PREPAREDNESS OF SOCIETY TO CONFRONT OF FOREST FIRE AND PEATLAND IN SINGKAWANG CITY

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ABSTRACT: This research studies analysis the community and students in Singkawang City that have an impact on forest fires on peatlands, fire attacks because it increases the dry season that triggers forest fires so it is felt, this research was conducted to prevent dangerous material. Data was collected using a questionnaire method, through this questionnaire will be discussed the level of preparedness to deal with forest fires in the City of Singkawang. The method used in this research is descriptive quantitative. Quantitative samples using purposive random sampling techniques. The subject will be used as a sample of research in Singkawang City community and high school students in Singkawang City. The data to be obtained in this study will be published by descriptive by describing the results of the research obtained from the research questionnaire and then the data obtained will be classified by techniques that can compare each person so that from the groups that can be done this can be done to improve disaster fire preparedness.

Keywords: Disaster Education, Forest Fires, Peatlands, Preparedness

1. INTRODUCTION

Forest fires that occur on the island of Kalimantan often occur every year. Kalimantan had a total of 26,604 hectares of natural forest cover in 2013, (Portrait of the State of Forests for the Period 2000-2009; Analysis of ETM + 7 Satellite Images, 2014). The forest area includes conservation forest, protection forest and production forest. nationwide in the province is 9.18 million hectares, with 2.5 million hectares being active logging concessions. Around 1.7 million hectares of peatland are concentrated in Kapuas Hulu and Ketapang districts. Palm oil is the fastest growing plantation crop, followed by rubber. Around 1.8 million hectares of this province are plantations. The rapid growth of oil palm plantations is further doubtful given the existence of a Presidential Moratorium on the issuance of new permits for the clearing of peatlands and rainforests since 2011 [1] [2] [3] [4] [5] [6].

West Kalimantan has a diversity of plains, one of which is a large area of peat swamp forest with peat soils rich in organic type with the thickness of 1-20 m. Soil that is flooded by peat water is yellowish-brown with an orgasm soil type. Based on data in 2015, West Kalimantan peatlands experienced a fire, from the Modis Satellite Image (Tera DNA Aqua) data, there were 74 hotspots in West Kalimantan [2] [7] [8] [9] [10] [11] [12].

. Forest fires are a serious problem that until now has not been able to overcome properly and has increased every year. One of the causes is from land preparation activities such as cultivation to land conversion for agriculture, plantations and population growth and climate conditions that tend to get hotter (global warming).

Singkawang City is included in the high zone with (score 178) based on district/city disaster risk index [3] [13] [14] [15] [16] [17] [18]. The data confirms that the risk of disasters occurring in Singkawang City is classified as high so that to prevent losses and casualties caused by peat fires requires the readiness of the people living in the peatland area. Forest fires occurred in Pamilang sub-district, South Singkawang District on Thursday, July 26, 2018, which had burned approximately 26 hectares and on August 14 2018, in Naram sub-district, North Singkawang sub-district on the STKIP Singkawang street, there was also a peat forest fire which until now is the point of peat forest fires. the fire (hotspot) is still burning, there have been many attempts made by the firefighters of Singkawang City and assisted by the TNI/Polri, therefore appropriate handling is needed so that fire disasters can be prevented and not recur. So that necessary preparedness measures aimed at dealing with situations shortly after the disaster and recovery efforts to normal conditions. Efforts that can be made during this preparedness include preparing for first aid after a disaster occurs, how to coordinate in emergency response, and how to evacuate from the affected area to a safe area.

Society is the fabric of social relations, and society is always changing [4] [19] [20] [21] [22] [23] [24]. A group of individuals occupying a certain area originating from various tribes, races,

religions and interests must be equipment with the knowledge and attitude to deal with natural disasters properly to avoid harm to themselves or materially.

Preparedness must be owned by every individual and school community. In Government Regulation No. 21/2008 concerning the Implementation of Disaster Management, Article 20 states that the existence of development arrangements, infrastructure development, and building governance, shall apply the building technical standard rules stipulated by the authorized agencies/institutions. Experience shows that Indonesia has not been able to carry out disaster management in a professional, proportionate and holistic manner. Handling is limited to assisting in emergency response. For this reason, many things can be explored in disaster education in schools. This can start from the elementary school level to the high school level. Disaster education in primary and secondary schools helps children play an important role in saving lives and protecting community members [25] [26] [27] [28] [29] [30]. Providing education about disaster risk in the school curriculum is very helpful in building awareness of the issue in the community. The teacher's role is in pre-disaster, so that disaster education activities can be carried out in a planned, directed, structured and measurable manner [31] [32] [33] [34] [35] [36]. Students can be educated with the character of disaster response and the character of treating nature properly and correctly.

The objectives of learning about disaster education in schools are: (1) forming students' awareness of disaster from an early age with awareness of saving the environment and its consequences so that awareness of the environment is built and getting to know and know the natural phenomena that cause potential disasters [37] [38] [39] [40] [41] [42]. (2) creating a strong and sustainable foundation in disaster risk reduction (DRR) so that the realization of community communities aware of disasters, (3) educating students about the importance of disaster education early on so as to help rescue and preparedness in dealing with disasters, (4) instilling awareness in students concerning the psychological impact of people affected by disasters, (5) the introduction of areas that threaten areas that are very potential to be affected by disasters [43] [44] [45], (6) making the community able to glue social solidarity and a sense of shared social responsibility.

2. RESEARCH METHODS

This study is a Mixed Method, obtaining data through questionnaires and interviews, with mixed design unbalanced or concurrent embedded,

because quantitative data are used more dominantly, and the community and students as subjects in this study. The sampling technique uses purposive random sampling, with the consideration that the community and students who are in the area of North Singkawang range dam have a risk of being affected by the disaster of a forest fire. The sample of this study were 99 people, after calculations using the Slovin formula, then the data obtained will be analyzed using preparedness measures based on *LIPI_UNESCO/ISRD, 2006.*

3. RESULTS AND DISCUSSION
3.1 Result of Community Preparedness

Data Analysis in this research is to describe preparedness of community-facing disaster forest fire and peatland on Singkawang City. Analysis design is concurrent embedded and research done at the same time. Data is quantitatively analysis for primary and qualitative data as support.

Table 1. Preparedness of Community-Facing Disaster Forest Fire and Peatland

No	Index & Preparedness Value	Community Amount	(%)
1	Very Ready (80-100)	12	12,12
2	Ready (65-79)	24	24,24
3	Almost Ready (55-64)	19	19,19
4	Less Ready (40-54)	21	21,21
5	Not Ready (< 40)	23	23,23
	Total	99	100

Source: Results of data analysis, 2019

The table illustrates about the preparedness of community for coping forest fire and peatland on Singkawang City in 2018. Overall, there are two categories which have community amount most than other, first preparedness in the category "not ready" could be seen as much as (23,23%). On the other hand, the category "ready" have community count which the most approximately (24,24%). That would mean, the community on Singkawang city require action and education about preparedness for facing forest fire and peatland which can happen every year.

Toward know preparedness of community on Singkawang city, this research also looking for the behavior of the community, so that preparedness index community as much as 64 in the category "Almost Ready". Meanwhile, for effort treatment emergency for the community it shows in the formula of preparedness index is 62 in category "almost ready" therefore must be an attempt for increase behavior of community in the high-risk area, such as development disaster education and execute of socialization for the government who has authority. Warning system improved with providing infrastructure so that

thing can be prevented of damage, loss of material and victim of human.

3.2 Result of Student Preparedness

This study also took place at Senior High School 6 Singkawang, which in 2018 was effected by the catastrophic forest fire and scorched 1 classroom which certainly hampered the learning process and other activities. Disaster education for community and students are needed on the risk area, and also useful for increase preparedness. The table below will provide the data about the preparedness of students on Senior High School 6 Singkawang:

Table 2. Study Implementation Result on Senior High School 6 Students

No	Index & Preparedness Value	Students	(%)
1	Very Ready (80-100)	6	27,3
2	Ready (65-79)	8	36,4
3	Almost Ready (55-64)	5	22,7
4	Less Ready (40-54)	0	0,0
5	Not Ready (< 40)	3	13,6
	Jumlah	Total	100

Source: Results of data analysis, 2019

The table above shows the preparedness of students confront forest fire and peatland. The percentage of the preparedness student is "Ready" than the community on Singkawang City. It is showed as much as 63.7% whereas them only approximately 36,36% that is because the information which not accepted by the people. Meanwhile, the school with the education office has anticipated it by providing disaster learning, so that students have behaviour to action when it comes. Besides, there is the research about disaster and mitigation it was support curriculum and preparedness. In same time, the data in the table explain who is "Not Ready" that is 13,6% that means, students are can be able to handle situation nature nor disaster. The implementation of this research is to provide learning in class by given direct learning to students about preparedness in facing of forest fires and peatland. It has been happening on their school every year. That through learning that is learned to improve students abilities. This study also uses the questionnaire research which provide expected to enrich insights and that can be increase.

3.3 Interview Analysis Result

This research acquired qualitative data from people and stakeholders who have a policy on this sub-district. Based on the result of the interview from a few societies: First, Nurhayati/Lab Staff (25 Years Old) have to stay in Singkawang City close to 10 years. She said "potential disaster happens on North Singkawang

City that is forest fire and peatland. At September to November 2018, forest fire and peatland have happened during one week there are one of class on Senior High School 6 Singkawang has burn because of the fire from the forest through the school. That thing causes thick fog everywhere, for the rescue who involve and help the community is TNI and SAR so that fire in the classroom and area can fizzle.

Twice, Eko Febriyansyah/college (21 Years Old). He said, forest fire and peatland have happened since a few years ago however, in 2018 the situation is getting worse. Smoke rising from a forest fire is increasingly interfering of community activities, such as air pollution and visibility of blurred and intermittent. The fires at night are thought to have residents burning up to open up the land and because of the natural events, dry seasons has caused lacking rainfall and high rise in temperatures. The fire went on for a long time because of the fire that was difficult to tame.

Third, the community on behalf of Mr Sahiri is Head of the Setapuk sub-district Working Group explained that "The potential for forest fires that occurred in north Singkawang City in 2018, was fired worse than in previous years. He also said that every year there had been a fire disaster, so Village Chief Setapuk Kecil formed a working group. The working group was formed and had obtained permission from superiors so that the group dealing with the forest fire disaster already existed, and they also worked with BPBD (Regional Disaster Management Agency) which routinely patrols in North Singkawang, but these activities are rarely carried out if there are no signs - fire sign.

Three Sub-district which have good preparedness caused that area had the large forest and around of that location. Nevertheless, smoke from the forest is give many of damage, mainly on healthy of the people who lives in Singkawang City. Efforts have been made to extinguish the fire from society as well as the government, such as man-made rain is carried out by search and rescue, that thing must have cost a fortune but the fire was not really gone until it rained.

To sum up, we should to take care our environment for the better life. Certainly, lots of ways to make our live and climate back to normal alike, cutting back on plastic bag, using electricity wisely, cultivating trees for oxygen, reducing meal and many more. The ways have described, It can not be done instantly and requires a process, so it must be done as soon as possible for us to get used to it. The few things that will most impact of our climate and habitat is that the uses of plastics including reforestation by reason of nature as well as atmosphere it was influence the condition and situation of climate in the earth for now.

Subsequently, this research also shows the Map of fire hazard forest in Singkawang City below, explains that the level of a vulnerability is forest fire disaster mostly included in the high category. This is due to the many fire spots on peatland in the area North Singkawang. Overall, the hazard forest fire and peatland are show a broad spread especially in the northern Singkawang, which the smoke from the fire has clouded the city and disrupted the activity of people.

4. CONCLUSION

Conclusions in this study were the results of the study which explained that the preparedness community of facing forest fire and peatland had the category of "very ready and ready" as many as 36 people. While for the community of 63 people entered into "almost ready, less ready and not yet ready. The preparedness of defensive of the community, in the index community as much as 64 in the category "Almost Ready". Warning system improved with providing infrastructure so that thing can be prevented of damage, loss of material and victim of human. Students preparedness in facing forest fire disaster, where 19 students have high preparedness and 3 students have low preparedness. The situation also explained the readiness of students at SMAN 6 Singkawang to have high preparedness.

5. ACKNOWLEDGEMENTS

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