

The Prohibition of Plastics Utilization Associated with the Principle of Sustainable Development

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Abstract—Hundreds of millions of plastics are used on this earth, therefore, hundreds of millions of plastic wastes is also becoming the world's main pollutant. Plastic waste management in Indonesia has not been a priority compared to other service issues. Yet, the management tasks will not be any lighter in the future. If the will, ability and efforts are still as they are today, the problem of waste will always arise, and can even be bigger. Prohibition of plastic utilization associated with the principle of sustainable development will not be a substantive and sustainable development if it does not involve participation of the society and government. Formulation of the problem of this research is; how is the prohibition of plastics utilization associated with the principle of sustainable development? Research method used by the researcher is normative legal research or so called doctrinal legal research by using the criteria of legal principles. This research is a descriptive research, in which it provides a detailed, clear, and systematic description of the main problem. Deductive thinking method is used in drawing the conclusion. The results of the research are the plastics utilization associated with the principles of sustainable development carried out with five basic principles, namely Ecology (environment), Economy (welfare), Equity (fairness), Engagement (participation), and Energy. Sustainable development with an environmental perspective is essentially inseparable from human development itself. Humans are both subject and object of development. Humans are in a central position so that the implementation of development and its results must not ignore the human dimension.

Keywords: *prohibition, plastic utilization, the principle of sustainable development*

I. INTRODUCTION

Nowadays, waste management in Indonesia has not become a priority compared to other service issues. Nevertheless, the management tasks will not be any lighter in the future. If the will, ability, and efforts are still as they are today, then the problem of waste will always arise, and can even be more significant. A large amount of midden causes various problems, both directly and indirectly, for the population. The direct impact of imprudently handled waste includes the development of various diseases, and the indirect impact is the drop in environmental quality both in long- and short-term periods, including the threat of flooding, water, and soil contamination.

Article 33 paragraph (3) and (4) of the 1945 Constitution of the Republic of Indonesia (hereinafter referred to as the UUD NRI 1945) which regulate the land, water, and the natural resources contained therein are controlled by the state and can be used as much as possible for prosperity the people as well as stating that the national economy is organized based on economic democracy with the principles of togetherness, efficiency, justice, sustainability, environmental insight, independence and by maintaining a balance of progress and national economic unity. Meanwhile, Article 28H paragraph (1) of the UUD NRI 1945 states that everyone has the right to live physically and mentally prosperous, to live and to have a pleasant and healthy environment, and to have health services [1].

The provisions in UUD NRI 1945 emphasize that a pleasant and healthy environment is a human and constitutional right for every citizen of Indonesia. The state and government and all stakeholders are obliged to carry out environmental assurance and management in the implementation of sustainable development so that the Indonesian environment can remain a source and support of life for the people of Indonesia and other living creatures [2].

The Increasing population and the changing consumption patterns provoke an escalation in volume, type, and characteristics of waste, including plastic bags. Plastic bags, or better known as crackle bags, especially black ones, are one of the most widely circulating plastic types in the society with a short lifetime or are often thrown away after one use. The use of plastic bags in daily life is general [3].

The prohibition of plastic utilization associated with the principle of sustainable development will not be a substantive and sustainable development if it does not involve the participation of the society and government. The background explanation above prompts the writer to be interested in writing in a paper entitled “The Prohibition of Plastics Utilization Associated with the Principle of Sustainable Development.” Based on the description above, it can be stated that the formulation of the problem in which is the focus of this research, is how the prohibition of using plastic related to the principle of sustainable development?

II. RESEARCH METHODOLOGY

In determining the success of the research, the objectives and benefits of research are determined by the research methodology used. To get accurate data, the author uses normative legal research. In normative legal research, the criteria of legal principles are used. This research is used by the author to analyze the prohibition of the use of plastics associated with the principle of Sustainable Development.

Meanwhile, viewed from its nature, this is descriptive research, which means the research is intended to provide a detailed, clear, and systematic description of the problems of the main research problem [4]. In concluding, the author uses the deductive thinking method, in which conclusions drawn from a statement or general proposition into a specific statement or case [4].

III. RESULTS AND DISCUSSION

A. Plastic

Plastic is a highly popular food packaging that has been chosen by consumers. Since it was discovered by a researcher from the United States in 1968 named John Wesley Hyatt, plastic has become the alternative for the industrial world and has grown excessively from just a few hundred tons in the 1930s to 220 million tons per year in 2005 [5].

Plastic is categorized as inorganic waste. Inorganic waste is waste that is produced from non-biological materials, either in the form of interactive products or the results of technological processing of minerals or natural resources and cannot be broken down by nature, for example, plastic bottles, plastic bags, cans [6].

Plastic has become a part of our lives. Every day we use many products that contain plastic. The amount of plastic used produces abundant waste. Have people ever thought how much plastic used every day, every week, and every year? If we take the time to count it in just five years, we have consumed at least 3650 pieces of plastic bags, imagine 200 million Indonesians do it every day [7].

The use of plastic must be considered, given the amount of waste it generates. While many household products use plastic as they have advantages such as lightweight, durable, transparent, waterproof, and the price is relatively low and affordable for all people.

Plastic is combustible; the threat of fire is increasing. Smoke from burning plastic materials is hazardous because it contains toxic gases such as hydrogen cyanide (HCN) and carbon monoxide (CO). Hydrogen cyanide comes from a polymer made from acrylonitrile, while carbon monoxide as a result of incomplete combustion. These are what make plastic waste as one of the causes of air pollution and has a long-term effect in the form of global warming in the Earth's atmosphere [8]. Large plastic items, such as discarded fishing lines and nets, can cause attachment to invertebrates, birds, mammals, and turtles, salted grasses, and corals. Attachment of water species by plastic debris can cause starvation, suffocation, laceration, infection, reproduction, reduced success, and mortality [9].

B. The Principle of Sustainable Development

Sustainable development is a manifestation of the environmental insight referred to the 1945 Constitution. Preferably, it must also be applied in environmentally development policies. There is no sustainable development without the environment as its main element, and there is no environmental insight without sustainable development. In general, sustainable development rests on the economy, environment, and social culture, because of that economic growth alone does not meet the requirements of sustainable development [10]. Another requirement expected is that development must be environmentally friendly. With this condition, the community, even the government, has a perception, sustainable development is the affairs and duties of the minister of the environment [11]. The connection between economic progress, environmental management, and individual well-being is a complex process that affects the quality and sustainability of the communities in which we live [12].

In a more straightforward sense, sustainable development with an environmental perspective can be formulated as a conscious-planned effort that integrates the environment, including its resources, into a development process that guarantees the capability, welfare, and quality of life of present and future generations [13]. The nation's expectation of the development process is the development that runs through a sustainable development process by optimizing the benefits of natural resources / marine resources, human resources, and other facilities so that there is a balance between human activities and carrying capacity, which is called sustainable development [14].

In the concept of sustainable development, there are several essential principles, which are [15]:

- Development must suffice the needs of the present without compromising the right to fulfill the needs of future generations
- Development must pay attention to the existing ecosystem, per its carrying capacity, so that it is maintained and the quality of the environment does not reduce.
- Every developmental activity must always realize the interests of other groups or communities wherever they are, and heed the existence of present and future life.
- Sustainable development aims to improve the quality of human life in all aspects, whether physical, spiritual, social, and cultural, in the long-term period, by not wasting and not damaging existing natural resources and does not exceed its carrying capacity.

Sustainable development with an environmental perspective is virtually inseparable from human development itself. Humans are both subject and object of development. Humans are in a central position so that the implementation of development and its results must not ignore the human dimension. To be able to do this, a development approach that focuses on the human side is needed. Development is carried out to improve the welfare and quality of human life. On the other hand, expanding development will have a negative

consequence in the form of the risk of pollution and environmental damage, which results in damage to the structure and essential functions of ecosystems that support life. This damage will ultimately reduce the quality of human life so that what is the goal of development will be in vain [16].

Theoretically, the proper prevention of environmental crime must concern the interests of human, environmental, and animal wherever possible. The basic principle of crime prevention needs to be guided by consideration of the ecological balance and from a human perspective, ecological citizenship. Hence, human law and human rights must be softened by recognition, where human interests are intimately related to the welfare of the planet as a whole. Human intervention, about everything, needs to be considered from this angle. In practice, in this case, it means that the present generation must act wisely, in ways that do not compromise the existence and quality of the environment of future generations [17].

C. The Prohibition of Plastics Utilization Associated with the Principle of Sustainable Development

Management of natural resources directly or indirectly impacts the environment. For example, in the management of natural resources, the environment indeed produces waste that has an impact on the environment. Furthermore, these environmental problems are getting more complex from day by day [18].

Plastic waste that is not appropriately managed and placed in the right place will undoubtedly harm the environment — not only land but also the ocean. Not a few marine animals were found injured and unfortunately died because of accidentally eating plastic that they thought was food. As happened recently, a pregnant eight-meter-long sperm whale was found dead in Sardinia, Italy. Unfortunately, when the mammals' stomachs were dissected, the team of scientists found 22 kilograms of plastic waste in them [19].

The crisis of plastic waste is increasingly in the spotlight around the world. Various calls to preserve the environment continue to be encouraged. Nevertheless, like the proverb, as big as the earth, slapped without contact, these efforts seem less effective. Not occasionally only becomes mere rhetoric, as happened in Indonesia, for example. Regarding the management of plastic waste, Indonesia can be said to be one of the worst in the world. The case was revealed from the results of the 2015 Jambeck study published on the Our World in Data page. More than three million tons of Indonesia's plastic waste enter the ocean each year. In fact, from the source, Indonesia is labeled as the second-largest contributor of plastic waste in the world after China. There needs to be a collaborative effort to overcome the problem of plastic waste, both governments, private, and the community [19].

In the 18th century economic theorists such as Adam Smith pointed out the problem of development, in the 19th century Karl Marx and classical economists Malthus, Ricardo, and Mill also debated some aspects of sustainable development, while later neoclassical economic theory emphasized the importance of pure air and water and renewable resources (fossil fuels,

ores) as well as the need for government intervention in matters of externalities and public goods [20].

Plastic waste has disastrous consequences, such as pollution, food chain contamination, biodiversity damage, energy waste, and economic losses. This plastic waste problem and its side effects are severe, and there are everywhere well-known countries or megacities like Japan, Taiwan, the United Kingdom, and Hong Kong [21].

Hundreds of millions of plastics are used on this earth, then hundreds of millions of plastic wastes are also the world's primary pollutants. Plastic is not resistant to heat; the threat of fire is increasing. Smoke from burning plastic materials is hazardous because it contains toxic gases such as hydrogen cyanide (HCN) and carbon monoxide (CO). Hydrogen cyanide comes from a polymer made from acrylonitrile, while carbon monoxide as a result of incomplete combustion causes plastic waste as one of the causes of air pollution and causes long-term effects in the form of global warming in the earth's atmosphere.

Plastic waste that is in the soil and cannot be broken down by microorganisms causes minerals in the soil, both organic and inorganic, to decrease. The decreasing causes the scarcity of soil fauna, such as worms and soil fauna that live in the land area due to the difficulty in obtaining food and shelter. The O₂ level in the soil is decreasing so that the soil fauna is difficult to breathe and eventually die. It has a direct impact on the plants that live in the area. Plants need soil microorganisms as mediators in their survival [22].

Law Number 18 Year 2008, concerning Waste Management, classifies waste as consisting of (a) household waste, (b) rubbish similar to household rubbish, and (c) specific waste. Household waste originates from daily activities within the household, excluding feces and specific waste. Similar household waste comes from commercial areas, industrial areas, particular areas, social facilities, public facilities, and/or other facilities. At section C, specific waste includes: (a) litter that contains hazardous and toxic materials, (b) waste that contains hazardous and toxic waste, (c) waste arising from disasters, (d) destruction of buildings, (e) solid waste which cannot be treated technologically, and/or (f) waste that arises periodically (Article 2 paragraph (1) to (4) of Law Number 18 Year 2008 concerning Waste Management). Law Number 18 of 2008 concerning Waste Management does not regulate waste management based on its nature that is easily decomposed or not decomposed, even in Law Number 18 of 2008 concerning Waste Management it does not find the word "plastic waste."

Moreover, Government Regulation Number 81 of 2012 concerning Management of Household Waste and Trash of Similar Household Waste also does not regulate plastic waste. The word "plastic" is found in the explanation of Article 11 of Government Regulation Number 81 of 2012 concerning Management of Household Waste and Similar Household Waste concerning examples of the implementation of restrictions on waste generation, including the use of recyclable and easy goods and/or packaging. Decomposed by natural processes; limit the use of plastic bags; and/or avoid using disposable goods and/or packaging. Based on this condition, it can be said that both Law Number 18 of 2008 concerning

Waste Management and Government Regulation Number 81 of 2012 concerning Management of Household Waste and Similar Household Waste have not mainly regulated plastic waste.

According to Sucipto, based on the origin, waste materials are divided into two types, namely organic and inorganic waste. Organic waste includes food scraps, agricultural wastes, valley farms that are biodegradable and can be recycled. Inorganic waste includes the rest of synthetic materials such as plastic, paper, metal, glass, ceramics, and others [23]. Plastic waste is rubbish that is hard to be broken down / destroyed. If it is disposed of carelessly, the destruction of this plastic waste takes a long time, which is between 40-50 years, so it is feared that there will be piles of garbage from this plastic [24].

As formulated by Budiharjo [25], five basic principles are needed to form a sustainable city, namely Ecology (environment), Economy (welfare), Equity (Equity), Engagement (participation), and Energy. Moreover, specifically for the application in Indonesia, the ethics of development and city aesthetics were added. Thus it can be interpreted that sustainable waste management means that management is carried out based on the ability of resources owned (engagement), can be to maintain the physical condition of the environment (ecology), oriented to being able to compete (economy), and can be passed on to future generations (equity and energy).

In dealing with waste problems in a sustainable manner, it is necessary to look for alternative managements. Alternative waste managements must be able to handle all waste problems, including the potential pollution of natural resources.

In order to achieve it, there are three underlying assumptions for sustainable waste management, namely [26]:

- Waste must be sorted first so that it can be composted or recycled optimally; it is necessary to apply 4 R, namely Reduce, Recycle, Replace.
- Industries must redesign their products to facilitate the recycling process of those products and products that are not designed to be easily recycled; they need to be redesigned to fit the recycling system or phase of eliminating use.
- Urban waste management programs must be adapted to local conditions in order to succeed, given the differences in physical, economic, legal, and cultural conditions.

IV. CONCLUSION

Hundreds of millions of plastics are used on this earth, then hundreds of millions of plastic wastes is also the world's main pollutant. Plastic waste management in Indonesia has not been a priority compared to other service issues. Yet the management tasks will not be any lighter in the future. If the will, ability and efforts are still as they are today, then the problem of waste will always arise, and can even be bigger. Prohibition of plastic utilization associated with the principle of sustainable development will not be a substantive and sustainable development if it does not involve the participation of the society and government.

The use of plastics is related to the principle of sustainable development (sustainable development) carried out with five basic principles, namely Ecology (environment), Economy (welfare), Equity (fairness), Engagement (participation), and Energy. Sustainable development with an environmental perspective is virtually inseparable from human development itself. Humans are both subject and object of development. Humans are in a central position so that the implementation of development and its results must not ignore the human dimension.

Referring to the principle of sustainable development, the government must change the purpose of rowing (steering/implementing) to steering (controlling/supervising) so that the government should no longer act as an implementer, but more effectively as a controller by making rules/laws. Oversight by the government must be oriented to the process and results achieved, namely how the prohibition of the use of plastics can provide maximum benefits to the public, private sector, and government.

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