

THE PROBLEMATICS MITIGATION OF FOREST AND LAND FIRE DISTRICT
(KERHUTLA) IN POLICY PERSPECTIVE
(A CASE STUDY : KALIMANTAN AND SUMATRA IN PERIOD 2015-2019)

Mia Sarmiasih¹, Prawira Yudha Pratama²

¹ Department of Politics and Government, Faculty of Social and Politic, Universitas Gadjah Mada, Indonesia.

² Government Science, Faculty of Social and Politic, Universitas Mulawarman, Indonesia.

¹miasarmiasih96@gmail.com; ²prawirayudha96@gmail.com

DOI: <https://doi.org/10.18196/qpp.63113>

Article Info

Article history:

Received 07 Oct 2019

Revised 28 Oct 2019

Accepted 30 Oct 2019

Keywords:

Problems

*Mitigation, Forest
Fires, Public Policy*

ABSTRACT

Forests are the source of community life. In recent years the problem of natural disasters in forest fires (*Kerhutla*) in two provinces in Kalimantan and Sumatra has been very detrimental to the state and local communities. Disasters are events that can be social, economic and political. Based on the results of this study it can be concluded that forest fires compared to 2015 and 2019, the largest forest and land burning was in 2015, which is the largest forest and burning area of around 2.6 million hectares. Meanwhile, in 2019 forest and land fires will reach 328,722 hectares. On average, forest fires are caused by humans such as land clearing and illegal logging, land clearing usually occurs every year, but this time the forest fires are organized. they are irresponsible parties who deliberately ride local communities to intentionally commit forest fires. In this study, research is analyzed through state-centric and communal analysis and market-based dynamics. The result is when viewed from the state-centric that the State through its governmental institutions has issued several policies at the national level to the local level while these countries are invited to participate in international cooperation to reduce and minimize fires. If viewed from a communal analysis that forest fires are not free from the surrounding culture. This is evidenced by the tradition claimed every year to open land for settlements. Apart from illegal logging and when viewed from a Market Based analysis that forest fires are precisely caused by companies that play to their advantage. In the case of forest and land fires, there is actually an interest to be achieved from forest and land fires. There is some data that results that there is political competition by the local political elite so that the forest fires occur. Forest fires will continue if the government cannot provide strict laws to irresponsible parties. The state must be present as a tool to control its citizens so as not to burn forests and land that harms the country.

INTRODUCTION

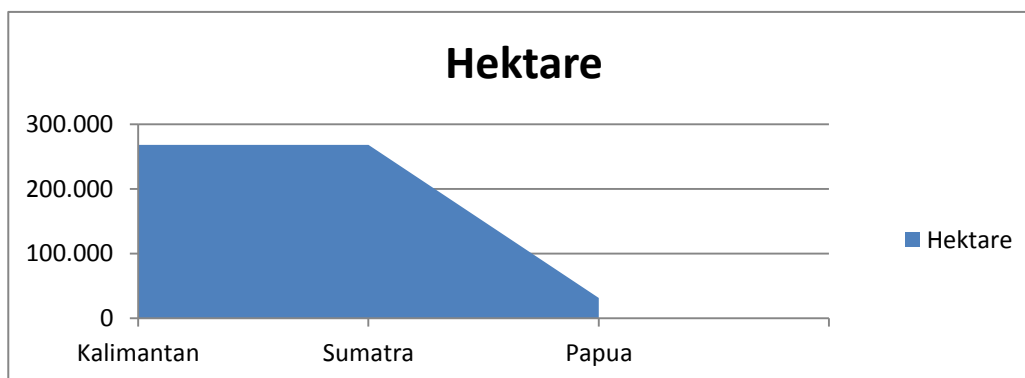
The forest is the source of people's lives. Indonesia several months now preoccupied with the issue of natural disasters forest fires (*Kerhutla*) in two provinces of Kalimantan and Sumatra. A disaster is an event that causes the social, economic and political. According to the laws of the Republic of Indonesia Number 24 of 2007 on Disaster Management explained that the disaster is an event or series of events that threaten and disrupt the lives and livelihood caused by both natural factors and / or

factors of non-natural and human factors so, resulting in casualties human life, environmental damage, loss of property, and the psychological impact.

The forest and land fire (*Kerhutla*) have become important processes that affect the Earth's surface and atmosphere for more than 350 million years and human society have coexisted with fire since its inception. However, the frequency tends to increase in recent decades, especially in tropical zones due to climate change and development. Based on Law No. 24 Year 2007 on Disaster Management, *karhutla* also included in the category of disaster because of its impact in the form of smog that can interfere with the activity and the health of surrounding communities. *Kerhutla* have caused loss of life, especially the firefighters and rescue teams. In addition, the effects of smoke and dust containing toxic gases also cause discomfort in breathing and can worsen the health of people with allergies and respiratory problems.

In 2015, Indonesia back to the attention of the world because of forest fires and land very badly about 2.6 million hectares. As Figure Graph 1.1. BNPB noted that burning peat land is greatest in Kalimantan with an area of 267 974 hectares. Central Kalimantan province accounted for the amount of peat burned most with 196 987 hectares. The peat fires were most intense and Kotawaringin Seruyan District East. Following Kalimantan, Sumatra is in the second position as the island most burning peat land, namely 267 974 hectares. Peatlands are engulfed in flames in South Sumatra reached 144 410 hectares. Ogan Ogan Ilir has the most hotspots in the region. Not only in Borneo and Sumatra, peat fires also occurred in Papua, which is an area of 31 214 hectares. Merauke province, Mappi, and Digul accounted for the largest fires in Papua. According to data BNPB, *karhutla* 2015 was not dominated peatlands.

Graph 1.1 Area of forest fires in Indonesia in 2015

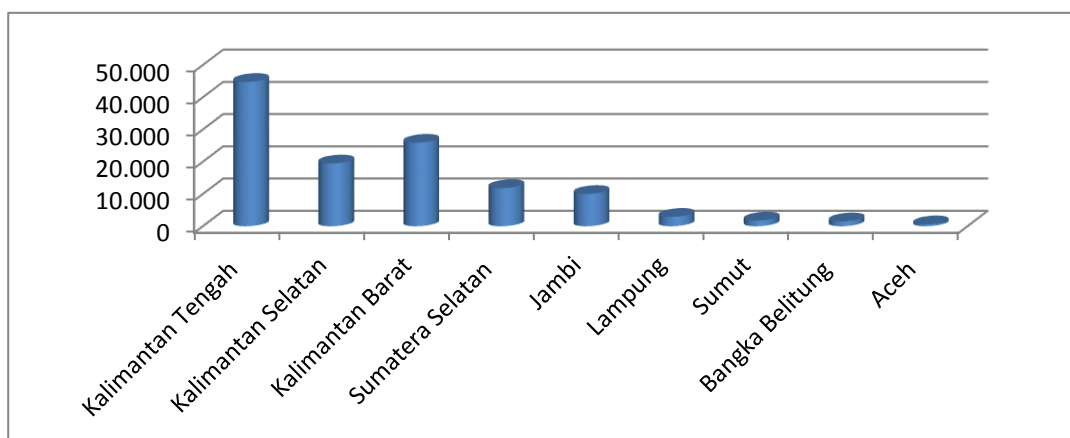


Sources: Primary data is processed author (2019)

One indicator is the concentration of particulate matter (PM10) in Palangkaraya (*Central Kalimantan*) indicates the concentration in 2015 ($> 2,000 \text{ ug} / \text{m}^3$) was higher than in 2002 and 2006. Peat fires are a serious problem for Indonesia, which produces damaging environmental effects and an estimated 1,748 million metric tons of CO₂ eq. emissions, approximately 5% of the CO₂ emissions of fossil fuels global annual yearly by 2015. In fact, Indonesia is considered as an exporter of air pollution ASEAN and also one of the largest emissions of greenhouse gases (GHG) world, after the industrialized countries such as China and the United States. Land and forest fires (*kerhutla*) are also included in the category of disaster because of its impact in the form of smog that can interfere with the activity and the health of surrounding communities.

In 2019 forest fires and land back into a global problem. As Figure Graph 1.2. Ministry of Environment and Forestry (KLHK) of the Republic of Indonesia, (2019) explains that extensive forest fires and land fires in Indonesia in 2019 328 722 hectares. From these data is divided into fires in Central Kalimantan recorded area of 44 769 hectares, West Kalimantan (Kalbar) (25,900 ha), and South Kalimantan (Kalimantan) (19 490 ha). Then, the 11 826 hectares in South Sumatra, Jambi 10.020 hectares, Lampung 2,913 hectares, 1,775 hectares of North Sumatra, Bangka Belitung 1,495 hectares, and 606 hectares of Aceh (Kompas.com - 2/10/2019, 10:19 pm).

Graph 1.2 Size Chart massive land and forest fires in Indonesia

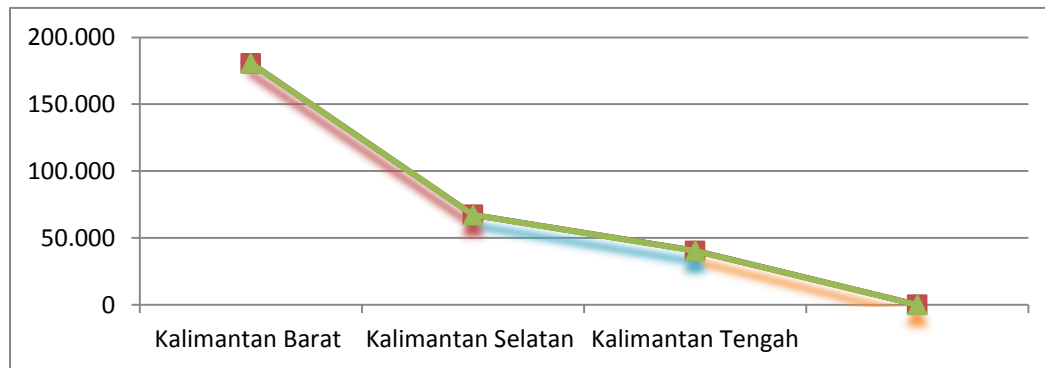


Sources: Primary data is processed author (2019)

As a result of forest fires and land (*kerhutla*) many victims suffering from Acute Respiratory Infections (ARI). Reports from the National Disaster Management Agency (BNPB), (2019) explains that until this September record with ARI in West Kalimantan reached 180 695 people. Meanwhile, with ARI in South Kalimantan

reached 67 293 people. In contrast to ISPA victims in Central Kalimantan amounted to 40 374 people. Seen as Figure Graph 1.3.

Graph 1.3 Victims The exposed data ISPA disease



Many victims of the disaster that led to the big question about how to mitigate disasters combating forest fires in Borneo? Are there factors that hinder the process of mitigation Disaster Management ?. Referring to RI LawNo. 24 of 2007 on Disaster Management to explain the principles of disaster management one of which must be performed a) rapid and precise, b) Priority. With berasaskan humanity (humanity), justice, equality in law and government, balance, harmony, and harmony, and order and the rule of law, in addition togetherness, conservation of the environment and science and technology. However, looking at the impact area and seemed to explain that the government is not optimal in combating the disaster. The issue of forest fires do not get serious attention from the government. It can be seen from the student solidarity actions occurring almost all cities in Indonesia in September 2019.

Today, the Government seemed to neglect in taking measures and strategic policy in an effort to rescue disaster victims. This incident reflects the government's lack of social responsibility in humanitarian work. These events indicate whether there is a political game deliberately played with the corporate government? Source of latest news published by (<https://tirto.id>, 17/09/2019)report reveals 16 September 2019, police menetakam 185 individual suspects in the case kerhutla. Meanwhile, the newly discovered four corporate suspects kerhutla related cases in Riau, West Kalimantan and Central Kalimantan. In contrast to reports that claim KLHK already sealed 42 companies and allegedly masterminding the burning of forests and land. The company's land all located in Jambi, Riau, South Sumatra, West Kalimantan and Central Kalimantan.

Meanwhile, the news released by the Ministry of Environment and Forests (LHK) said four foreign companies of origin Singapore and Malaysia sealed as the cause kerhutla including PT Hutan Ketapang Industry (origin) of Singapore in Ketapang, PT Sime Indo Agro (origin) Malaysia in Sanggau, PT Sawit Sukses Karya (origin) Malaysia in ketapan, and PT Rafi Kamajaya Abadi in Melawi. 4 Its location is in West Kalimantan and one in Riau from Malaysia (detik.com, 13.09.2019). Some of the data is explained more clearly in government and corporate relations in the process of political economy.

THEORETICAL FRAMEWORK AND REVIEW OF LITERATURE PREVIOUS: LAND AND FOREST FIRE

In English, the disaster called the disaster the word that comes from the merger of two ancient Greek word. Dus means "bad" and Aster means "star". Literally meaning of the word was the fall of the stars to the earth. The United Nations International Strategy for Disaster Reduction (UNISDR, 2009) mentions that the disaster is a serious disruption of the functioning of a community or a society involving widespread human, material losses and economic impact or the environment, which exceed the ability of a community or society to cope with using its own resources [eng: disaster is a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, the which exceeds the ability of the affected community or society to cope using its own resources]. In Indonesia, Law Number 24 Year 2007 on Disaster Management states the definition of disaster is an event or series of events that threaten and disrupt the lives and livelihood caused by both natural factors and / or factors of non-natural or human factors resulting in the emergence of human lives, damage environment, loss of property, and the psychological impact. Land and forest fires (karhutla) are also included in the category of disaster because of its impact in the form of smog that can interfere with the activity and the health of surrounding communities.

Throughout history there are some of the most destructive fires ever recorded in various parts of the world. On July 18, a major fire 64M in Rome for six days and seven nights. This disaster burned down four of the fourteen districts of Rome and seven others were severely damaged. The historian Tacitus said that Emperor Nero was held responsible for the incident related to racial issues at that time (Figure 1.1). In 1871 also recorded the worst forest fires in North American history that raged through northeast Wisconsin and Michigan, which is known as the Great Peshtigo. Furthermore, in Ontario, Canada unheard large kabakaran deadly on July 29, 1916.

The fire has destroyed nearly 800 square miles of forest and also MPorquis Junction City, Iroquois Falls, Kelso, Nushka, Matheson and Ramore. The smoke has covered the region for several weeks but almost no fire warning to society. Other historical fire is Black Friday Fire that occurred on January 13, 1939 in Victoria, Australia is also among the land and forest fires worst in the world. Damage is most felt in the mountainous areas and the Alpine region in the northeast and around the southwest coast. Major fires have occurred in China and Russia during May 1987 the so-called Black Dragon Fire, which had destroyed 3 million acres of forest reserves in China and 15 million are in Russia and left the extraordinary economic disaster.

In the 21st century, the phenomenon karhutla looks increasingly common not only in mountainous areas (slopes) but also in the area of wetlands (ramps). Some researchers argue that these conditions are related to climate change, reduction of forests and massive human activity (Bachelet et al., 2007; Pechony and Shindell, 2010; Yulianti et al., 2012; Sommer et al., 2014). Data USDA Forest Service, the location of a fire near the US border in the 1992- 2011 reported greater than or equal to 405 hectares. The states that have high scores fires covering most areas in the Great Lakes, southeast and western regions. On 25 September 2015 there were approximately 9.0 million burn local area, which is well above the annual average is 6.2 million acres (Brusentsev and Vroman, 2016). Australia in the southern hemisphere is also a country that is prone to fire, especially in eucalypts forest and meadows. CSIRO report shows the southeastern part of the highest risk in all seasons except winter and has a reputation as one of the fire-prone areas in the world (Hennessy, 2005). Increased temperatures exacerbated by El Niño in 2015 caused severe fires in Victoria and Tasmania (Australian BoM, 2015). In the equatorial region of Southeast Asia, transboundary smoke haze has been recorded since 1970. Most of them refer to the impact of the fires in the wetlands of Peninsular Malaysia, Sumatra, Indonesia and Borneo, including developments in 2015 (Yulianti et al., 2013; Ash ' aari and Badrunsham, 2014; Kaiman, 2015).

Figure 1.1 NASA satellite image showing the cover of smog on 27 September 2015



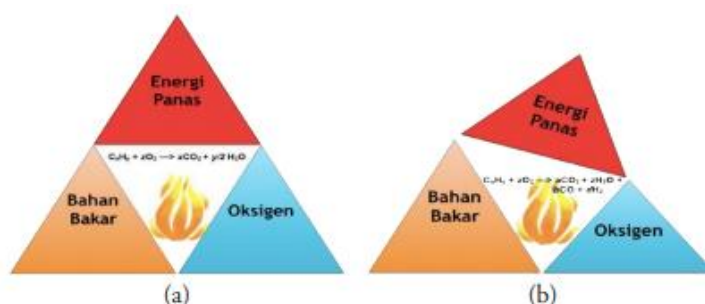
Source: NASA, (2019)

Figure 1.2 shows Teba smoke blanketed Sumatra and Borneo in 2015. It could be said that the incidence of fires and haze in Southeast Asia in 2015 is not a surprising phenomenon because it is almost always repeated every year since the worst fires in 1997/1998. Annual average number of fires based on satellite data at 60,000 per year, of which about 80% of fires only in Kalimantan (~ 41%) and Sumatra (~ 37%) based on the study Yulianti et al (2012). The impact resulted in the increase with ARI in fire-prone locations and either carbon monoxide emissions (CO) and dioxide (CO₂) (Yulianti 2011, Hayasaka et al., 2014). In fact, Indonesia is considered as an exporter of air pollution ASEAN and also one of the emitters of greenhouse gas (GHG) emissions of the world,

Typical forest fires

Various events karhutla State also called wildland fires (wildfires) which extends always preceded by the occurrence of a fire or burning (combustion), either deliberate (human-the caused) or unintentionally (naturalcaused). Important element that supports forming a complete combustion (complete combustion), namely fuel, oxygen and heat energy is called the fire triangle (Figure 1.3). The fuel can be in the form of solid, liquid and gas. The concentration of oxygen required in the combustion process is usually about 21%. While the heat source can be from a chemical reaction, mechanical process, the physical processes (friction), the decomposition of organic materials, solar radiation and electricity. The chemical reaction between these elements produce a flame or combustion process. Type the product of the combustion process (oxide) is dependent on its primary fuel, such as carbon (C) is burned will produce carbon dioxide (CO₂). On the condition of insufficient oxygen for fuel consumption and a lower temperature, then the process will be slowed down and continues with incomplete combustion (incomplete combustion). If C can not burn completely it will produce more toxic gases, namely carbon monoxide (CO).

Figure 1.3 fuel, oxygen and heat energy is called the fire triangle.



Based Permenaker No.04 / Men / 1980, karhutla including the fire class A because the media concerning solid objects except metal. Fire can spread by transferring heat energy in three different ways via conduction (direct contact), convection (flow of liquid and gas), and radiation (via electromagnetic waves). Meanwhile, depending on the type of vegetation burned, the fire can be classified as bushfires (bush), forest fires (forest), grass fires (grass) and fires (peat). Bushfires are typical fires in Australia. Forest fires are typical fires in the United States and Asia. Fire grasslands (savannas) is typical fires in South Africa and Australia. Peat fires are typical fires in Southeast Asia and Northern Europe. As for the types of fires based on where its spread by NRCan (Natural Resources Canada, 2016), which fires the canopy (crown), fire surface (surface) and underground fires (underground). In the coniferous plant species, canopy fires will occur more easily due to the high resin content on the parts of the tree. Fires burn the surface of the materials scattered on the surface of the forest floor, such as litter, dead branches and twigs that fall and undergrowth. Under high temperatures ($> 800^{\circ}\text{C}$) as the result researches Saharjo (2006), not only dead vegetation but also fresh burns with a relatively high rate of fire spread. Underground fire occurred on the type of soil with a thick layer of organic matter (peat). Often occur without any flame so it seemed only a puff of smoke on the surface layer (Smoldering). The spread of fire is slow with a low temperature of about $500 - 600^{\circ}\text{C}$ (Rein et al 2008).

The tropical island has warm and humid conditions most of the year. Spreading around the equator which lies between latitude 23.5° - 23.5° latitude. This led many researchers past who did not believe the tropics could experience severe fire because it is dominated by tropical rain forests and wetlands. According to previous research, karhutla in Indonesia recorded can be divided into three (3) phases. First, the period of ancient fires recorded thousands of years BC, especially in the era of the Pleistocene and Holocene (Goldammer and Seibert, 1989; Yulianto et al, 2004; Hope, 2005). After the fire, there has been no research to inform about catastrophic fires before the early 1980s, especially in Indonesia. Coinciding with the drought El Niño Southern Oscillation (ENSO), The second phase of a fire severe fires in 1982-1983, 1987, 1991, 1994, and 1997 to 1998 (Wooster et al, 2012; Dennis, 1999). The third phase occurred in the 21st century, where the frequency of repeated fires almost every year, especially in areas that have a tropical peatlands are vast (Son et al, 2008; Langner and Siegert, 2009; Page et al 2009, Yulianti et al, 2012).

The worst air pollution due to haze from fires in the history of Southeast Asia happened during the strongest El Niño in 1997-98 is listed as the worst incident in

recent decades. Dense fog caused the air pollution was allegedly majority coming from forest fires and peatland in Indonesia (Heil et al, 2006). Page et al (2002) estimated that reached 2,500 Mt of carbon released during a fire incident in 1997. Since then, Since then, fires in Indonesia has become an annual phenomenon and the worst happened back in 2014 (Sumatra) and 2015 (Sumatra and Kalimantan). shows that it is about 80% of the total fires in Indonesia for nearly the last decade occurred in Kalimantan and Sumatra (Yulianti & Hayasaka, 2013, Yulianti et al, 2013).

Causes and Effects of Fire

As mentioned above, the fire can burn not only the crown of the tree and the soil surface, but also in the basement, and this incident is likely to increase in the dry and warm climate conditions. Fires usually start from an accident, human carelessness, arson, temperature or radiant lightning. The effects of fire and wide enough and have a significant impact on the environment, economy, heritage and social fabric of rural areas as well as in a nearby town. The researchers believe that the impact of the fire is not all bad but it also has some benefits. For example, fire is useful in maintaining the balance in the ecosystem to kill harmful insects and diseased plants. An additional benefit is the increased exposure to sunlight on the surface of the ground, which can help in the regeneration of seedlings. However, if the fires are common in a bad location, so the impact will be more dominant compared to the benefits of good.

Causes Fire

Human activities (anthropogenic). Nearly 90% of all fires recorded lately caused by humans. Careless actions such as leaving a bonfire and throw cigarette butts carelessly karhutla lead to disaster. Intentional acts such as the burning of debris, trash and fireworks also cause other substantial fire. Land clearing activities with slash-and-burn method of clearing is also very easy to be widespread even cause fire to spread to the surrounding forest. This method is still widely practiced, especially in developing countries to lower costs in agriculture and fisheries activities. Action balloon explosion of gas and motor vehicle accidents can also lead to land and forest fires. Heat and sparks from accidental blast machine or a great potential to start fires if the engine is operating within or adjacent to the forest or bush areas respectively. Some people may also set fire to destroy the land, a house or other property. As a result, adjoining or adjacent land could be affected. Natural phenomena (naturogenik)(Tacconi & Ruchiat, 2006),

Approximately 10% of all land and forest fires are caused by natural factors. However, a fire that occurred as a result of natural causes vary from one region to another depending on the vegetation, weather, climate and topography. There are only two main natural causes that usually occur are lightning and volcanic eruptions. Each time lightning strikes, sparks are generated which can start fires. Types of lightning associated with forest fires are known as heat lightning. Having fewer voltage current but attacked repeatedly for a longer time. This event usually occurs in the area of Alaska (Farukh et al, 2012). Thus, fires are usually initiated by the continuous heat lightning that strikes rocks, trees, electric wires or anything else that might cause a fire. In the case of volcanic eruptions, hot magma in the earth's crust usually expelled as lava during volcanic eruptions. Hot lava then flows into the nearby fields or land to start a forest fire. Examples occur can be found in the surrounding forests on the slopes of Mount Merapi.

The impact of fire

Loss of ecosystems and biodiversity. Forest fires destroy habitat and the relationship of the diverse flora and fauna that led to the loss of ecosystems and biodiversity. These events can alter or kill plant life that supports the lives of thousands of wildlife, forcing the animals out of the area or even kill them. Smaller animals and rare, including birds, squirrels, insects, rabbits and snakes, especially at high risk of death, while some species of plants are burned to ashes. In addition, forest fires can even lead to the extinction of certain rare animals(Karyono, 2019),

Degradation. forest fires, especially in tropical forests is a major cause of forest degradation. Whenever a fire occurs, then the thousands of hectares of trees and vegetation cover missing on fire. The big trees are a source of reserve and carbon sinks as well as a water storage shrink every year akibat recurring fires. This resulted in poor air quality and reduced water storage in the earth.

The decline in air quality and air pollution. Trees and vegetation cover in the forest generally act as purifying the air we breathe by absorbing carbon dioxide and other greenhouse gases and other air impurities and produce oxygen. When trees and vegetation is burned, it means increased greenhouse gases in the atmosphere, causing global warming Furthermore, a large amount of smoke and dust emitted into the atmosphere, causing air pollution. The smoke made up of tiny particles (particulate matter) ash, partially consumed fuel, and liquid droplets. Other combustion products including invisible gases such as carbon monoxide, carbon dioxide, hydrocarbons, and

nitrogen oxides bit. Fire at night h bisa dangerous because of possible temperature inversions trap smoke close to the ground.

Soil degradation. Fire cause direct damage to the environment anah, by burning their constituents. As a result, the soil loses its fertility and the condition of the natural chemical and nutritional composition. These fires also kill beneficial soil microorganisms responsible for the decomposition of the soil and promotes soil microbial activity. The burning of trees and vegetation cover also leave the ground in open condition that makes it vulnerable to soil erosion.

Economic losses. Direct damage from forest fires on soil, wildlife, home, and almost everything in its path. Millions of money spent during and after the fires to put out, rebuild and rehabilitate what has been destroyed. When the fire spread to agricultural land, the plants and animals will be burned. The same losses suffered when the fire spread to the recreation area.

The economic losses associated with large forest fires and severe. Damage Watershed (DAS). Trees and vegetation cover acts as a protector of DAS since its inception. Every time they catch fire, natural protection system for surface water, streams, and rivers themselves may be affected.

The impact on the welfare and health of the forest manusia. Kebakaran have caused loss of life, especially the firefighters and rescue teams. In addition, the effects of smoke and dust containing toxic gases also cause discomfort in breathing and can worsen the health of people with allergies and respiratory problems. There are even some cases of death in the country bebrapa especially infants and the elderly as a result of exposure to smog pollution.

Theoretical Framework

1. State-Centrics

One of our key arguments then is that governance through hierarchical control imposed by the state is alive and well. In some arenas defence, security, monetary policy, policies continue to be made and implemented hierarchically by the state and consultation is non-existent or extremely limited. And when governments have chosen to govern in alternative ways, we argue that the state usually retains a preeminent position. On this basis we argue that states and governments remain critical players in governance and that governance is also about state–society relationships, whatever the governance arrangements in place. Governments and state

agencies are attempting to further boost their capacities by employing an expanding array of governance strategies. Governments can choose how they wish to govern and can exercise this choice without necessarily limiting their own powers. As Hans Andersen (2004) writes: Many researchers have claimed that the restructuring of governance is a general retreat of government and the state yet there is no reason to assume that the rise of governance necessarily leads to a decline of government the main reason for the rise in state capacity through restructuring is the fact that the state is now able to influence hitherto non-governmental spheres of social life through partnerships, i.e. an enlargement of state competencies see also (Keating, 2004; Pierre & Peters, 2000). Thus, by building close relationships with non-state actors through alternative governance arrangements, state leaders are attempting to enhance their capacity. How can this happen? One way of thinking about the relationship between state and non-state actors is in terms of a mutually beneficial exchange. By working with other actors the state can sometimes achieve more than it could by working on its own. The exact nature of these exchanges will vary depending on the type of governance mechanism being implemented.

2. Communal (Culture)

According to E.B. Tylor in his book entitled "Primitive culture" is what culture is all about complex which contains other knowledge, and habits that humans have as members of society. On a slightly different side, Koentjaningrat agreed From the results of research on human sustainability the behavior that is governed by the conduct that must be obtained by learning and all of them are arranged in life Public (Tacconi & Ruchiat, 2006). From some of these notions can be drawn that conclusion is the whole system, directing, acting, and human works to fulfill live by learning all arranged in people's lives. So, culture is a cultured human. Almost all human actions are war. Another opinion says, that the word culture is "As the development of the compound word cultivation, which means power and mind ". Therefore they distinguish between culture and culture. Cultur is the power of the mind in the form of creativity, intention, and taste. And culture is the result of such creativity, initiative, and taste (Joko Tri Prasetya, 2004).

Furthermore, according to Taylor (1999), culture is "a complex need which includes knowledge, faith, art, decency, law, customs, and ability and other habits learned by humans as members Public." According to Linton (1999) culture is "the whole of knowledge, attitudes, and behavior patterns that are habits that are owned and bequeathed by members of a certain society".

Based on the opinion above, it can be concluded that culture is a habit that is in a particular society. Culture is also a comprehensive lifestyle. Culture is complex, abstract, and broad. Many aspects of culture also determine communicative behavior. These socio-cultural elements are spread and include many human social activities. We can divide the human fruit (culture) into 2: (Joko Tri Prasetya, 2004: 31):

1. Material culture (born), which is tangible culture material, for example: houses, buildings, weapons, machinery, clothing and so on.
2. Immaterial culture (spiritual = inner), that is, culture, customs, language, science and so on.

3. Market-Based

Business competition can also be found in management books about the prohibition of Monopolistic practices and unfair competition. Accordingly general, business competition is a feud or rivalry between actors businesses that are independently trying to get consumers with offer good prices with good quality goods or services also. In the world of business competition known as dynamics the competition which means the changes that occur against a competition that occurs in companies in fighting over customers in certain periods. For that every company needs pay attention to the dynamics that occur so they can follow the competition so as not to experience defeat in a competition in the market (Yulianti & Hayasaka, 2013).

Yulianti et al, (2013) The unfair competition will give birth to a new problem. in the end, all methods were done incorrectly. the interests of the company take precedence without seeing who is the opponent, who is the friend. It could be that the case of forest fires that occurred so far is caused by unfair competition in the region.

RESEARCH METHODS

The method used in this research is descriptive and comparative methods. Through research, humans can use the result, in general, the data that has been obtained from the study can be used to understand, solve and anticipate problems. According Sugiyono (2014: 2) states that: "In general, the research method is defined as the scientific way to get data with a specific purpose and usefulness". This type of research used in this research is descriptive and comparative research. Sugiyono (2014: 53) says that the study is a descriptive study conducted to determine the existence of an independent variable, either a variable or more variables (variables that stand alone) without making comparisons or looking variable relationship with one another. While the comparative study by Sugiyono (2014: 54) is a study that compared the state of one

or more variables at two or more different samples, or two different times. The application of comparative research on this study is used to determine the ratio between the Disaster Mitigation forest fires (Karhutla) in the Years 2015-2019). By looking through the analysis of the dynamics of State-Centric Model, Market-Based, Model Communal.

DISCUSSION AND FINDINGS

Analysis Policy forest fires with the dynamics of state-centric models.

Large fires that hit parts of Indonesia, especially parts of Borneo and Sumatra have been recorded as an extraordinary occurrence in recent decades in Southeast Asia. Months of the year 2014 2015, and in 2019, Indonesia and its neighboring countries are covered by a dense smog with poisonous gases concentration is high. During the incident, the government and society is quite busy with extinction action, social action for disaster victims, stakeholders meetings and negotiations, even initiation regulatory and environmental issues related agreements. Domestic and foreign media were racing to preach the catastrophic fires and transboundary haze. This incident not only affects the local community but also has become a global issue. State-centric theory is a theory or approach international relations which says that the state is the main actor in the international system, regionalism and regionalisation In itself, the state-centric intention is centralizing the state as a major subject in the analysis.

If you see the forest fires issues in the years before 2019, namely 2014 and 2015, the incidence of a Policy and Post-Fire Agreement 2014/2015. It showed a shared commitment among all the good Stakeholders in national and internationally. This means that the State as the primary actor in disaster mitigation, has been able to affect every stakeholder to be obedient in every policy issued by the government. We know that the government is part of the State, Heywood (2014) says that the state is the main actor and through government institutions, the State is able to control each of what is in that State (People). Post-fire in 2014 and 2015, the State has issued several policies both national and local. And not only that the State Indonesia to collaborate with States that are in the United Nations. With the aim of minimizing the land and forest fires as well as take actions to parties who are not responsible. discussion:

1. International

Post large fires and other disasters 2014/2015 in Southeast Asia, America and Australia, the United Nations Framework Convention on Climate Change (UNFCCC) berinsiatif to renew global agreement in Paris, France on December 12, 2015. The agreement called the Paris Agreement with a focus on prevention of dangerous climate change by limiting global warming below 2 degrees Celsius. Approximately 194 members of the UNFCCC have signed the agreement, 117 of which have ratified it. Indonesia has signed the Paris Agreement on 22 April 2016 and ratified on 31 October 2016. The contribution of each country to ratify is should make efforts in order to reach destinations around the world is determined by all the individual countries and the so-called "defined contribution nationally ". Coinciding global agreement mentioned above, the United Nations also has an agenda that helps determine future global development framework that will succeed the post-2015 Millennium Development Goals (MDGs targets expire in 2015). This agenda is called Sustainable Development Goals (SDGs), officially known as Transforming Our World: Agenda 2030 for Sustainable Development with seventeen aspirations "Global Goals" with 169 targets emphasize antarsektor, where the issue of climate change to be one that is important to underline , SDGs set by the UN at the end of 2015 in New York which has been effective from January 2016 until December 2030 and there are about 193 UN member states are committed to implementing it.

Countries in Southeast Asia (ASEAN) also has a deal with issues related to the reduction of greenhouse gas emissions sources mainly from land and forest fires. In June 2002, ten ASEAN countries signed the "Agreement on Transboundary Haze Pollution". This latter agreement ratified by Indonesia at the end of 2014. This decision is based on the results of the plenary session of the Parliament on 16 September 2014 was attended by the Chairman and Members of Parliament, the Minister of Environment, Minister of Foreign Affairs, and Director of Design of the Ministry of Justice and Human Rights. Through this, many parties had hoped Indonesia is committed to address land and forest fires are also the annual environmental problems for neighboring countries in ASEAN.

2. National

The Indonesian government has had legislation governing the protection of forests and fields before the onset of severe karhutla 2015, some of them with Republic Act # 41 of 1999 on Forestry, Law Number 32 of 2009 on the Protection and Environmental Management, Law Law No. 39 of 2014 on Plantations, and Law

Number 24 Year 2007 on Disaster Management. Clearing Without Fuel (PLTB) referred to Law No. 39 Year 2014 Article 56 which states in part: Every business performers Plantation allowed to open and / or cultivate land by burning, and is obliged to have the systems, facilities, and infrastructure control fires and garden. Article 67 of Law No. 39 2014 but nothing in the Act No. 18 that read, To maintain the preservation of the environment, before obtaining permission in The Plantation, Plantation Company shall make a statement ability to provide facilities, infrastructure, and emergency response systems are adequate to cope with fires. Meanwhile there are also rules that describe clear land by burning is mentioned as local wisdom in Law No. 32 of 2009 on the elucidation of Article 69 paragraph (2) which states that local knowledge is referred to in this provision is burning land with total area of up to 2 hectares per household to plant different varieties of local and surrounded by firebreaks as a deterrent to invasion of fire to the surrounding area.

Post-fire related to El Niño which is very strong in 2015, Peat Restoration Agency (BRG) was established through Presidential Decree No. 1 in 2016. Its main task is to accelerate the recovery and restoration of peat hydrological functions damaged by fire and drainage around two million hectares to 2020 . the achievement of the target referred to be completed per year is determined as follows: 2016 by 30% (thirty per cent); 2017 amounted to 20% (twenty percent); In 2018 amounted to 20% (twenty percent); In 2019 amounted to 20% (twenty percent); and 2020 is 10% (ten percent). Central Kalimantan is one of the priority provinces targeted for restoration of peat by applying the principles of rewetting, revegetation and revitalitation society (3R) due to the negative impact big enough experienced by people over the years. In the same year the government issued Regulation No. 57 in 2016 about the change of Government Regulation No. 41 of 2014 on the Protection and Management of Peatlands Ecosystem. These regulations specify standard criteria peat ecosystem damage to the protected function is that there is artificial drainage, exposure of berpirit sediments and / or quartz and a reduction in area and / or volume of land cover. Meanwhile, the standard criteria of peatland damage to the cultivated area observed by the ground water level of more than 0.4 (zero point four) meters below the peat surface at the point of compliance.

Regulation of the Minister of Environment and Forestry No. 32 of 2016 regarding the control of forest fire issued as guidance in handling karhutla in Indonesia. According to this candy in paragraph 2 ranging section 51 mentioned that every business in the region as IUPHHKHA forest and timber-HTI prepare sarpras to support the activities of forest fire control. In addition, in the event of a crisis karhutla in districts, cities and provinces, coordination activities shall be intensified in

frequency through the Post Crisis local forest fires. Indonesian Police also issued Circular No. 5 of 2016 on Control karhutla stating that the offenses related to karhutla includes an act such as opening and / or cultivate land by burning, clearing forests, burning land, the negligence that resulted in karhutla and exceeding ambient air quality standards. Arsonists both individuals and corporations can be subject to imprisonment and fines under applicable regulations.

3. Province

Peat Restoration Agency (BRG), established by President Jokowi targeting peatland restoration goals in seven among other West Kalimantan, South Kalimantan, Central Kalimantan, South Sumatra, Jambi, Riau and Papua. Restoration activities in these provinces are expected to reduce the numbers karhutla in the future. In order to support the implementation of forest fire control needed Regional Regulation (Perda) at the provincial level. Provinces that already had local regulations on karhutla was Central Kalimantan, South Kalimantan, West Kalimantan and South Sumatra.

The Provincial Government of South Sumatra (South Sumatra) published Regulation No. 8 of 2016. Section 3 states the prohibition of any person or legal entity to burn the forest and / or land. While forest fires and / or land permitted for special purposes including fire control, pest control and plant and animal habitat coaching after meperoleh permit local officials. Any person who violates be locked up period of 6 (six) months or a maximum fine of 50 million.

Jambi provincial government published Regulation No. 2 of 2016. Article 5 states the prohibition of any person or legal entity to burn the forest and / or land. When would open the land required to report and obtain permission from the government of the nearby area. Any person or knowingly permit holder and / or due to negligence causing land and forest fires punishable by appropriate legislation.

About the draft regulation on land and forest fire control Riau Province recently initiated a plenary session held at DPRD Riau Province Year 2017. One of the things that will be discussed in these regulations are granting permission to the general public to burn a maximum area of 2 hectares. This is in accordance with Law No. 32 of 2009 Article 69 referred to in paragraph 2, there is a space for people to have permission to burn the land to the provisions that must be met by the people in accordance with their local wisdom among them is the type of soil, installation of barriers to restrict land were burned, and so forth are still under discussion. Revised draft regulation on West Kalimantan Regulation No. 6 of 1998 on the prevention and

control forest fires. This regulation contains the permissibility of the public burning of the field. It is deemed to be potential occurrence of forest fires due to burning by the public. There are several important points that are also deemed necessary revisions. Which incorporate a legal threat related activity forest and land fires in law and regulation as set out therein, ranging from a minimum jail sentence of six months up to a maximum of 15 years and a fine of Rp. 50,000 to Rp. 10,000,000,000. Then, on the burned land will be subject to the status quo as evidence of a crime and prohibited utilized by anyone until the legal decisions remain.

Revised draft Regional Regulation on Central Kalimantan Provincial Regulation No. 5 of 2003 on Forest Fire Control and or land. The draft regulations from the provincial government (Provincial) CK was tabled at the plenary meeting (Rapur) 2nd session period in 2017. Year Kalteng DRRD building Central Kalimantan provincial government plans to allow indigenous communities clear land by burning with a variety of provisions that are not catastrophic smog. Clearing land by burning will only be allowed for the cultivators of land for economic activities or the provision of food by the local wisdom that has been hereditary occurs in local communities of Central Kalimantan.

The law also represents one of the government's response to the High Court decision of Central Kalimantan Palangkaraya strengthen the District Court on the lawsuit citizen or CLS (Citizen Law Suit) Kalteng communities related to land and forest fires (karhutla) in 2015 ago. On March 22, 2017, the District Court ruled in favor of CLS Palangkaraya citizens with decision number 118 / Pdt.G / LH / 2016 / PN PLK. Among the petition were granted, among others, ordered President Jokowi as Defendant I, immediately makes some strains of Law 32/2009 on the Environment.

Analysis Policy forest fires with the dynamics of the model Communal.

Triggered forest fires can be caused by human activity are two things, intentionally dan unintentionally. Fire deliberately mostly triggered by the burning to clear land and burning due to the exploitation of natural resources. While unintentional fires caused more by omission for not turning off the fire, burning trash, throw away cigarette butts, and other negligence actions. In Indonesia, 99% of forest fires are caused by human activity, either intentionally or unintentionally. Only 1% of which occur naturally. Since the 1980s the opening of oil palm plantations and forest industry plants suspected to be the main cause.

Based on data from 2015, that National Disaster Management Agency (BNPB) to expose the motives and modus rampant forest fires in Sumatra, especially in Riau

Province. Apparently, as many as 99.9 percent of forest fire is an intentional act. In addition, the findings by the Riau Police and the Criminal Investigation Police, BNPB mention land and forest fires are the result of the burning of land pribdi economic reasons and are not controlled.

Sutopo (2015) said fee land clearing by burning only requires Rp 600-800 thousand per hectare, whereas without burning need Rp 3.4 million per hectare for land clearing. Not only that, the capital must be spent to pay the land owners of land burned was not how expensive. They just have to spend Rp 500-700 thousand to burn with an average land area of 10 hectares. Sutopo said, all of the issued capital landowners to burn the land was not worth the loss caused thereby. Losses caused by wildfires in February-April 2014 in Riau alone reached Rp 20 trillion. (Read:[Detection BNPB 237 Focal Point Fires Due Lists](#)).

Other motifs are found in the case of this land burning is the burning of land is usually carried out by organized groups. They are joined in the form of cooperatives to open new oil palm plantations were easy and cheap. This is done by exploiting the conflict between the authorities and the government. Sutopo also said the company did not recognize the land burned that those who burn the land. They also said he could not deal with fires in their area due to lack of equipment. Other motives of this land burning phenomenon, said Sutopo, also performed as it related to illegal logging and land clearing for settlements. "Usually the culprit came from North Sumatra, Riau due not expensive land in North Sumatra," said Sutopo. (Read:[Investigators Arrest KLHK Squatters Gunung Leuser National Park](#),

In addition to revealing the motive burning of land, Sutopo also revealed land and forest burning mode. Still based on the findings of the Riau Police and the Criminal Investigation Police, the area burned is usually far from the settlement because the area is weak supervision. In addition, Sutopo also stated, burning of land made by the cooperative also involves indigenous and urban village heads in Riau. In this partnership, acting headman issued a Certificate of Land (SKT) per 2 hectares to two people according to the number of people from a list of names of members of the cooperative. The funds obtained from Donor Burning forests and land are usually also obtain funds from donors. They will make proposals on global climate change, forests and the environment making it easy to obtain funds from donors.

In Indonesia, the subscription area of forest fire not only in Riau. At least nine other provinces, including Aceh, North Sumatra, Jambi, South Sumatra, West Kalimantan, South Kalimantan, Central Kalimantan, East Kalimantan and North Borneo.

Also in 2019, back in the fires there, and as usual the culprit almost certainly come from a party that is not responsible, and also the tradition of clearing annually naumn latest findings actually fires the land caused by the presence of political competition, the Coordinating Minister for Political, Legal and Security (Legal and Security Affairs) Wiranto held a special coordination meeting (Rakorsus) related to land and forest fires (Karhutla) in the Office of the coordinating Ministry for Politics, Central Jakarta, Friday (09/13/2019). The meeting was attended by Minister Siti Nurbaya KLHK Bakar, Head of the National Disaster Management Agency (BNPB) Doni Monardo, as well as regional heads and representatives of the security forces from Sumatra and Kalimantan were affected karhutla. In opening the meeting, Wiranto confessed to review directly to the affected locations karhutla. Wiranto admitted, there is a new mode that causes karhutla that that is due to political rivalry within the framework of the elections. With the new phenomenon of the former armed forces commander requested that it be dealt with firmly because it is very harmful to society. Wiranto also said 99 percent karhutla caused by human actions. Act like a traditional land clearing and burning forests before the rainy season is considered to be a people's habits. The former armed forces commander requested that it be dealt with firmly because it is very harmful to society. Wiranto also said 99 percent karhutla caused by human actions. Act like a traditional land clearing and burning forests before the rainy season is considered to be a people's habits. The former armed forces commander requested that it be dealt with firmly because it is very harmful to society. Wiranto also said 99 percent karhutla caused by human actions. Act like a traditional land clearing and burning forests before the rainy season is considered to be a people's habits.

Based on the above discussion that forest fires (Karthula) almost certainly the cause is human. Adanyanya actors who play up ketingngkat interests of local communities. When viewed from the side of the Communal Capital (Culture) that the forest fire can not be separated from their traditions or customs to carry out forest fires with the aim thatnothing to do with illegal logging and land clearing for settlements.

Land and Forest Fire Analysis with Market-Based dynamics models.

Head of Public Information Bureau Police Headquarters (2019) says that this time the police have set up a number of parties as a suspect in the case Forest fires and land in Sumatra and Kalimantan. The latest, five companies have been named as a suspect. One of them set Operational Director of PT Bumi Hijau Lestari as tersangka. PT Bumi Hijau Lestari unexpectedly burn the forest in South Sumatra. In addition to PT Bumi Hijau Lestari, four other suspects corporation PT Sumber

Sawit Sejahtera in Riau, PT Palmindo Gemilang Kencana in Central Kalimantan, PT SAP in West Kalimantan, and PT Inti Surya Throughout Utama (PT SISU) in West Kalimantan. As for suspect individuals in seven provinces karhutla occurrence, the police have set up 230 people. (Tempo.com Thursday, September 19, 2019 15:35 pm) According to Smith as Chief of Police Headquarters Public Information Bureau, explained that the accused individuals scattered in Riau as many as 47 people, 61 West Kalimantan, Central Kalimantan, 65 people, 27 people of South Sumatra, Jambi 14, South Kalimantan 4 people, and 12 suspects rest are scattered in several districts in Sumatra and Kalimantan. He also said that the police are also hunting 1 company again to immediately named as a suspect. Police earlier had also revealed a number of companies that have been named as suspects in the forest burners. They include PT Surya Argo Palma, PT Sumber Sawit Sejahtera, PT Palmindo Gemilang Kencana and PT Sinar Inti Throughout Enterprises. Smith also said it had increased the company PT Mananjung Hayak as a suspect.

CONCLUSION

Based on the results of this study it can be concluded that forest fires compared to 2015 and 2019, the largest forest and land burning was in 2015, which is the largest forest and burning area of around 2.6 million hectares. Meanwhile, in 2019 forest and land fires will reach 328,722 hectares. On average, forest fires are caused by humans such as land clearing and illegal logging, land clearing usually occurs every year, but this time the forest fires are organized. they are irresponsible parties who deliberately ride local communities to intentionally commit forest fires. In this study, research is analyzed through state-centric and communal analysis and market-based dynamics. The result is when viewed from the state-centric that the State through its governmental institutions has issued several policies at the national level to the local level while these countries are invited to participate in international cooperation to reduce and minimize fires. If viewed from a communal analysis that forest fires are not free from the surrounding culture. This is evidenced by the tradition claimed every year to open land for settlements. Apart from illegal logging and when viewed from a Market Based analysis that forest fires are precisely caused by companies that play to their advantage. In the case of forest and land fires, there is actually an interest to be achieved from forest and land fires. There is some data that results that there is political competition by the local political elite so that the forest fires occur. Forest fires will continue if the government cannot provide strict laws to irresponsible parties. The state must be present as a tool to control its citizens so as not to burn forests and land that harms the country.

REFERENCES

291

- Heywood, Andrew . (2014). Political. Jakarta: Student Library.
- Australian Bureau of Meteorology. (2015). Climate Annual Report 2015 www.bom.gov.au/climate/annual_sum/2015/ (accessed 20 January 2018)
- Ash'ari himself, ZH and Badrunsham, AS. (2014). Spatial and temporal analysis of forest fire in Malaysia using satellite ATSR measurement. *Bulletin of Environmental Science and Management*.
- Brusentsev, Vera and Wayne Vroman. (2016). "Wildfires in the United States: A primer." Urban Institute.
- Bachelet, D., Lenihan, JM, Neilson, RP. (2007). Wildfire and Global Climate Change - The Importance of Climate Change for the Future Wildfire Scenario in the Western United State. Report. PEW Center on Global Climate Change. US. Forest Service.
- Farukh, MA and H. Hayasaka, H. (2012). Active Forest Fire occurrences in Severe Lightning Years in Alaska, *Journal of Natural Disaster Science*, DOI:<http://dx.doi.org/10.2328/inds.33.71>,
- Goldammer, JG and Seibert, B. (1989). Natural rain forest fires in Eastern Borneo during the Pleistocene and Holocene. *Naturewissenschaften*, 76, 11, 518-520,
- Hayasaka H., Noguchi I., son of EI, Yulianti N. and Vadrevu K., (2014). Peat-fire-related air pollution in Central Kalimantan, Indonesia. *Environmental Pollution*, 195, pp.257-266.
- Hennessy, K., C. Lucas, N. Nicholls, J. Bathols, R. Suppiah and J. Ricketts, (2005). Climate change impacts on fire-weather in south-east Australia. Consultancy report for the New South Wales Greenhouse Office, Victorian Dept. of Sustainability and Environment, the ACT Government, Tasmanian Department of Primary Industries, Water and Environment and the Australian Greenhouse Office. CSIRO Marine and Atmospheric Research and the Australian Government Bureau of Meteorology.
- Heil, A., Langmann, B and Aldrian, E. (2006). Indonesian peat and vegetation fire emissions: study on the Influencing factors of large-scale smoke haze pollution using a regional atmospheric chemistry models. *Mitigation and Adaptation Strategies for Global Change*, 12, 113-133.
- Hope, G., Chokkalingam, U and Anwar, S. (2005). The stratigraphy and fire history of the Peatlands Kutai, Kalimantan, Indonesia. *Quaternary Research*, 64, 3, 407- 417
- Karyono, EP (2019). Political Disaster Mitigation forest fires. *Journal of Democracy and Autonomy*, 17 (4), 1-84
- Kaiman, J. (2015). Fires in Southeast Asia may be emitting more greenhouse gases than the entire US <http://www.latimes.com/world/asia/la-fg-great-haze-explainer-20151021-htmllstory.html> (accessed 11 September 2018)
-

Pechony, O., and DT Shindell, (2010) Driving forces of global wildfires over the past millennium and the forthcoming century. *Proc. Natl. Acad. Sci.*, 107, 19167-19170, doi: 10.1073 / pnas.1003669107.

Sommers, WT., Loehman, RA., Short, CCH. (2014). Wildland fire emissions, carbon, and climate: Science overview and knowledge needs. *Forest Ecology and Management* 317 (2014) 1-8.

Tacconi, L., & Ruchiat, Y. (2006). Livelihoods, fire and policy in eastern Indonesia. *Singapore Journal of Tropical Geography*, 27, 67-81. <https://doi.org/10.1111/j.1467-9493.2006.00240.x>

Wooster, MJ Perry, GLW and Zoumas, A. (2012). Fire, drought and El Niño relationship on Borneo (Southeast Asia) in the pre-MODIS era (1980-2000). *Biogeosciences*, 9, 1, 317-340

WEBSITE

<https://nasional.kompas.com/read/2019/09/23/17522721/hampir-satu-juta-orang-menderita-ispa-akibat-kebakaran-hutan-dan-lahan>

<https://tirto.id/penyebab-dan-akibat-kebakaran-hutan-di-kalimantan-hingga-sumatera-eic3>

<https://news.detik.com/berita/d-4705871/5-perusahaan-malaysia-dan-singapura-penyebab-karhutla-di-kalbar-riau-disegel>

<https://regional.kompas.com/read/2019/10/02/10192501/kebakaran-hutan-dan-lahan-di-sumbar-capai-309-hektare>

<https://www.cnnindonesia.com/nasional/20151030133801-20-88437/bnpb-kebakaran-hutan-2015-seluas-32-wilayah-dki-jakarta>
