



Wetland fire in community perspectives

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Abstract. *Community perception greatly affects the occurrence of fire because if the community has the intention to burn land, it will produce behavior to burn land. The intention of carrying out an action, including burning land, does not appear suddenly but must go through stages. Behavior Planned Theory states that behavior can be predicted by attitudes toward behavior, subjective norms, and perceived behavioral control that will change the intentions and behavior of individuals. The study design is qualitative with a descriptive approach, which is to review and analyze people's perceptions of fire events in the Ogan Ilir wetlands of South Sumatra. Study informants consist of expert informants and key informants. The expert informants in this study are the Regional Disaster Management Agency, the Subdistrict Head, and the Village Head. Expert informants are the community in the subdistrict at the study site. The results showed that attitudes towards behavior, subjective norms and perceptions of control had a positive effect on people's perceptions of land fires. Information related to the impact of land fires, social, and environmental support, and strong regulations related to burning sanctions can provide a positive perception so that it can prevent people from burning land.*

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INTRODUCTION

Wetland ecosystems play an important role in human life. Wetlands with their ability to absorb and store carbon, can be global climate controllers. But as population growth increases, wetland ecosystems have been threatened in recent years. Wetlands in Indonesia are experiencing deforestation and degradation due to changes in land function. The impact of heavy land fires can have widespread impacts, such as the destruction of hydrological institutions, changes in planting patterns, and the impact on the global climate (Rasyid 2014).

The problem of wetland fires has become an annual problem faced by Indonesia, especially in South Sumatra Province. According to South Sumatra Forestry Service, land and forest fires in 2017 amounted to 2.614 ha and in 2018 amounted to 3.925 ha. In 2019, there were land fires with an increasing quantity from the previous year (South Sumatra Forestry Service 2019). The incident land fires that occurred in South Sumatra devoured an area of 52.716 ha. Land fires in the South Sumatra region in 2019 began in April. Ogan Ilir is one of the regencies in South Sumatra with the most land fires every year. Data from Lestari *et al.* (2021) show that there were 317 hotspots that occurred in 10 districts in Ogan Ilir in 2019. This number was the highest compared to the previous year.

Wetland fires in Indonesia are caused by natural conditions and human activities in managing land. In the tropics, natural factors that cause fires due to the accumulation of foliage or litter, wind, rock friction, and heat in the dry season trigger fires (Arisanty *et al.* 2020). The study by Lestari *et al.* (2021) conducted in the Ogan Ilir area showed that the most frequently burned areas were peaty soil (53%) and scrub vegetation (43%). Wetland fires, particularly in peat soils are very dangerous and difficult to detect especially if they occur in the dry season (Nurhayati *et al.* 2020).

According to Indonesian National Board for Disaster Management, economic motives become the basis of human causes of burning land (Indonesian National Board for Disaster Management 2013). Many wetlands are converted into farms, plantations, and residential (Murdiyarso and Lebel 2007). Most people prefer to burn land to clear land because it is considered fast, economical, and easy (Febrie and Wibisono 2017). Siregar *et al.* (2021) also stated the same thing in their study.

The community's actions in burning land are formed because of the community's perception of the land fire itself. Perception is a person's way of interpreting the information received. A person's perception does not arise by itself but through processes and factors that influence that perception. This is what causes everyone to have a different interpretation, even though the object they see is the same (Qiong 2017). The community's perception of land fires will affect their behavior in burning land.

The perception that grows in the community is one of the determining factors in carrying out the act of burning, which will impact everyone who lives around the area where the fire occurred (Ariani and Bambang 2018). Perception in the community greatly affects the occurrence of fire because if the community has the intention to burn land, it will produce behavior to burn land. People have the perception that burning forests is the best way fast, and save costs. According to Hidayah and Haryani (2012), intention is a cognitive representation of a person's readiness to perform a behavior/action. A person's behavioral intentions are the determinants of whether or not a person will perform certain behaviors (Suwerda *et al.* 2019). The intention of carrying out an action, including burning land, does not appear suddenly but must go through stages. One theory used in studying the factors that influence human behavior is the Theory of Planned Behavior (TPB).

According to Ajzen, in theory, a behavior with high engagement requires confidence and evaluation to foster attitudes, subjective norms, and behavior control, with intention as a mediator that impacts a behavior (Ajzen 2005). Knowing how the community behaves towards land fires also provides an illustration of how perceptions related to land fires are formed in individual communities because from the perceptions that people have, they can determine what behavior will arise. Therefore, this study was conducted to analyze how the people of Ogan Ilir Regency perceive the occurrence of wetland fires that occur in the area. The results of this study are expected to be a reference for parties who are concerned about preventing wetland fires in finding solutions to reduce the causes of fires caused by humans, both in the Ogan Ilir Regency area and throughout Indonesia.

METHOD

This qualitative descriptive study was conducted to analyze public perceptions regarding wetland fires in Ogan Ilir Regency, South Sumatra based on the components of the Planned Behavior theory. This descriptive research is used to describe, record, analyze and interpret the conditions that currently occur or exist. The theory of planned behavior is devoted to a person's specific behavior and to all behavior in general. A person's intention to behave can be predicted by three things, namely attitude toward the behavior, subjective norm, and perceived behavior control (Wikamorys and Rochmach 2017).

The study location was selected based on the highest and lowest number of land fires in Ogan Ilir Regency based on data from the Regional Disaster Management Agency of Ogan Ilir Regency in 2019. Taken in 2019 because that year, there were fires with the most number of hotspots, and the area burned in the last three years. The selected research locations were the districts with the highest land fires (North Indralaya and Pemulutan Districts) and the sub-districts with the lowest land fires (Indralaya and South Indralaya District). The

informants in this study were people from four sub-districts in Ogan Ilir Regency, which consisted of key informants and expert informants. The selection of expert informants was carried out by purposive sampling and selected based on the categories of distance from residence to land, land ownership, and community professions as farmers or non-farmers. The key informants in this study consisted of the Regional Disaster Management Agency of Ogan Ilir Regency, the Head of the District, and the Head of the Village.

This type of study data consists of primary data obtained directly from study subjects using in-depth interviews and secondary data obtained from the Ogan Ilir Regional Disaster Management Agency. The validity test in this study used the triangulation method. This is done by comparing observational data with the results of interviews, comparing a person's circumstances and perspectives with various opinions and views of others, and comparing the results of interviews with the contents of related documents. Data interpretation is an activity that gains understanding and meaning from data obtained from informants or participants by bringing up concepts and theories (Rijali 2018). The data obtained will be analyzed using qualitative methods and presented in the form of an impressionist narrative. This study was conducted after obtaining a code of ethics and study permit from the Faculty of Public Health, Sriwijaya University No.367/UN9.FKM/TU.KKE/2021, on September 24th, 2021.

RESULT AND DISCUSSION

Attitudes Toward Behavior

Attitudes towards behavior are based on behavioral beliefs, which are a person's belief in positive or negative consequences that will be obtained when performing a behavior (salient outcome beliefs). According to Ajzen (2005), belief in these consequences can strengthen attitudes towards behavior when based on evaluations conducted by individuals.

“We already know that fogs can affect our health, it caused hard to breath, it's not good for pregnant woman and the children“ (AM).

“Our health is disrupted due to smoke, besides that, the ecosystem is disrupted too” (YIP).

“Smoke causes coughing and because of fog we can't see clearly” (AR).

“Our land is also burning because of the fire that is spreading, embers sticking in our house, the smoke makes it difficult for us to breathe” (MZ).

Based on the results of the interview, the community knows the impact or consequences that will be experienced in the event of a land fire. The majority of people say the impact they feel is more on their health. Smoke released at the time of fire makes the view limited and disturbs breathing causing Acute Respiratory Infection. Based on community information, they cleared the land by using pesticides to poison the grass, plowing, and manually with tools such as machetes or hoes.

“Only sprayed using pesticides, then cleaned with a grass machine”(YA).

“Oh..to open rice fields, we don't burn it, the processing is done by clearing the land using machetes and tractor engines” (MU).

Beliefs or behavioral beliefs are related to the subjective assessment of the surrounding world, including the benefits or disadvantages that individuals will gain if the individual performs or does not perform a behavior (Ramdhani 2011). Based on the results of the interview, the community has a reason not to burn land because the impact or consequences on individual health and activities become hampered. In line with study by Wikamorys and Rochmach, attitude variables towards behavior contribute the most to a patient's behavior for cataract surgery (Wikamorys and Rochmach 2017). When the individual wants a better and safer life, then the attitude displayed is a good and safe attitude (Hidayah and Haryani 2012). Therefore, people prefer not to burn land, considering the impact that will arise can harm themselves.

Subjective Norms

Subjective norms are defined as social pressure for individuals to do something or not. This norm is determined by a combination of one's beliefs about agreeing and disapproving of a person or group for an individual to behavior and an individual's motivation to abide by the rules (Wikamorys and Rochmach 2017). In this case, a person's perception of people's habits or the views of the surrounding community about land burning can affect a person's behavior in burning land.

"Not anymore (burning land habit) since 2018" (BY)

"Not anymore, they told us (the authorities) not to burn land" (MKS)

"No more burning land anymore, people already know the rules" (ASB)

"Not anymore. We are not able to do that, people already know the impact of burning land so they don't do that anymore. We usually hijacked and sprayed the land with poisons" (SM)

Based on the results of the study, it was found that the majority of the people in Ogan Ilir had not burned land. This leads to the growth of confidence among fellow communities not to burn land because there is no community that makes these bad habits.

In line with a study conducted by Wijayanti and Putri (2016), those substantive norms have an influence on intent to commit academic fraud. A person will have the intention to burn land if people around him also do this. The more subjective norms are accepted by society, the more it increases people's intention to do something or behave (Suprpto 2017). Concern is expressed by the community in the event of a land fire. This shows that the community also pays attention to the surrounding environment to foster motivation from within the community not to burn land. Subjective norms will greatly affect behavior if people have the belief that behavior change can benefit them.

Perceived Behavioral Control

Perception of behavioral control refers to an individual's perception of his or her ability to perform a particular behavior (Ajzen and Fishbein 2012). Perception of behavioral control is the function of control beliefs, which is the belief in factors that facilitate or complicate carrying out or realizing a behavior (Suprpto 2017).

"I know, the prohibition of burning land if it violates there is a criminal law that has regulated it" (AM)

"The regulations already exist from the local government, the village head always appeals" (AS)

"There's some rule, they don't allow us (burn land) because it can affects all (human and environment)" (DRJ)

Based on the results of the study, the majority of the public knows about the regulations that have been made by the government, both central and local. Existing regulations become one of the indicators that affect in the perception of control of people's behavior. In addition, people often follow the socialization carried out by the local government related to land fires.

"Often (the socialization), sometimes through the Village Head who conveys to the Head of the Hamlet, sometimes the police or TNI who give appeals to our homes" (FR).

"Yes we attend the socialization" (ARJ).

The control of behavior is determined by control belief or belief about the ability to control. This perception describes past experiences, the anticipation of future situations, and attitudes toward norms that influence society (Achmadi 2010). In this case, the community knows the picture if they do land burning that is affected by prison sentences and the impact caused by the land fires. In line with a study by Cruz *et al.* (2015), perception of behavioral control has a positive and significant effect on a person's intentions in performing a behavior. In addition, the perception of behavioral control is influenced by perceived power or perception that individuals have about how strongly control can affect eliciting behavior. Government regulations that regulate sanctions when burning land make the regulation has strong control over individuals in bringing up behavior not to burn land.

Intention

Behavioral intentions indicate an individual's decision to perform a particular behavior (Maskur *et al.* 2018). The concept of intention states that an individual's motivation for realizing a behavior is defined by the attitudes that influence that individual's behavior. The basis of an intention in the form of encouragement, intent, strings, and purpose to perform a behavior (Permatasari 2016). Based on Planned Behavior Theory, the intention is formed from three components, namely, attitudes toward behavior, subjective norms, and behavioral control (Ajzen 2005).

The intention to realize a behavior is measured using attitude toward the behavior, subjective norm, and perceived behavioral control (Volva and Djamaludin 2018). If the individual has the intention to perform a behavior, then the individual will tend to realize the behavior, but if the individual does not intend to perform the behavior, then he will be less likely to do the behavior.

“*The land is poisoned first, then cleaned*” (AM)

“*First of all, the land is slashed, hijacked, and sprayed with poison*” (LN)

Based on the results of interviews, people are used to clearing land by not burning land. This proves that the community already has the intention not to burn but they prefer to do land preparation by using tractors or poison. Intention has a role in directing a behavior or action, namely by linking the considerations believed and desired by the individual with a particular action (Pakpahan 2017). In this case, the background to the community's intention not to burn land is the impact that will be experienced, regulations that have burdensome sanctions, and communities in social environments that have not burned land. Based on these reasons, there is an intention from the community to do behavior not to burn land.

CONCLUSION

The results of the study show attitudes towards behavior, where people have reasons not to burn land by burning because of the impact or consequences on individual health and inhibiting activities. Subjective norms, are where people are aware that their social environment is no longer in the habit of burning land so that people will follow the habits that grow in their social environment. The perception of behavioral control is where the community knows the picture that if you burn land can be punished or sanctioned, so it depends on how strong the regulation is in regulating the community. These three components influence the community's intention to burn land or not. The intention possessed is directly proportional to the perception of the individual community. Information related to the impact of land fires, social, and environmental support, and strong regulations related to burning sanctions can provide a positive perception so that it can prevent people from burning land.

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