

THE STATE RESPONSIBILITY IN THE PREVENTION AND CONTROL OF AIR POLLUTION CAUSED BY FOREST FIRES IN INDONESIA

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ABSTRACT

Forests have the functions for the life of flora and fauna including the very important functions of supporting the environment and should be preserved. The provisions of Article 28 of the Constitution of the Republic of Indonesia and the Explanation of Article 2 paragraph a of Act No. 32 of 2009 mention that the state guarantees citizens' rights to good and healthy living environment. The article regulates the principle of the state responsibility, meaning that the occurrence of air pollution caused by forest fires is the state responsibility in terms of the prevention and mitigation. The problems that arise in Indonesia every year in the dry season are always the case of forest fires and it is more severe in 2015 that began from the beginning of September to the end of October. It cannot be extinguished so that the smoke results in air pollution exceeding the threshold as occurred in Sumatra, Borneo, and even spread up to the neighboring countries, such as Singapore and Malaysia. The forest fires result in air pollution and environmental damage that harm the country's economy, aircraft flight disruption, and social impacts, including human health that caused the death of 11 (eleven) people because of respiratory disorders. The Government has not made any regulations on pollution control and / or environmental damage as mandated in Article 56 of Act No. 32 of 2009. In order to combat forest fires every year and environmental damage, the Government through the Ministry of Forestry and Environment should immediately make regulations on the prevention and control of pollution, and they should tighten the license to the holder of forest tenure rights, and environmental risk analysis and environmental audit should be conducted regularly and openly as well as the implementation of the application of strict punishment to the perpetrators and the legal entities of Forest Tenure License holders that cause environmental damage.

Key words: State Responsibility, air pollution, forest fires

Introduction

Forest is a gift of God that can provide benefits to human beings and animals, including the development of the plant species, so forest as one of the earth's life support systems support the ecosystem that can absorb CO₂ and should be preserved.

Forests in Indonesia in the era from 1960 to 1980 are the widest and largest forest in the world in the third rank after Brazil, and researchers said that the forests in Indonesia are tropical forests which are the habitat for flora and fauna with their unmatched abundance compared to forests in other countries. Forests can certainly bring prosperity to the people, so the people who live around a forest in their everyday life always rely on forests, such as the lives of children in *Anak Dalam*¹ tribe who collect forest products and hunt animals for the needs of their family life

Forests in Indonesia tend to decrease. This case has begun since 1985, and then after the reform in 1997 Indonesia's forests suffer very serious damage because of several factors, such as the existence of illegal logging explicitly performed by unaccountable perpetrators. In addition, the fires are suspected to be performed deliberately by the people with investors behind them. Forest fires are annual events that always happen, and the most severe occurred from September to November 2015 in Kalimantan and Sumatra. The smoke pollution affected the air pollution that spread to Malaysia and Singapore.

During the period of thirty-five years, the facts in the field due to forest damage caused by illegal logging and fires are severe, so the forest area in Indonesia is now reduced up to approximately 10 million hectares.

The fires are caused by human activities and lightning strikes, but the ones that often occur during the dry season is the forest fires caused by human who deliberately burned forests that would be prepared to open farmland or plantations. It was sometimes not for personal gain, but under the command of the holders of HPH (forest tenure rights).

The fires that occurred from October to early November 2015 did not only have the impact on air pollution but it also resulted in loss and destruction of habitats and wildlife, destruction of ecology, the rising of greenhouse gas emissions resulting in climate

¹ Rd. Hasan Basri, Thesis, on The Social Change of Anak Dalam Tribe). [A Case Study of Government Intervention through the program of PKSMT in the residence of Bukit Tembesi, Jebak Village, Muara Tembesi sub-district, Batang Hari District) downloaded from <http://lib.ui.ac.id/opac/themes/green/detail>.

change, damaging health and human activities such as respiratory illness resulting in 15 people died, all schools were closed, harming economies of the state such as the cessation of the aircraft.

For almost a full month of the fires in Kalimantan and Sumatra, the central, provincial, district and city governments and the community who assisted the Indonesian National Army and Police, the activists of environment, and even from other countries such as Malaysia, Singapore, Australia, and Japan had earnestly tried to extinguish the forest fires. Furthermore, the Central Government, the President including the relevant ministries and BNPB (National Agency for Disaster Handling), had spent the budget for forest fire fighting reaching up to IDR 600 billion. The state had been present and responsible for dealing with forest fires, but the results were not satisfactory. Fortunately, because of the continuous rains by the time of rainy season, all the hotspots of forest fires have been extinguished itself.

With the extinction of all the hotspots of forest fires due to rain, it does not mean that the Government or the State have completed their responsibilities. There is still much work to be done, such as the restoration of forest destruction, restoration of health for citizens, law enforcement process against the perpetrators of forest fires resulting air pollution. There must be decisive actions to do in order that in the future the forest burning actions will not happen again.

Problems

From the description above, the problems discussed in this paper are as follows:

1. How is the the state responsibility in forest management for ecological balance?
2. How is the concept of the Future Prevention and Reduction of Air Pollution due to forest fires in Indonesia?

Discussion

1. *The state responsibility in forest management as an effort for ecological balance*

In Article 5, paragraph (1) of Act No. 41 of 1999, it states that forest, by its status, is divided into state forests and public forest. State Forest can be an indigenous forest, which is the state forest delegated to indigenous people for its management. The forests managed by the customary law community are included in the definition of state forests as a consequence of the right to control by the state as the power organization of the whole people at the highest level and the principles of the Unitary State of the Republic of Indonesia. In line with Article 33 of the 1945 Constitution as the constitutional basis, it requires that earth, water and natural resources contained therein shall be controlled by the state as much as possible for the prosperity of the people, so the forestry management always contains the soul and spirit of democracy, equitable and sustainable. Therefore, the implementation of forestry has to do with the principle of benefit and sustainable, democracy, justice, solidarity, openness and integration based on noble character and accountable.²

In the general explanation of Law No. 41 of 1999, the control of state forest does not mean that the state is the owner, but the state gives authority to the government in the management of state forests, and the government on behalf of the state is obliged to supervise the forests. Therefore, forests have 3 (three) functions, i.e.:

- a. Conservation function
- b. Protection function
- c. Production function

Among the three functions of conservation, protection and the production, the functions of conservation and protection are not well controlled, but the production function is mostly performed by people. Because the forests as the functions of conservation and protection have been deforested into plantations, rice fields, in Aceh Tamiang, there are approximately 42,500 hectares of protected forest in Tamiang that have changed into production forests as a result of the issuance of the Decree of the Minister of Forestry Number SK.865 / Menhut-II / 2014 dated September 29, 2014 on Forest and Water Conversion in Aceh Province. Now in Aceh Tamiang, there is only 625 hectares or 1.5 percent of protected forests.³ Furthermore, in the area of Garut, there are about 59,914 hectares of forest area that reached 170 thousand hectares switched their function. The most serious damage is in the production forest area covering an area of 36,530 hectares. It was followed by the damage of 19,122 hectares of protected forests and conservational forests reaching up to 4,263 hectares. Forest lands turned into plantation areas covering 10,022 hectares, consisting of 8,106 hectares of rainfed ricefield, 21,600 hectares of shrubs, 17,909 hectares of fields, 1,781 hectares of

² the General Explanation in Act No. 41 of 1999;

³ <http://aceh.tribunnews.com/2015/01/16/puluhan-ribu-hutan-lindung-berubah-fungsi>, downloaded on 23 November 2015, at 13.10.

residence and 565 hectares of grassland area. The changes in the forest function occurred in the Districts of Cilawu, Garut Kota, Samarang, Talegong, Cisewu, Pamulihan, Pakenjeng, Cihurip and Singajaya.⁴

Of the functions of conservation and protected forests in Indonesia, they have turned into production forests, paddy fields, farms, and the changes are clearly in the system of forest management which is not well ordered. The function change of conservation and protected forests into production forests, including agricultural and residential lands, must be adjusted to the RTRW (the spatial plans), at the level of national, provincial, and district/ city spatial planning as this will affect the ecological balance and ecosystems in a region.⁵

In accordance with the strategic plan of the Ministry of Forestry in the year of 2010- 2014, there is a priority to save the forests, i.e.:

1. Stabilization of forest area based on sustainable forest management,
2. Rehabilitation of forests and increasing the carrying capacity of DAS (watershed);
3. Forest protection and security,
4. Conservation of natural resources and ecosystems,
5. Revitalization of forests and forestry products,
6. Empowerment of communities around the forest,
7. Reduction and adaptation to climate change in the forestry sector, and
8. Forestry institutional strengthening

When the Eight (8) Plans of the Ministry of Forestry (now the Ministry of Environment and Forests) can be carried out, it can restore the function of forests as an ecosystem between humans and the free plants forming forests, animals and wild animals, free environmental nature, which each another interplay in plants, humans and other living things so that the ecological functions of ecosystems remain well-maintained.

Forest fires occur every year in Indonesia causing ecological damage, causing damage to biodiversity, flora and fauna, the death of wildlife forest dwellers as one of supports to the life on earth. Therefore, Indonesia as a tropical country with most of the region has a quite high rainfall, hilly and mountainous areas which are sensitive to the disturbance of water balance, should always give priority to forest areas to be saved and managed well. The provincial and district/ city governments with the forest areas over 30% (thirty percent) should not be freely reducing the forest area of the specified area. Therefore, the minimum area should not be used as a pretext for converting an existing forest, but as a state of alert awareness on the importance of forests to the quality of life. Instead, the provincial and regency / municipality governments with the forest area of less than 30% (thirty percent) need to increase its range.⁶

2. The future concept for the Prevention and Reduction of air pollution due to the forest fires in Indonesia

In every dry season in Indonesia, forest fires have always occurred, both large and small. Even in October - November 2015 in Kalimantan and Sumatra, forest fires occurred in a great scale causing smog and resulting in air pollution. Forest fires in the regions of Kalimantan and Sumatra result in smoke that spread to the Territory of Malaysia and Kuala Lumpur since the haze of forest fire was carried by the wind so that it affected on the activities of local community which was not only on health, but also have an impact on the economic sides, environment, flora and fauna and the decrease in forest area.

In the event of forest fires, some parties blamed the perpetrators, and some claimed that the perpetrators of forest fires were the people who would open the forest land to be used as farmland. On the other hand, there are some stating that the forest fire perpetrators were some people who were sent by the forest tenure holders. The forest fires in September-October had made Joko Widodo, the President on behalf of the Government and the state, go to the field with his ministers and governors to perform the measures of forest fire fighting. The President had ordered the Police to act firmly against the perpetrators of forest fires. For example, now the Police of the Republic of Indonesia is currently handling 244 cases of forest fires. The cases are investigated by several parties, namely:

1. the Police Criminal Investigation Department has conducted the investigation process for 4 cases, and then South Sumatra Police has handled 35 cases;
2. Riau Regional Police has handled the investigation of 69 cases;
3. Jambi Provincial Police has handled 21 cases,
4. Central Kalimantan Regional Police has handled the investigation of 63 cases;
5. West Kalimantan Regional Police has handled the investigation of 29 cases,

⁴<http://nasional.tempo.co/read/news/2010/03/03/058229465/puluhan-ribu-hektar-hutan-di-garut-beralih-fungsi>, downloaded on 23 November 2015 , at 14.00.

⁵ <http://www.mongabay.co.id/model-pengelolaan-hutan-lewat-konsep-kesatuan-pengelolaan-hutan-kph/> downloaded on 23 November 2015, at 14.23.

⁶Article 18 paragraph (2) of the Explanation in Act No. 41 of 1999;

6. South Sulawesi Regional Police has handled the investigation process of 11 cases;
7. East Kalimantan Police has handled the investigation of 12 cases.

The General Information Section of Public Relation Division of the Indonesian National Police, Police Commissioner Suharsono said, until now, the police have arrested 77 suspects of forest fires in Sumatra and Kalimantan; 72 suspects are individuals and five people are from corporations. Police can apply the provisions of the Prohibition of forest fires as stipulated in Article 50 paragraph (3) point d “any person is prohibited from burning forests”, the provisions of Article 87 paragraph (5) “anyone who through negligence violates the provisions of Article 50 paragraph 3 (d) is punishable by imprisonment of 15 (fifteen) years and a maximum fine of five (5) billions”. The articles clearly provide strict sanctions to the perpetrators of forest fires, but these penalties are doubted to provide a deterrent effect to the perpetrators as it turns out that forest fire, every year, is always the case in Kalimantan, Sumatra and Riau.

On the other hand, forest fire is actually allowed in Paragraph 1 that states “the customary law community who perform the burning of lands with total area of a maximum of 2 (two) hectares per household to plant local varieties shall inform the village head. The village head gives the notice referred to in paragraph (1) to the agency dealing with government affairs in the field of environmental protection and management of the districts / cities. However, the burning permits are not allowed to lands on the condition of below-normal rainfall, droughts and dry climat as stated in paragraph (3). Then, in article 69 paragraph (2) of Act No. 32 of 2009, it states "opening land by burning is allowed regarding the local wisdom of each area”.

The provisions of article 50 paragraph (3) letter (d) contradicts the Rule of Village Head, as well as the provisions of article 69 paragraph (2) of Law 32 of 2009. It makes it difficult for law enforcement process for the perpetrators of forest fires. Therefore, concerning the future concept in order to prevent forest fires, the government should conduct a review or perform harmonization of local regulations issued by the Provincial and Regency / City Government with village regulations relating to forest clearing by burning.

Of the forest fires, it does not only have an impact on air / water pollution alone but it has an impact on the ecological damage, loss and destruction of wildlife, climate change that enhances greenhouse gas emissions, and harming the country's economy such as the cessation of air flights.

The impact of air pollution caused by forest fires can be seen in several areas such as Sumatra, Riau, Kalimantan and Jambi that has exceeded the threshold of air pollution.

- In Jambi, the area of air pollution (ISPU), on Sunday (13/9), had reached 408 or was at a dangerous level.
- In the area of Palangkaraya, on Wednesday, the standard index of air pollutant (ISPU) showed the concentration of particulate pm 10 was more than 1,000 micrograms per cubic meter throughout the day, which was between 1095.93 micrograms per cubic meter and 1991.93 micrograms per cubic meter.
- In West Sumatra, the air quality in the global monitoring station of Kototabang, the level of aerosols concentration or dust particles (PM10) ranged from 384 to 442 micrograms per cubic meter; the air quality was highly unhealthy to dangerous.
- Land and forest fires in Indonesia regions at the moment clearly increase the production of CO₂ and carbon monoxide (CO). The threshold of CO in air is 35 thousand parts per billion (ppb) or 35 parts per million (ppm) for one hour or 9,000 ppb or 9 ppm for 8 hours. The data of MOPITT satellite owned by NASA showed that CO gas concentrations in Southern Sumatra reached 12 thousands ppb.

From some provinces, the air quality had exceeded the threshold of air pollution caused by forest fires, so when associated with the Decree of the Minister of Environment No. KEP-45 / MENLH / 10 / 1997, 17 Oktober 1997, the criteria of Air Quality seemed to exceed the threshold:

CATEGORY	RANGE	EXPLANATION
GOOD	0 – 50	Levels of air quality that do not have effect on the health of human or animal and no effect on plants, building or aesthetic value

MODERATE	51 – 100	Levels of air quality that do not have effect on the health of human or animal, but has effect on sensitive plants and aesthetic value
UNHEALTHY	101 – 199	Levels of air quality which are harmful to human or group of sensitive animals can damage plants and aesthetic value
HIGHLY UNHEALTHY	200 – 299	Levels of air quality that can damage the health of a number of exposed population segments
DANGEROUS	300 – 3000	Levels of air quality which are dangerous in general and damage the health of population seriously

From the table above, the environmental impact of Carbon monoxide (CO), when related to the air quality due to the smoke of forest fires that exceed the threshold of air pollution when inhaled into the lungs, will follow blood circulation and it will obstruct the oxygen and the entry of oxygen needed by human body. Therefore, when CO reacts with human blood metabolism, it will endanger human health. If it is found that human contacts with CO at high concentrations, it will cause death.⁷ To prevent air pollution in the environment, it is set the air quality standards that can be distinguished on the ambient air quality standards and emission air quality standards. Ambient air quality standard is the level limit permissible for substances or pollutants contained in the air, but do not damage living creatures such as plants or objects.⁸

The future concept of addressing the Prevention and Reduction of air pollution due to the forest fires in Indonesia includes prevention, reduction, and recovery and supervision of damage control and / or the environmental pollution related to forest and / or land fires.

Furthermore, the Governors / Regents / Mayors set the regional standard criteria of environmental damage. The regional standard criteria of environmental damage are provided with the same or more stringent provisions than the provisions of the national standard criteria of environmental damage.

Everyone is prohibited from conducting activities that result in pollution (Article 69 of Act No.32 of 2009) and everyone is prohibited from burning forests and/ or land as well as obliged to prevent the occurrence of damage and/ or pollution of the environment associated with forest and / or land fires (Article 50 paragraph 3 letter d). Any one who causes forest and / or land fires shall conduct environmental impact restoration and accompanied by a compensation due to environmental law known as polluter pays principle.

Conclusion

From the description above, it can be concluded that:

⁷ Srikandi fardiaz, Water and Air Pollutions, Penerbit Kanisius, Yogyakarta, 1992, page 99.

⁸ Wisnu Arya Wardhana, The Impacts of Environmental Pollution, Penerbit Andi, Yogyakarta, 1995, page 116

1. The state responsibility in forest management is an effort for the ecological balance. In fact, forest's functions as the functions of conservation and protection are not performed in an optimum way because the facts in the field show that the forests have been deforested, and more forests are optimized as production forests and no longer as a protected function;
2. The future concept of the Prevention and Reduction of air pollution due to the forest fires in Indonesia should have a harmonization in making regulations. The Regional Regulations must not contradict the higher laws. Regarding the air pollution caused by forest fires in Kalimantan, Act No. 41 of 1999 on article 50 paragraph (3) letter forbids to burn forests, while there are regional regulations in Kalimantan that allow to burn the forests to open the lands;

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