Puluhulawa: https://orcid.org/0000-0001-9554-2694

Abstract.

The use of plastic waste causes various benefits in human life, but it also has negative impacts. Plastic waste has become part of environmental pollution and the Covid-19 pandemic has led to an increase in the use of plastic. The right to life is a part of human rights that every individual absolutely has. Human life depends on the surrounding environmental conditions, and the right to a good environment has a significant influence on the right to life. This study was based on the previous description, entitled "Good Environment as a Part of Human Rights (A Case Study on Plastic Waste)". This study was a normative legal study, which used a conceptual and statute approach. This article discusses two main points namely: (1) The right to a good environment in the concept of human rights; (2) Environmental protection as part of the protection of human rights, with a case study on solid waste. The results showed that the right to a good, clean, and healthy environment is crucial in fulfilling the right to life. Without a good environment, the right to life could not be optimally enjoyed. Thus, protecting the environment from pollution, especially plastic waste, is part of the fulfillment of human rights.

Keywords: environment, human right, plastic waste

Corresponding Author: Fenty Puluhulawa; email: fentypuluhulawa@ung.ac.id

Published: 4 October 2022

Publishing services provided by Knowledge E

© Fenty Puluhulawa et al. This article is distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the INCLAR Conference Committee.

1. INTRODUCTION

The living environment is crucial. The living environment or natural resources are the source of the needs of human life. Technological advances and an increase in human needs have encouraged humans to take maximum advantage of the nature, consequently triggering exploitation activities of the environment. Continuous exploitation activities could cause environmental degradation which will have a direct impact on humans, in which such degradation could lower the ability of the environment/nature to meet the human life needs. On the one hand, the human life needs are increasingly complex and higher in number; on the other hand the environment as one of the sources to fulfill these needs is decreasing, thus being unable to meet the human needs.

○ OPEN ACCESS



Good and health food and environment are the primary human needs to live. Environmental degradation can directly disrupt human life, so the right to a good environment can be categorized as a part of human rights [1]. Human rights are the rights that every human being is entitled to. Human rights protection is fundamental that it is regulated in the constitution. The fact that human rights are regulated in the constitution means that the state is obliged to guarantee the fulfillment of these rights. A good environment is an important factor to ensure human life. The environment serves as a source of various matters to support human life. The fact that the environment plays a crucial role in human life means that the existence of a good environment is one of the factors that support human life. The right to a healthy and good environment is also one of the human rights guaranteed by the constitution.

One of the existing contemporary environmental problems is related to plastic. Modern lifestyles, especially in urban areas, have encouraged a culture of rapid results [2]. Plastic has a big impact on human life. Plastic has become a part of everyday life, is used continuously because plastic tends to be easy and inexpensive [3]. Plastic has a huge impact on human life. On the one hand, plastic-based materials are highly needed in human life; on the other hand, using disposable plastics massively will cause a massive amount of plastic waste. Plastic materials are non-biodegradable, in which they take between 100 to 500 years to perfectly decompose [4]. The fact that plastics are non-biodegradable makes these materials take a long time to decompose. Unfortunately, the community's instant lifestyle causes a massive use of plastics, evident from an increasing use of goods made of plastic materials along with an increasingly instant lifestyle. In Indonesia, the level of plastic demand also continued to increase, i.e., 1.9 million tons in 2002, 2.1 million tons in 2003, 2.3 million tons in 2004, 2.4 million tons in 2010, even 2.6 million tons in 2011 [5].

An increasing amount of plastic waste of which the biodegradation process takes a very long time will result in the accumulation of plastic waste. According to Kompas, in 2008 plastic waste resulting from plastic packaging reached up to 925,000 tons and approximately 80% of which has the potential to be hazardous waste for the environment [6]. March 2020 The World Health Organization declared a pandemic status due to a new strain of influenza virus [7]. To prevent the spread of the virus, preventive measures are implemented in the form of physical distancing, social restrictions, quarantine, maintaining cleanliness by frequently washed hands with soap and/or hand sanitizer, and using personal protective equipment in the form of mask [8]. The surge in hospitalized patients, virus tests, increased personal protective equipment, social distancing restrictions, has an impact on dependence on online shopping with



packaging materials often containing plastic, [9] being the cause of the increased use of plastic in the pandemic era. The accumulation of plastic waste can clog the water system, thus leading to flooding. Plastic waste in the form of micro plastic potentially damages soil structures and contaminates water which is consumed by humans and animals.

Various problems resulting from plastic waste have an adverse impact, i.e., the nonfulfillment of the right to a good and healthy living environment. The problem of plastic waste management, and the pandemic condition that worsens the amount of plastic waste can be a problem for the environment. The right of good environment which is a condition of the fulfillment of human rights. This article discusses the right to a health and good environment as a part of the human rights, a case study on plastic waste.

2. METHODOLOGY/ MATERIALS

This study focused on the right of good and healthy environment as human right. It discussed two main points namely; (1) The right to a good environment in the concept of human rights; (2) Environmental protection as part of the protection of human rights, with a case study on solid waste. This study used a normative legal study, which used conceptual and statute approach.

3. RESULTS AND DISCUSSIONS

3.1. The Concept of Human Right

The concept of human rights is derived from the belief that every human being is born equal. This is as stated in Article 1 of the Universal Declaration of Human Rights, "All persons are born free and equal in dignity and rights" [10]. The concept of human rights reaffirms the belief in fundamental human rights in human dignity and personal values. Human rights are innate, universal, without distinction of race, tribe, nation, religion, or gender [11]. Human rights are universal, so the formulation of human rights regulations in general uses the words 'every person' or 'every human being'. The phrase 'every person' or 'every human being' means that the human rights of every individual are equal.

Leach Levin stated that human rights have 2 (two) definitions, i.e., human rights can neither be revoked nor separated from human beings as moral rights, and human rights



as rights based on law [12]. In the second definition, human rights are formed through law making, in which the state (government) both nationally and internationally [12]. In the second definition, it does not mean that human rights exist because they are granted by the state [12]. Human rights are fundamental and universal rights inherent to all human beings throughout their lives as a gift from God, and formalized into a set of existing legal rules, so these rights must be protected by law [12]. In this case, the state functions as a protector of the fulfillment of rights. The state as a subject of the international laws is a party that has an obligation to guarantee, protect, and fulfill human rights [13].

The idea of human rights started with an awareness of the protection of individual rights in Magna Carta (1215) which limited the power of King John upon the request of his barons and guaranteed the protection of the people from arrest, detention, and deportation, except after a court decision [14]. The idea of the protection of individual rights then developed into what is today known internationally as the concept of human rights. International human rights instruments today are the Universal Declaration of Human Right, International Covenant on Civil and Political Rights, International Covenant on Economic, Social and Cultural Rights [13], and several other international conventions which contain the provisions concerning human rights. The Universal Declaration of Human Rights ratified by the United Nations (UN) regulates several rights, namely; right to life; right to liberty and security of his person; right to his life respected; right to equality before the law; right to enter and leave a country; right to seek and enjoy asylum; right to a nationality; right to own property; right to freedom of expression and thought; right to freedom of religion; right to peaceful assembly; right to social security; right to work; right to trade; right to education; right to take part in cultural life; right to enjoy arts and right to science[10]. These rights are part of human rights which should be protected.

In Indonesia, the recognition and protection of human rights have started since the establishment of the Republic of Indonesia, although prior to the amendment, the recognition and protection did not use the term 'human rights'. Moh. Hatta as one of the founding fathers in the trial of BPUPKI gave the following statement: [15] "Although what is established is family-like state, the rights of the citizens should be specified so as to not create sheer power (*Machsstaat*)."

What was stated by Moh. Hatta implies that there is protection for individual rights in a country. In the 1945 Constitution, the concept of human rights has been enshrined in Articles 27 and 28, which guarantee equality before law and government, right to decent income and livelihood, and right to peaceful assembly and freedom of expressions. In



the RIS constitution, which came into force from December 27, 1949 to August 17, 1950, the concept of human rights was also included although the phrase 'human rights' was not yet used [16]. In the 1945 Constitution before the amendment, human rights were not regulated in a separate chapter, but spread over several articles, particularly Article 27 to Article 34 [17].

The concept of human rights started to be explicitly promoted after the new order, i.e., in the reform era. In the reform era, the people demanded a reform of the legal instruments, a reform of the institutions, and the formation of new institutions to control the government power to prevent discrimination, corruption, and violation of human rights [18]. Currently, the protection of human rights in Indonesia has been enshrined in various legal instruments, including the 1945 Constitution of the Republic of Indonesia, various laws, and other legislations under them. The 1945 Constitution of the Republic of Indonesia has a crucial role as the written constitution of Indonesia and the highest legal instrument. The fact that the protection of human rights is enshrined in the constitution means that the protection of human rights is crucial. The provisions concerning human rights in the constitution as the basic law are the highest norms which the state should comply [17].

3.2. Protection of Living Environment

Humans live as living beings, grow, reproduce, and fulfil their life needs on earth. They try to meet their life needs by taking advantage of other beings around them. The environment offers some benefits that help humans live properly, so it can be said that the environment is part of what supports the human life. As time went by, humans started to find out more about the environment. Environmental knowledge is then used by humans to take advantage of the environment more quickly, easily, and effectively.

The development of science offers new things [19]. Human life over generations allows for 'improvements' in life; these 'improvements' aim to make life easier [19]. After long and winding evolution, human life has reached the point where the acceleration of science and the presence of technology allow humans to change the environment in countless ways and at an unprecedented level [20]. Humans can benefit from the environment not only more quickly, but also more widely and more easily. An increase in human ability due to the advancement of science and technology as well as an increase in human needs have encouraged humans to take more advantages of the environment.



Humans' ability and desire to take more advantages from the environment encourage them to exploit the environment. Several human actions which is economically benefit, have the potential to be harmful to humans and the environment [21]. Exploitation of natural resources takes place especially in third world countries, starting with the birth of development era, where Vandana Shiva (1995) proposed the term "exploitation syndrome" as a form of criticism to development era in third world countries [22]. The paradigm of making development by exploiting the environment has been embedded in the pattern of human life. Indonesia, as one of the third world countries, takes advantages of the environment. There is a perception in the society that Indonesia has abundant natural resources [23]. This then encourages people to take advantage of the environment without paying attention to sustainability [23].

The concept of environmental protection has first been internationally recognized in the 1972 Stockholm Declaration. In 1972, Indonesia had not recognized the right to a good and healthy living environment. The right was first introduced in Law No. 23 of 1997 concerning the Environment adopted from some developed countries [24]. Constitutionally, before the second amendment, the 1945 Constitution of the Republic of Indonesia did not recognize the concept of the right to a good and healthy living environment. In addition to the Environment Law of 1997, the concept of the right to a good and healthy living environment has been enshrined in Article 28 of the Human Rights Charter as an integral part of the decree of the People's Consultative Assembly of the Republic of Indonesia No. XVII/MPR/1998 concerning human rights which states that "everyone has the right to a good and healthy living environment" [24]. In the second amendment to the 1945 Constitution, on August 18, 2000, the right to a good and healthy environment is enshrined in article 28H paragraph (1) that "Every person is entitled to mentally and physically prosperous life, a home, a good and healthy living environment, and health services".

3.3. Right to a Good Environment and Human Rights

The doctrine of human rights is a universally accepted teaching as a moral, political, and legal framework as well as a guideline in building the world civilization. Thus, according to Jimly Ashiddiqie, in the doctrine of the rule of law (rechsstaat), guaranteeing human rights protection is something absolute [25]. Indonesia, legally and normatively, in its constitution has declared itself as a rule of law [26]. Therefore, Indonesia has an obligation to protect human rights. The Indonesian Constitution has guaranteed the protection of human rights, so human rights serve not only as fundamental rights, but



also as constitutional rights. Constitutional rights or the Citizen's constitutional rights are the rights of the people or the rights of citizens that are only inherent to the citizens of a particular country. The fact that the protection of human rights is enshrined in the constitution has given the state an obligation to protect and guarantee the fulfillment of these rights for all the citizens.

The relationship between human rights and the right to a living environment is considered controversial in the world of science. Different perceptions among experts exist, as to whether human rights and the right to an environment are interrelated, or not. On the one hand, the right to a good environment is not included in the concept of human rights in accordance with the International Declaration of Human Rights; on the other hand, the fulfillment of the right to a good living environment will have a positive effect on the fulfillment of human rights. A good living environment supports the fulfillment and enjoyment of human rights. Heinhard Steiger C.S stated that the right to a good and healthy environment is a subjective right, i.e., it is the broadest form of protection for a person [27]. The right to a healthy and good living environment is a basic right of a person. This right should be protected because it can affect the survival of human beings and other living beings especially in relation to pollution and destruction [24].

The world started to pay attention to the importance of environmental protection and human rights to a good environment in 1972, at an International Conference on the Living Environment organized by the United Nations in Stockholm, Sweden. The conference produced a manuscript known as the Stockholm Declaration. Although a soft law, the Stockholm Declaration as an international law has managed to have a major impact on environmental law, constitutional law, and human rights law. In fact, the right to a good environment, although not yet enshrined in a binding global instrument, is explicitly enshrined in the African Charter (also known as the Banjul Charter) on Human and Peoples' Rights, the San Salvador Protocol, the Aarhus Convention, and the Arab Charter on Human Rights [28].

The Stockholm Declaration is seen as an inspiration for countries that formulate national constitutions and legislation to enshrine environmental rights and responsibilities [29]. At the international level, there are a number of legal systems, starting from the European Court of Human Rights, the European Committee of Social Rights, Inter-American Court of Human Rights, the Inter-American Commission on Human Rights, and the African Commission on Human and Peoples' Rights concerning violation of rights to environment. As mentioned by David R. Boyd, water pollution, air pollution, noise pollution, exposure to toxic substances, and failure to enforce environmental



laws are identified as violations of various human rights, including the right to a healthy environment [29].

A debate is found among experts as to whether the right to a healthy environment is a 'right' or not. In fact, the International Declaration of Human Rights does not specifically mention the right to an environment, but this declaration guarantees the right to a decent standard of living for the health and well-being of a person and the family. A decent standard of living, covering both health and well-being, can only be achieved with the presence of a good living environment. If an environment is polluted, in terms of the soil, water, and air, then the right to a decent standard of living in terms of health cannot be achieved. As time goes by, the environment has to face an increasing pressure, consequently leading to environmental degradation in the future. There is a probability that the future human generations cannot live in a habitable planet and habitat which the previous generations live in. In other words, any decisions made by the current generation have the potential to disrupt the life of the future generations. Actions that potentially harm the environment also potentially harm human life, so the right to life is realized through the right to a healthy environment, in which a healthy environment is considered as the basic resource for all life. Protection of the living environment is a form of protection of human rights.

The ASEAN Declaration on Human Rights states that the right to a good environment is part of human rights. Indonesia is one of the member countries of ASEAN. In the second and fourth amendments, Indonesia has started to pay attention to a good and healthy living environment through its constitution. Article 33 paragraph (4) of the Indonesian Constitution states "The national economy is implemented based on economic democracy by upholding the principles of togetherness, efficiency, justice, sustainability, environmental insights, and independence as well as maintaining the balance between the national economy development and unity" 26]. The Indonesian Constitution has also guaranteed the right to a living environment for its citizens. Article 28H paragraph (1) of the Indonesian constitution states "Every person is entitled to mentally and physically prosperous life, a home, a good and healthy living environment, and health services".

There is a tendency that a healthy environment receives attention in the Indonesian constitution. In the context of economic development, the Indonesian constitution has included the environment on Article 33 paragraph (4). The formulation of Article 28H paragraph (1) is part of the Human Rights Chapter in the constitution. This means that the right to a good living environment is part of human rights in Indonesia. The state is



obliged to guarantee the protection of the environment as form of protection of human rights.

3.4. Plastic Waste and Human Rights Protection Post Pandemic

The Covid-19 pandemic has seized the focus of various parties, so that efforts to manage and reduce plastic waste have been shadowed [30]. The Covid-19 pandemic began to be discovered at the end of 2019, sourced from the new version of the corona virus [31]. The rapid spread of Covid-19, until 31 May 2021, at least 219 countries/territories have been infected, with a total infection of over 171.5 million cases and 3.7 million deaths [32]. In 2015 about 6,300 million metric tons (Mt) of plastic waste was generated globally [30], and has caused various environmental problems. Various efforts have been made to improve the environment, however, on March 11, 2020, the day the WHO declared Covid-19 a global pandemic [33]. The Covid-19 pandemic exacerbating plastic pollution.[32] As quoted, "some regulatory measures meant to reduce plastic have been delayed and/or rolled back during the pandemic, stalling or even reversing the longstanding global battle to mitigate plastic pollution" [30]

The Covid-19 pandemic has an impact on plastic waste, not only overshadowing government policies related to plastic management, but several government policies have a further impact on plastic waste. To prevent the spread of the Covid-19 virus health protocols wear masks, keep distance, wash hands, avoid restrictions and reduce mobility [34], some areas have even locked down. These policies further have an impact on increasing online shopping. Online shopping generally uses plastic as a packaging medium, consisting of thin films, foams, coated plastics, and duct tapes that have low recyclability [35]. The Covid-19 pandemic has encouraged individuals to use singleuse masks that contain plastic [35]. An increase in plastic waste also comes from hospital waste, for example King Abdullah University Hospital in Jordan producing ten times higher medical waste production on average during the hospital's regular operating day [36]. Plastic waste from the Covid-19 pandemic, weighing 25,900 tons, has been scattered into the sea [37]. On the one hand, plastic plays an important role during the COVID-19 pandemic in the public health and safety sector. On the other hand, an increase in the use of single use plastics (SUP) including gloves, personal protective clothing, masks, hand sanitizer bottles, take-away plastics, food packages and polyethylene items, as well as medical test kits, [38] can cause problems for environment.



It is crucial to regulate the environment in the constitution with regard to the close relationship between human beings and the environment. The 1945 Constitution of the Republic of Indonesia mentions environmental elements (or referred to as a green constitution by Asshiddiqie) in Article 28H paragraph 1 and Article 33 paragraph 4. With the presence of a supporting constitution, any policies in implementing the government will expectedly also support environmental sustainability [39]. Environment, in the context of Article 33 paragraph 4 is associated with environmental protection in the process of national development. Meanwhile, environment in the context of Article 28H paragraph 1 is related to the protection of right to a good living environment as part of human rights. Article 28H paragraph 1 is part of the Human Rights Chapter. In other words, the right to a living environment has normatively been recognized as part of human rights, instead of only a moral right of the society [40].

Human beings and the environment in which they live are interrelated. Poor environmental conditions will have a negative impact on human life. Environmental destruction by some parties causes the suffering and violations of the human rights of other humans [41]. Exploitation activities of the environment are a form of violation of environmental norms and such violation is catastrophic [41]. Environmental destruction, deforestation, water and air pollution, disruption to people's livelihoods (agrarian and natural resources) have threatened the right to life [41].

Waste is one of the environmental issues. In 2020, according to the Ministry of Environment and Forestry (KLHK), the total national waste generation reached 67.8 million tons, meaning that there were approximately 185,753 tons of waste per day generated by 270 million people, so each person generated approximately 0.68 kg of waste per day [42]. The large amount of daily waste generation has become a problem for the environment. The large amount of waste generation and inadequate waste management processes result in waste accumulation. Waste, especially plastic waste, requires special management because plastic materials are non-biodegradable.

Indonesia annually produces 3.21 million metric tons of plastic waste that pollutes the oceans, making this country the world's second largest producers of plastic waste to the ocean [43]. Based on the Global Plastic Action Partnership in 2020, Indonesia generated an average of 6.8 million tons of plastic each year, and that number grew by about 5% each year [44]. The large amount of plastic waste generation causes plastic waste accumulation, not only in Landfills but also in water systems, place of residence, rivers, and the ocean. The plastic waste accumulation has a risk of polluting the environment. The plastic waste accumulation can disturb the view and aesthetics of the environment. In addition, the plastic waste accumulated in the water systems can clog the water



system, potentially leading to flooding during the rainy season. Meanwhile, the plastic waste accumulated in rivers and the ocean can damage the ecosystems and can be eaten by animals, endangering the animals or other creatures linked through a food chain.

Various efforts to manage plastic waste have been made. In some communities, plastic waste is burnt. In fact, when the plastics are burnt, the materials contained in the plastics still stay in the form of micro plastic [45], which is dangerous when contaminating soil and water and entering the human body through the consumption of contaminated materials, potentially resulting in health problems [46]. Plastic waste in the oceans and on land over a period of time will also decompose into micro-plastics. Microplastics are found in almost all marine habitats throughout the world, and carry heavy metals, pollutants, and chemicals that can affect the normal physiological functions of marine creatures and potentially trigger various toxic effects [47]. Due to a food chain, the adverse impacts of micro plastic can reach humans who consume contaminated seafood [45]. Therefore, recycling is one of the options to reduce waste accumulation. Unfortunately, recycling has not been able to reduce the national waste generation because open dumping and landfill still contribute 69% of the waste management system [42].

The Constitution of the Republic of Indonesia upholds the concept of a green constitution which basically formulates the provisions of environmental laws into the constitution, allowing the principle of sustainable development with environmental insight and environmental protection to have a legal basis [48]. Article 28H paragraph (1) and Article 33 paragraph (4) of the 1945 Constitution of the Republic of Indonesia have enshrined environmental protection. Article 28H paragraph 1 which is part of human rights even specifically mentions the right to a good and healthy living environment. Based on Article 28H paragraph 1 of the 1945 Constitution of the Republic of Indonesia, the right to a good and healthy environment is part of human rights. A violation of environmental norms is a form of violation of human rights. In fact, plastic waste is one of the environmental problems nowadays which has a significant effect on human life. This waste triggers disasters such as floods, pollutes water, land, and oceans, pollutes animals which eventually also has an effect on human health. The plastic waste issue potentially violates the right to a good and healthy environment. In some conditions, however, plastic waste has a direct effect on the human right to life.



4. CONCLUSION AND RECOMMENDATION

Plastic waste management is the obligation of the state. The existence of the Covid-19 pandemic has an impact on increasing the amount of plastic waste in the form of personal protective equipment from health care, the use of plastic packages sourced from online shopping. When plastic waste is poorly managed, then good and health environmental conditions cannot be achieved. There are various impacts of poorly managed plastic waste on the environment. The right to a good environment is part of human rights. This has been enshrined in the Indonesian constitution, so any violations of the norms that cause the failure to achieve a good and decent environment are considered a violation of human rights.

References

- [1] Lewis B. Environmental rights or a right to the environment? Exploring the Nexus between human rights and environmental protection. Macquarie J. Int. Comp. Environ. Law. 2012;8(1):36–47.
- [2] Puluhulawa F, Puluhulawa MR. "Plastic waste in modern era: Developing plastic waste management for sustainability." E3S Web Conf., vol. 259, 2021. https://doi.org/10.1051/e3sconf/202125903001.
- [3] Puluhulawa F, Puluhulawa MR. "Plastic waste: Environmental legal issues and policy law enforcement for environmental sustainability." E3S Web Conf., vol. 259, 2021, https://doi.org/10.1051/e3sconf/202125903006.
- [4] Kurniastuti N. "Bahaya Plastik terhadap Kesehatan dan Lingkungan." Forum Teknol. 2013; 3(1).
- [5] Arico Z, Jayanthi S. Pengolahan Limbah Plastik Menjadi Produk Kreatif Sebagai Peningkatan Ekonomi Masyarakat Pesisir. Martabe J. Pengabdi. Kpd. Masy. 2017;1(1):1.
- [6] Putra HP, Yuriandala Y. "Studi Pemanfaatan Sampah Plastik Menjadi Produk dan Jasa Kreatif," J. Sains dan Teknol. Lingkung. 2010; 2(1). https://doi.org/10.20885/jstl.vol2.iss1.art3.
- [7] Tri Atmojo J, Rois Syujak A, Daryanto D, Wahyu Dwi Jayanti S, Suciyati S, Ernawati H, et al. Efektivitas Dan Potensi Risiko Physical Distancing Pada Masa Pandemi. Avicenna J. Heal. Res. 2021;4(1):69–80.
- [8] Kresna A, Ahyar J. Pengaruh Physical Distancing dan Social Distancing terhadap Kesehatan dalam Pendekatan Linguistik. J. Syntax Transform. 2020;1(4):14–9.



- [9] Peng Y, Wu P, Schartup AT, Zhang Y. Plastic waste release caused by COVID-19 and its fate in the global ocean. Proc Natl Acad Sci USA. 2021 Nov;118(47):e2111530118.
- [10] Majelis Umum PB. Deklarasi Universal Hak-Hak Asasi Manusia. 1948;4(1):133-68.
- [11] Budiarjo M. Dasar-Dasar Ilmu Politik. Jakarta: PT Gramedia; 1980.
- [12] Santoso MB. "LGBT dalam Perspektif Hak Asasi Manusia," Soc. Work J. 20166(2). https://doi.org/10.24198/share.v6i2.13206.
- [13] Mangku KDGS, Yuliartini NPR. "Perlindungan Hukum bagi Etnis Rohingya dalam Perspektif Hak Asasi Manusia." e-Journal Komunitas Yustitia Univ. Pendidik. Ganesha Jur. Ilmu Huk. 2018;1(1).
- [14] Kusniati R. "Sejarah Perlindungan Hak-Hak Asasi Manusia dalam Kaitannya dengan Konsepsi Negara Hukum."
- [15] Handayani Y. Pengaturan Hak Asasi Manusia dalam Konstitusi Indonesia dan Konstitusi Amerika Serikat. J. Online Rechtsvinding; 2014.
- [16] El-Muhtaj M. Hak Asasi Manusia dalam Konstitusi Indonesia Dari UUD 1945 sampai dengan Perubahan UUD 1945 tahun 2002. 2nd ed. Jakarta: Kencana Prenada Media Group; 2015.
- [17] Haryanto T, Suhardjana J, Komari A, Muhammad FW, Kusuma M. Pengaturan tentang Hak Asasi Manusia Berdasarkan Undang-Undang Dasar 1945 Sebelum dan Seteleh Amandemen. J. Din. Huk. 2008;8(2):2008.
- [18] Syafi'ie M. Instrumentasi HukumHAM, Pembentukan Lembaga Perlindungan HAM di Indonesia, dan Peran Mahkamah Konstitusi. J. Kosntitusi. 2012;9(4).
- [19] Harari YN. Homo Sapiens Riwayat Singkat Umat Manusia. Jakarta: Kepustakaan Populer Gramedia; 2019.
- [20] Atapattu S. The right to a healthy life or the right to die polluted?: The emergence of a human right to a healthy environment under international law. Tulane Environ. Law J.; 2002;16.
- [21] Ariyanti DO, Ramadhan M, Murdomo J. Penegakan Hukum Pidana Terhadap Pelaku Penambangan Pasir Secara Ilegal di Area Gumuk Pasir. Jambura Law Rev. 2020;2(1):30–47.
- [22] Jati WR. Manajemen Tata Kelola Sumber Daya Alam Berbasis Paradigma Ekologi Politik. Polit. J. Polit. 2013;3(2).
- [23] Pasandaran E, Syam M, Las I. "Degradasi Sumber Daya Alam: Ancaman Bagi Kemandirian Pangan Nasional," Konversi dan Fragm. Lahan Ancaman Terhadap Kemandirian Pangan; 2006. pp. 35–53. [Online], Available https://www.litbang.pertanian.go.id/buku/konversi-fragmentasi-lahan/BAB-II-2.pdf



- [24] Kahpi A. "Jaminan Konstitusional terhadap Hak atas Lingkungan Hidup di Indonesia," Al-Daulah. 2013; 2(2).
- [25] Aswadi B, Rosiah K. Negara Hukum dan Demokrasi Pancasila dalam Kaitannya dengan Hak Asasi Manusia (HAM). J. Pembang. Huk. Indones. 2019;1(1).
- [26] Majelis Permusyawaratan Rakyat. Undang-Undang Dasar Negara Republik Indonesia 1945. Indonesia: Indonesian Constitution; 1945.
- [27] Supriadi, Hukum Lingkungan di Indonesia, sebuah Pengantar. Jakarta: Sinar Grafika; 2005.
- [28] Boyd DR. "Catalyst for Change Evaluating Forty Years of Experience in Implementing the Right to a Healthy Environment," J. K. & R, Ed. Cambridge: Cambridge University Press., 2018.
- [29] Pallemaerts M. "The Human Right to the Environment as a Substantive Right," in Human Rights and the Environment: Compendium of Instruments and Other International Texts on Individual and Collective Rights Relating to the Environment in the International and European Framework (Council of Europe, 2002), M. Dejeant-Pons and M. Pallemaerts, Eds. 2002.
- [30] Yuan X, Wang X, Sarkar B, Ok YS. The COVID-19 pandemic necessitates a shift to a plastic circular economy. Nat Rev Earth Environ. 2021;2(10):659–60.
- [31] World Health Organization. "Coronavirus." https://www.who.int/health-topics/coronavirus#tab=tab_1
- [32] 32 Ministry of Finance Republic of Indonesia, Merekam Pasndemi Covid-19 dan Memahami Kerja Keras Pengawal APBN.
- [33] 33 Virtyani MZ, Muljaningsih S, Asmara K. "Studi Peristiwa Penetapan COVID-19 Sebagai Pandemi Oleh World Health Organization Terhadap Saham Sektor Healthcare di Bursa Efek Indonesia," J. SEKURITAS (Saham, Ekon. Keuang. dan Investasi). 2021;4(3):240., https://doi.org/10.32493/skt.v4i3.10608..
- [34] Aulia G, et al. Covid-19 prevention education with the health protocol of 5M and the importance of multivitamins during Covid-19 pandemic. J. Abdi Masy. 2021;2(1):133–9.
- [35] Vanapalli KR, Sharma HB, Ranjan VP, Samal B, Bhattacharya J, Dubey BK, et al. Challenges and strategies for effective plastic waste management during and post COVID-19 pandemic. Sci Total Environ. 2021 Jan;750:141514.
- [36] Patrício Silva AL, et al. "Increased Plastic Pollution due to COVID-19 Pandemic: Challenges and Recommendations." Chem. Eng. J. 2020 May; 405: 126683. https://doi.org/10.1016/j.cej.2020.126683.



- [37] Laville S. "About 26,000 tonnes of plastic Covid waste pollutes world's oceans study," 2021. https://www.theguardian.com/environment/2021/nov/08/about-26000-tonnes-of-plastic-covid-waste-pollutes-worlds-oceans-study
- [38] Benson NU, Bassey DE, Palanisami T. COVID pollution: impact of COVID-19 pandemic on global plastic waste footprint. Heliyon. 2021 Feb;7(2):e06343.
- [39] 39 Feriandi YA, "Upaya Perlindungan Lingkungan Perspektif Konstitusi dan Pendidikan Kewarganegaraan." J. Pancasila dan Kewarganegaraan. 20183(2). https://doi.org/10.24269/jpk.v3.n2.2018.pp28-36.
- [40] Wardana A. "Hak Atas Lingkungan: Sebuah Pengantar Diskusi," Latih. Bantu. Huk. Lemb. Bantu. Huk. Bali pada Jumat, 20 April 2012 di Denpasar, no. April, 2012, [Online]. Available: https://media.neliti.com/media/publications/29371-ID-hakatas-lingkungan-sebuah-pengantar-diskusi.pdf
- [41] Iskandar., "Iskandar." http://repository.unib.ac.id/7803/1/JurnalBengkoelenJustice. pdf
- [42] Portal Informasi Indonesia. "Membenahi Tata Kelola Sampah Nasional." https://indonesia.go.id/kategori/indonesia-dalam-angka/2533/membenahi-tata-kelola-sampah-nasional, (accessed May 20, 2021).
- [43] Liputan 6, "LIPI: Jumlah Sampah Plastik Melonjak selama Pandemi Covid-19." https://www.liputan6.com/bisnis/read/4454386/lipi-jumlah-sampah-plastik-melonjak-selama-pandemi-covid-19. diakses 20 Mei 2021.
- [44] Partnership GP. "Indonesia." https://globalplasticaction.org/countries/indonesia/ (accessed May 20, 2021).
- [45] Mulu M, et al. "MARINE DEBRIS DAN MIKROPLASTIK: UPAYA MENCEGAH BAHAYA DAN DAMPAKNYA DI TEMPODE, DESA SALAMA, KABUPATEN MANGGARAI, NTT," Randang Tana J. Pengabdi. Masy., [Online]. Available: http://unikastpaulus.ac.id/jurnal/index.php/jrt/ https://doi.org/10.36928/jrt.v3i2.404.
- [46] Jupri AA, Aprilianti BR, Unnida D. "Pengelolaan Limbah Sampah Plastik Dengan Menggunakan Metode Ecobrick Di Desa Pesanggrahan," in Prosiding PEPADU Vol. 1, 2019.
- [47] El NH, et.al. "Microplastic Exposure through Mussels Consumption in the Coastal Area Community of Pa'lalakkang Village, Galesong, Takalar District," South Asian Res. J. Biol. Appl. Biosci. 2020;2(5).
- [48] Arifin MZ, et.al., "Peran Perangkat Desa Terhadap Penyelesaian Sengketa Lingkungan Hidup Dalam Perspektif Green Constitution," LEX Libr. J. ILMU Huk. 2020; 6(2). https://doi.org/10.46839/lljih.v6i2.186.