

Original Paper

The Event of Forest Fire in Indonesia in the Perfective Environmental Ethics Anthropocentrism

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Abstract

This study aims to analyze forest fires in Indonesia in terms of anthropocentric environmental ethics perspectives. The method used is the method of observation, and the primary data can be by interviewing the people who live in the location of forest fires in Riau province, and the perpetrators of illegal logging, and companies that use the forest. While the secondary data obtained from statistical data, and from the Riau provincial government, and then the data is analyzed descriptively. In the perspective of the environmental ethics of anthropocentrism, the forest is an invaluable resource (biodiversity as a source of germplasm, timber and non-timber forest products, the water regulator, flood prevention and erosion and soil fertility) whose utilization and protection should be regulated accordingly with relevant and applicable laws and government regulations. Events of forest fires are one form of human action that is contrary to the principles of environmental ethics, resulting in large casualties and losses. In fact, in anthropocentrism more emphasis on the human interest that has led to human behaviour that tends to damage nature.

Keywords

environmental ethics, anthropocentrism, forest fires

1. Introduction

One of the great potential and natural wealth of land and natural resources in Indonesia is a forest. There are at least five large islands that are known to be very potent as the largest forest owner in Indonesia, one of which is the island of Sumatra and on the island of Borneo. Where the two islands is

an area that often occurs during forest fires. Forest is an invaluable natural resource because it contains biodiversity as a source of germplasm, timber and non-timber forest products, the water regulator, flood prevention and erosion and soil fertility, biological protection for the benefit of science, culture, recreation, tourism and so on. Therefore, the use of forests and their protection has been regulated in the 1945 Constitution, Law no. 5 of 1990, Law No. 23 of 1997, Law no. 41 of 1999, PP No. 28 of 1985 and several decisions of the Minister of Forestry as well as some decisions of Director General PHPA and Director General of Forest Exploitation. However, disruption to forest resources continues even intensity increases.

The forest fire incident is one of the more frequent disruptions in Indonesia, especially on the island of Sumatra. The negative impacts of large fires include ecological damage, declining biodiversity, declining economic value of forests and soil productivity, global and global climate change, and the smoke disrupts public health and disrupts the transport of land, river, lake, sea and air. The smoke disturbance caused by Indonesia's forest fires has recently crossed national borders.

The forest fires were originally thought to occur naturally, but it is likely that humans have a role in starting fires in the last millennium, first to facilitate hunting and then to open farms in the forest. Although fires have been a feature of forests in Indonesia for thousands of years, the initial fires must have been smaller and more widespread in terms of frequency and timing than the past two decades. Therefore, these early fires were not a significant cause of deforestation. This is evident from the fact that most of Kalimantan, for example, has been forested for the first time, and has recently experienced very high deforestation (Nawir & Rumboko, 2008).

The Government has undertaken various efforts to prevent and protect forest fires, including the effectiveness of legal instruments (laws, Government Regulations and Ministerial Decrees to the Directorate General and Regional Government), but have not provided optimal results. Since the event of a large forest fire in 1982/83 in Jambi, Riau, and North Sumatra, the intensity of forest fires is increasingly common and the spread is widespread. Recorded several subsequent big fires that are in 1987, 1991, 1994 and 1997 to 2013. Therefore it needs a deep assessment to prevent and cope with forest fires.

So often there are forest fires in Indonesia, so in this article want to disclose phenomena that occur in the case of forest fires. This article aims to find a solution based on an analysis of events related to forest fires in Indonesia (specifically on the island of Sumatra and the island of Borneo) with an analysis from an environmental ethic point of view based on anthropocentrism perfective, which will provide recommendations in the form of recommendations in the handling, handling and management of forest fires in Indonesia in the future.

2. Materials and Methods

This research was conducted in forest fire area that happened on Sumatra island and Kalimantan island, Indonesia in the year 1987-2017. The data used are the primary data obtained by interviewing the community and the perpetrators of forest fires around the scene. While the secondary data used is the data that occurred on the island of Sumatra and the island of Borneo from 1987-2017. In this study used survey method, where the location of forest fires serve as a sampling area. While the analysis is done through an ethical analysis approach anthropocentrism environment.

3. Results and Discussions

3.1 Forest Fires in Indonesia and Causes Factor

Forest fires occurring in the provinces of Riau and Kalimantan have actually multiplied the effects of the unregulated use of fire. Since humans know and master the technology of fire, fire is considered as the basic capital for human development because it can be used for clearing forests, improving the quality of grazing lands, hunting wildlife, expelling wildlife, social communicating around bonfires and so on (Soeriaatmadja, 1997).

Analysis of charcoal samples obtained from the remaining forest fires on the island of Borneo and the island of Sumatra shows that the forest has been burning periodically starting, at least since 17,500 years ago. Large fires are likely to occur naturally during the drier climate periods of the current climate. However, humans also burned forests more than 10,000 years ago to facilitate hunting and clearing agricultural land (Ulya, 2008). Written records a century ago and the oral history of forest-dwelling communities confirm that forest fires are not new to Indonesian forests (Schweithelm & Glover, 1999). According to Danny (2001), the main cause of forest fires in East Kalimantan is human activity and only a small part caused by natural events. The natural fire process according to Soeriaatmadja (1997), can occur due to lightning strikes, the clash of rocks, coal outcrop, and pile litter. However, according to Saharjo and Husaeni (1998), the fire due to the natural process is very small and for the Kalpos case is less than 1%.



Figure 1. One Forest Fire Event That Occurred on the Island of Sumatra, Indonesia in December 1997 Ago

Large forest fires are also triggered by the emergence of El-Nino climate phenomena such as the fires that occurred in 1987, 1991, 1994, 1997 and 2006 (Office of the State Minister of Environment & UNDP, 2007). The development of the fires also shows an extension of the spread of fire locations not only in East Kalimantan but in almost all provinces, not only in forested areas but also in non-forested lands. The cause of forest fires to date is still a debatable topic, whether due to natural or because of human activities. However, based on several research results indicate that the main cause of forest fires is a human factor that originated from the activities or problems as follows:

- 1) Forest clearing by holders of Forest Concession Rights (HPH) for the timber industry and oil palm plantations.
- 2) The structural causes, namely the combination of poverty, development policy and governance, resulting in conflicts between customary law and state positive law.
- 3) Traditional shifting system of locally mobile populations.

Moving shifting cultivation is also a common form of traditional agricultural activity in forest areas in Indonesia, where land clearing is always done by burning because it is fast, cheap and practical. But this activity is supported by the activities of wood processing companies, it will be even greater the damage caused. If only the sedentary movements are generally very limited and controlled impact because it has followed the rules of hereditary (Dove, 1988). According to Suwondo et al. (2012), forest clearance by HPH concessionaires and plantation companies for the development of industrial crops and plantations generally covers large areas. Land clearing methods with clear-cutting and burning are the cheapest, easiest and quickest land clearing alternatives. However, this method often results in fires not only limited to areas prepared for the development of industrial crops or plantations but extending to protected forests, production forests and other lands (Rashid, 2014).

While structural causes generally originate from a conflict between the owners of timber and mining industry capital, with indigenous people who feel their traditional (customary) ownership of land, forest and land are controlled by investors authorized through state positive law (Subiakto, Wildan Deki, & Bakrie, 2015). As a result, public resentment is wreaked by burning to preserve the land they have owned for generations. Here poverty and injustice trigger forest fires and the community will not participate to extinguish it.

3.2 Forest Fire Loss and Impacts

3.2.1 Burnt Forest Area

In recent years forest fires occur almost every year, especially in the dry season. Major fires occurred in East Kalimantan in 1982/83, 1997/98 until 2006/2007. In 1982/83 the fires burned about 3.5 million hectares of forests in East Kalimantan and this is the world's largest forest fire record after the 2 million hectare forest fires in Brazil in 1963 (Soeriaatmadja, 1997). The record was solved again by an Indonesian forest fire in 1997/98 and 2006/2007 that had burnt an area of 11.7 million hectares. The largest fire occurred in Kalimantan with a total burnt area of 8.13 million hectares, followed by Sumatra, West Papua, Sulawesi and Java respectively 2.07 million hectares, 1 million hectares, 400

thousand hectares and 100 thousand hectares (Tacconi, 2003). While forest fires in Indonesia continue to take place every year despite the burnt area and the resulting losses are relatively small and generally not well documented. Data from the Directorate General of Forest Protection and Nature Conservation indicate that forest fires occurring every year from 1998 to 2002 are recorded between 3 thousand hectares to 515 thousand hectares (Director Jenderal Forest Protection dan Nature Conservation, 2003).

3.2.2 Losses Caused and the Impact of Forest Fire

Recent forest fires are of international concern as environmental and economic issues especially after major fires in various parts of the world in 1997/98 devastating 25 million hectares of land. The both of 1997/98 and 2006/2007 fires resulted in forest degradation and deforestation costing the economy around the US \$ 1.6-2.7 billion and the cost of polluting fog about the US \$ 674-799 million. The losses incurred by the forest fires are likely to be much greater because economic impact estimates for business activities in Indonesia are not available. The cost valuations associated with carbon emissions are likely to reach US \$ 2.8 billion (Tacconi, 2003). The recalculation of economic losses collected by Tacconi (2003) shows that Indonesia's forest fires have lost the US \$ 2.84 billion to the US \$ 4.86 billion, which includes losses assessed with money and losses not assessed with money. Such losses include fire-related damage such as timber, tree death, HTI, gardens, buildings, control costs and so on and the costs associated with haze such as health, tourism and transportation.

Major forest fires such as those occurring in 1997/98 have enormous impacts besides the loss of wood, non-timber and animal materials. The negative impact that has become a global issue is the smoke from burning that has crossed the border of the country. The rest of combustion besides causing fog also contaminates the air and increases greenhouse gases (Sawitwatch, Ed., 2015). Thick smoke from forest fires has a negative impact because it can interfere with public health, especially respiratory diseases. In addition, thick smoke also disrupts transportation, especially air transport besides land transportation, river, lake, and sea. When smoke hides the area under fire, many flight cases have to be postponed or cancelled. While land transportation, rivers, lakes and seas occur several cases of collisions or accidents that cause loss of life and property (Lapanoro & Boni Pahlanop, 2011).

According to FWI (2009), the loss due to disruption of public health, flight delays or cancellations, and land transportation accidents, and in water cannot be calculated precisely, but certainly large enough to burden the public and business. The impact of Indonesia's forest fire in the form of smoke has crossed the border of the country, especially Singapore, Brunei Darussalam, Malaysia and Thailand (Suwarna, Matangaran, & Harmawan, 2014). While the other impact is the loss of wildlife. Heavily burned forests will be difficult to recover because the soil structure is damaged, the loss of vegetation causes open land, making it easy to erode, and can no longer withstand flooding.

3.3 Forest Fires in Perceptions of Environmental Ethics Anthropocentrism (Shallow Environmental Ethics)

Environmental ethics is better understood as a critique of ethics that has been embraced by humans and become a director for humans in seeking the realization of environmental morale. The existence of

environmental ethics aims to change understanding and human behaviour towards the environment. There are several concepts about environmental ethics developed by his special man according to the perception of anthropocentrism. Each concept has different views in assessing the interrelation between man and his environment.

According to Yasser (2014), environmental ethics is based on the unity of existence against the anthropocentric modern paradigm. This perspective holds the belief that only human beings have inner value (intrinsic value) while the value that is in the instrumental nature is in relation to the human interest. On the other hand, he also criticized the view of ecocentrism that views nature as having its own value regardless of human interests. The oneness of being, *waḥdat al-wujūd* is an ontological argument of Muslim philosophers, including the flow of anthropocentrism. Anthropocentrism itself is a relatively new perspective in the Islamic philosophical tradition that bases itself on the creative synthesis and harmonization of all schools of environmental ethics philosophy.

In everyday life, the needs of the people around forests against the forest's natural resources will continue to grow along with the increase in human population and the increasing needs of life. While the development activities are undertaken in an effort to meet the needs of people living in the forest, but unfortunately the development is done not based on the principle of sustainable development. In a development model that still ignores the principle of sustainable development in the form of harmonization between economic, ecological, and social aspects is actually the source of the trigger degradation of the forest environment. Environmental degradation actually makes development lose its purpose. The degradation of this forest environment not only harms the inhabitants around the forest but also other living creatures in the forest.

The natural events of environmental degradation in the anthropocentric environmental ethic perspective actually represent a human failure in managing the forest environment. On the other hand, human beings are special beings because they are endowed with reason and mind by God Almighty as mentioned in Surah Al-Baqarah verse 30 of Holy Qur'an. Where it says "... and (remember) when your Lord said to the Angels: I want to make the Caliph on earth." Then they said: "Are you going to make people who spoil and shed blood there, while we praise You praise?" He said, "Truly, I know what you do not know."

In the verses of the Qur'an, it is implied that God created human beings as Caliph or leader on earth. Humans as caliphs are tasked with managing the earth and all of them including plants and animals as well as possible. Sunardi (2008) explains that according to the Qur'an, man as God's representative on earth has a vertical responsibility to God and horizontal responsibility in the form of individual, social, and ecological responsibility. While humans as the most special creatures on earth have the most important role in the occurrence of environmental degradation. Humans continue to develop science and technology as a means to achieve development but in the use of human beings are no longer controlled by science and technology but humans are controlled by science and technology. One reason is the neglect of human ethical values. Ethics is required for an assessment of the existing values

system in the society that is related to right or wrong. The occurrence of environmental degradation is closely related to the lack of human understanding of environmental ethics.

Anthropocentrism is the notion that only humans have intrinsic value whereas other components both living and non-living or ecosystems only have instrumental value (Froderman et al., 2009). This means that ecosystems outside of humans only serve as a tool for humans to meet the needs of life. According to Rahim (2008), this anthropocentric understands that nature is the source of human life has some basic values such as:

- humans apart from nature,
- prioritizing human rights to nature but not emphasizing human responsibility,
- prioritizing human feelings as a centre of concern,
- policies and management of natural resources for the benefit of human beings,
- the main norm is profit and loss,
- prioritize short-term plans,
- solving the ecological crisis through population regulation especially in the poor country,
- positively accepting economic growth.

Humans as managers of this universe will directly or indirectly protect the ecosystem because their lives depend on the ecosystem. But the concept of ecosystem protection is often overtaken by the interests of humans who want to take advantage of existing resources in the ecosystem. Anthropocentrism tends to produce exploitative activities carried out by humans thus enlarge the occurrence of environmental damage (Susilo, 2008). So anthropocentrism is the reason for the birth of biocentrism, ecocentrism, and ecofeminism arising from a disappointment against anthropocentrism that tends to damage the environment. These three understandings are clear evidence that there are still people who have good intentions to do environmental conservation.

It must be understood that this ethic is instrumentalists meaning the pattern of human relationship with nature that is nature as a tool of human interest. Humans care about nature, in order to ensure the needs of human life so that if nature is not used for the benefit of human life it will be ignored only. As a theological ethics on which to base moral considerations on the consequences of such actions for the benefit of man. A good policy and action in relation to the environment will be considered good if it has a beneficial impact on human interests. This ethic is also egoistic because it only prioritizes human interests because the interests of other living beings receive moral considerations are still for the benefit of humans, it is considered as shallow environmental ethics. Therefore, environmental crises are considered to occur due to human behaviour that is influenced by anthropocentric views. This perspective leads to exploitative, decisive and non-caring human behaviour patterns. Anything human can do to nature as far as not harm human interests. Human interests in terms of short-term.

3.4 Arguments in Anthropocentric

From the historical point of view, anthropocentrism thought can be seen from several approaches, as follows. From the understanding of Christianity, according to Genesis (1: 26-28), it is explained that

God gives full authority to man to exploit nature for the benefit of man. Then (Genesis 2: 9), it describes the disobedience of man to God, in which man always decides for himself which is good or not well done. In relation to the universe, it is considered good that is supporting its life as a human being so it must be maintained, otherwise the evil is what threatens human life so it must be eradicated. So the occurrence of environmental crisis is essential because humans intervene the environment for its sake. Furthermore, from the theory of the Great Chain of being where all life on earth is formed and is in a chain of the perfection of life, ranging from the simplest to the Supreme, that is God. Any lower creation is intended for the benefit of a higher creation. It is considered valid because it is the nature of life and the purpose of creation.

In the viewpoint of the Free and Rational Being, man is higher and honourable than any other created being because man is the only free and rational being. Therefore God created and provided everything on earth for the benefit of man. Man is able to communicate his thoughts with his fellow human beings through language. Man is allowed to use other non-rational beings to achieve the goal of human life, that is, to achieve a rational world order. According to WH's anthropocentric perspective and understanding. The Darling phrase is a defence of this theory. Murdy declares that all beings in this world exist and live as ends in themselves, so it is natural and natural that man considers himself superior to other beings. In order to achieve its goal humans must value the height of nature because the survival and welfare of human life depend on the quality, wholeness and stability of the entire ecosystem. The problem is excessive goals that are outside the limits of ecosystem tolerance itself. So according to Murdy, the environmental crisis is caused by excessive anthropocentric attachment. Furthermore, based on Darling's opinion, the anthropocentrism approach is not wrong because by placing humans in a more respectable position, humans are required to take special responsibility for the entire contents of the universe. What is wrong is the application of anthropocentrism that only sees the superiority of the position of man in charge of nature arbitrarily.

3.5 Attitude to Some Environmental Issues

Principles of environmental ethics are the most important part of environmental ethics which aimed at directing the implementation of environmental ethics to be appropriate in accordance with the objectives to be achieved. In the broader environment, environmental ethics is expected to be the basis for determining the sustainable development policy to be implemented. According Keraf (2005) in UNNES (2010) states that there are nine principles in environmental ethics such as (a) Respect for nature, (b) principle of responsibility or moral responsibility for nature, (c) cosmic solidarity or cosmic solidarity, (d) the principle of caring for nature, (e) the principle of no harm, (f) the principle of simple living and in harmony with nature. In addition, in this principle more emphasis on value, quality, the most effective way of life in using existing natural resources and energy, (g) the principle of justice. In the principle of justice is very different from the previous principles, (h) the principles of democracy, and (i) the principle of moral integrity.

3.6 Environmental Ethics of Anthropocentrism and Humans

In environmental and human ethics, the role of man is enormous. This is possible because humans have been equipped with the mind and mind by God to manage the environment and through the provision is also what makes humans began to develop concepts about the right environmental ethics for now, namely, biocentrism and ecocentrism. Concepts about environmental ethics arising from human fear of environmental conditions are increasingly damaged. Humans also need to apply the concept of environmental ethics (biocentrism and ecocentrism) in the real environment (Dahlan, 2011).

Efforts to apply environmental ethics including the principles in it is not easy because humans have also been having ethics that have existed from generation to generation about the concept of wrong and right. The applicable ethics is able to demonstrate its function as moral education in the social and ecosystem ecology. But not all ethics that already exist in the community is still relevant to the current situation. The ethics that was once said to be true at the moment can be said to be wrong. Whereas ethics not only plays a role for human life at this time but also for the next generation and if it is not relevant then, do not close possibility ethics application in the future will increasingly damage the environment.

In the case of forest fires of the 1980s, where rural communities burning garbage in their yard is a natural thing and not feared to pollute the air or cause respiratory distress for humans. At this moment, direct burning of the garbage can trigger various diseases and air pollution. This is because the burned garbage currently has a variety of types including plastic waste which in ancient times still use the plastic banana leaves or teak as a wrapper. In addition to the varied types of waste, converting the rural land into densely populated settlements will also trigger air pollution and more severe respiratory disturbances due to the increasingly narrow space of airborne garbage distribution.

In the environmental ethics as a gateway to provide improvements to the current and future environmental management processes must be applied early on to the younger generation. This is so that the ethics of the environment can be understood and applied in a sustainable manner. On the other hand, environmental ethics cannot be separated from education because of the environmental ethics there is also a learning process that teaches people something that is wrong and true. Formal education that starts from kindergarten to college can be a medium to provide an understanding of environmental ethics and its principles as an effort to manage the environment. Environmental ethics can also be provided through informal education such as at home, office, or other public facilities. The home as the smallest part of the human environment can be a major source of education on environmental ethics. We take the example when the mother teaches her child not to litter wherever she is, habits of children not to throw garbage in place will be carried away until he matures. Through ethical education from his mother, he knows that throwing garbage is wrong. These habits will prevent the occurrence of environmental damage more severe.

3.7 Environmental Ethics of Anthropocentrism in Environmental Management

Through environmental ethics embedded in every human, both through formal and non-formal education is expected to give birth to people who are aware of the sustainability of their environment. People who are aware and sensitive to the sustainability of their environment not only for their generation but future generations can be the driving force of environmental movements as a concrete step in the steps to manage the environment. Humans who have an understanding of environmental ethics and their principles will help to create a sustainable development (Hasanah & Nurhikmahyanti, 2014).

For a man who already has an understanding of environmental ethics then, when he is confronted with economic interests or ecological and social interests then he will be able to put these three interests in a proportional manner. The existence of inequality in the fulfilment of these three interests will precisely cause more complex problems in the future. With the application of environmental ethics in life humans will be more careful in acting because the environment as an object of development has an element of uncertainty to watch out for. In the Government of Indonesia, one of the efforts to minimize uncertainty in the environment is through mandatory AMDAL for development that has the potential to have major and important impacts. In Government Regulation Law no. 32 of 2009 also began to require each region to conduct SEA for development in an area in accordance with existing natural conditions associated with the carrying capacity of the existing so that environmental degradation is not getting worse.

In the implementation of AMDAL which has been established since 1997 through RI Law no. 23 of 1997 does not all work in accordance with the actual concept of AMDAL. Cases of environmental pollution and environmental degradation resulting from development are still common when AMDAL has been implemented in anticipation of the impact of development. This is because there is still dishonesty in carrying out monitoring and reporting on environmental management and monitoring efforts that should be done routinely as stated in UKL and UPL documents. However, the existence of individual interests or group interests on the economic aspects makes the monitoring and reporting are not done in accordance with the required.

Based on other cases related to the application of new technologies in the utilization of existing natural resources or in an effort to minimize the impact of large and important. Technology as a result of the development of human knowledge has weaknesses in its use in the field. Many facts show that the technology was chosen to utilize natural resources actually causes damage to the existing ecosystem or even cause social conflict. In the green revolution utilizing inorganic fertilizers, superior seeds, and insecticides as a technology to increase agricultural productivity precisely cause damage to ecosystems associated with the decline of soil fertility, the presence of harmful chemical substances in crops, and the loss of some local varieties (Ariwidodo et al., 2014). This indicates a technological failure as a tool used by humans to manage their environment related to resource utilization. The short-term goal to be

achieved in the form of increasing agricultural productivity actually gives long-term impacts of land degradation.

In this case, an understanding of environmental ethics along with its principles is expected to be able to make human beings wiser in managing natural and to notice that the human, abiotic and biotic components in the universe have a mutual relationship that must be maintained (Fikom et al., 2007). Environmental ethics teaches human beings moral values so as-as managers of the environment with the human mind and mind not only concerned with the interests of himself or his group but also the public interest. The UKL-UPL monitoring and reporting issues (Environmental Management Efforts and Environmental Monitoring Efforts) that are often not in line with the realities on the ground can be eliminated when the monitoring and reporting authorities have held the principles of environmental ethics. Environmental ethics has a role to awaken today's human beings in order to understand the concept of linkage and complexity in every action to the environment and provide guidance to future generations through education on environmental ethics and principles. The concept that can be brought by this environmental ethics can be a conservation effort to the current environment in order to maintain its sustainability.

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Conflict of Interest

This article is the result of our research, and this article is free from any association with any party. This article is about ours.

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