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The Role of the Government of Riau Provincial in Dealing with Forest and Land Fires

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Abstract

Riau is one of the provinces with a higher risk of forest and land fires in Indonesia. In this study, the researchers wanted to understand the role of the Government of Riau provincial in responding to the problems. The methodology used in this study was a descriptive qualitative research method using data collection techniques in the form of primary data from interviews and FGD as well as secondary data from previous studies and documents supporting this study. The findings of this study are the role of the Government of Riau provincial in reducing forest and land fires in Riau. This's reflected in a 90% reduction in burned area from 2016 to 2021. Not only does the Riau government work alone, but multiple parties are supporting the Riau government, namely the Indonesian Armed Forces, the Republic of Indonesia Police, the National Research and Innovation Agency, as well as other agencies that help reduce the risk of forest and land fires disasters in Riau.

Keywords: *Role; Forest and land fires; Riau Province*

Introduction

Riau is a province of Indonesia, its miles are positioned in a noticeably strategic line both at gift or destiny due to the fact it's miles positioned in both the local exchange line and global exchange line through inside Association for Southeast Asian Nations (ASEAN). Riau is positioned between 01˚05'00" of southern range to 02˚25'00" of northern range and 100˚00'00" to 105˚05'00" of Japanese longitude with

the subsequent border regions: North (Malaka Strait and North Sumatera Province); South (Jambi and West Sumatera Province); West (West Sumatera Province); East (Riau Island Province and Malaka Strait).

Riau Islands as Indonesia's thirty-second province in 2002 ought to be visible as a part of a broader fashion that noticed the advent of the latest subnational authorities entities seven provinces and 112 districts in total throughout the country after the end of the New Order era. Riau Province is a tropical location with most temperature via way of means of about 35,10C and minimal temperature via way of means of about 21,80° C. Riau location may be categorized as inflammable to flammable with an index of flaming index of about 0 - 330 (low - high). As a result, in each yr., there are constantly discovered numerous warm spots that motive catastrophic smog in entire regions of Riau Province. In a different case, the rainfall depth is about 1700 mm - 4000 mm/yr. Administratively, Riau Province includes 10 regencies and a pair of towns, which include 166 sub-districts and 1.846 villages. Riau's overall populace will increase to 5.877.887 human beings from 5.867.358 human beings in the year 2014. Compared to the year 2013, it will increase via way of means of 45.999 human beings (https://www.riau.go.id).

Figure 1. Map of Riau Province.
Sources: (https://www.apeopleloved.com/riau-malay-prayer-journey/)

Riau's peatlands, cover an area of approximately ±4.9 million hectares, equivalent to approximately 54.44% of Riau's land area, and consist of freshwater peat marshes and tidal flat peatlands. consists of a Swamp. Most of them are concentrated in the eastern region. This low-lying area is prone to flooding and inundation, which is common.

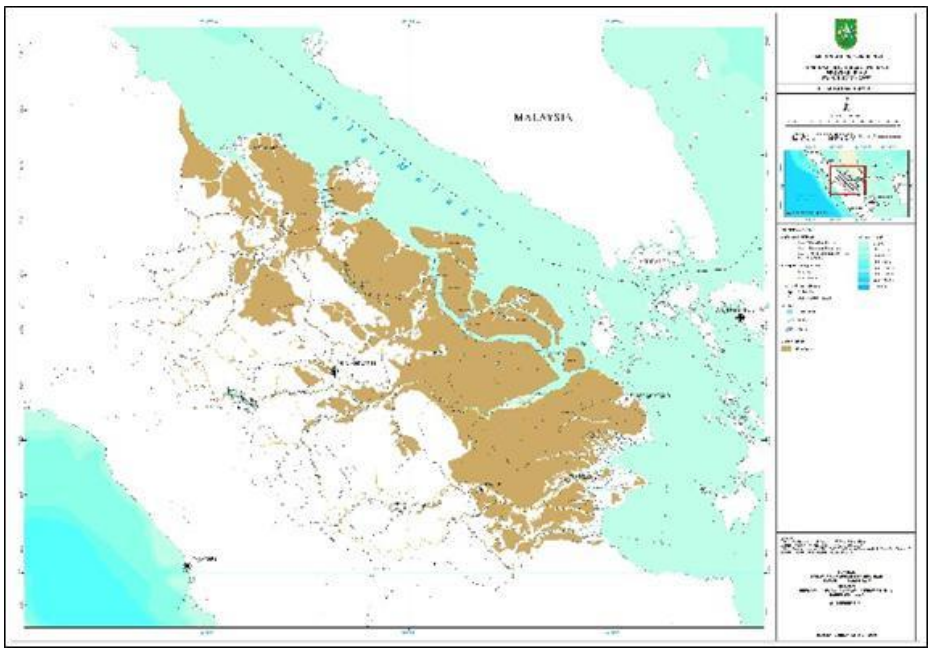

Figure 2. Peatland Map of Riau Province
Sources: Regional Development Planning Agency, Research and Development Expose of Riau Province 2021.

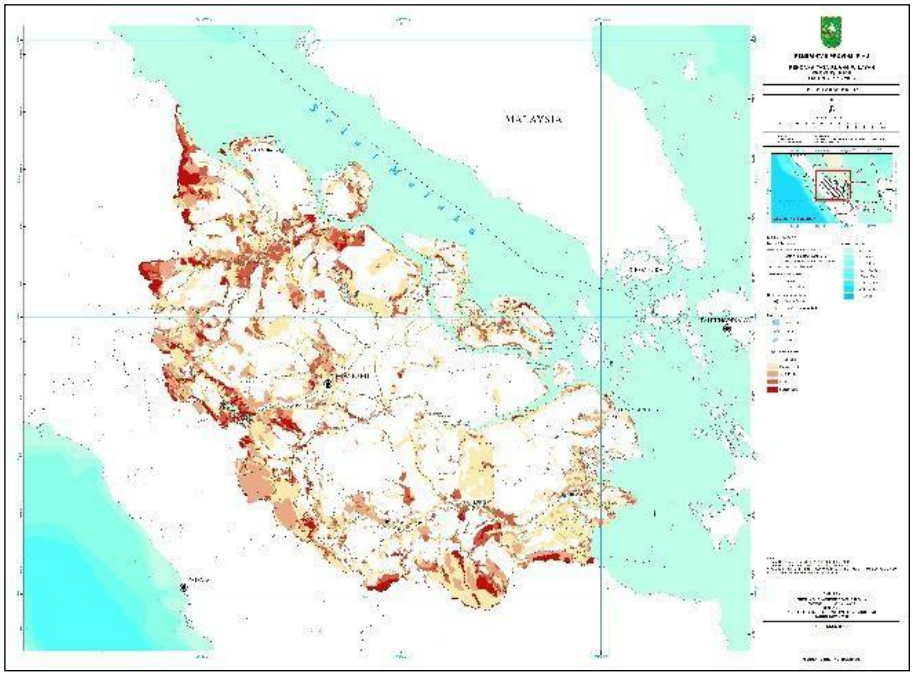

Figure 3. Critical Land map of Riau Province

Sources: Regional Development Planning Agency, Research and Development Expose of Riau Province 2021.

Last year, 2019, Riau's forest and land fire incidents captured public and international attention. The 2019 Riau wildfires weren't the worst, especially since the 1997, 2004, 2014, and 2015 wildfires did more damage than his 2019 fire. All political parties agree that forest and land fires are unconstitutional in a democratic country, and the 1945 constitution of the Republic of Indonesia states that its land, water, and natural resources are under government control. For what people need for prosperity. The essence of this constitutional statement is that the state, as a state host, is committed to the best stewardship of its natural wealth, including protecting forests from forest and land fires.

Forest and land fires are also seen as a result of the government's failure to care for their citizens. Governments themselves recognize that wildfires are a multifaceted problem that requires cross-sectoral coordination to tackle. In this regard, the Government has established a coordination strategy with a bureaucratic approach through the Presidential Decree No. 16 of 2011 on Improving Forest and Land Fire Management. Forests and lands were the new fire (Budiningsih, 2017).

Forest and land fires in Riau continue every year as if the government failed to prevent forest and land fires. From another perspective, governments should be able to contain forest and land fires. Many regulations are politically crafted but very difficult to enforce. It seems that the device is not vigilant enough in these areas, despite the high number of forest fires. The new government is in a hurry to act, appearing panicked even when fires break out, but calming down when the fires are brought under control. Alert levels remain high, at least according to the hotspot index of satellite monitoring results. Communication in wildfire prevention and response is lacking due to uncoordinated human resource quality between states and regions.

Table 1. Hazard Class Level of Forest and Land Fire

No,	Districts	Hazard				
		Spacious (Ha)				Class Level
		Low	Currently	High	Total	
A	**Districts/Kebupaten**					
1	Bengkalis	57.315	171.591	616.675	845.581	High
2	Indragiri Hilir	157.928	313.147	851.696	1.322.771	High
3	Indragiri Hulu	116.878	389.537	320.388	826.803	High
4	Kampar	277.872	377.525	363.014	1.018.411	High
5	Kepulauan Meranti	42.754	120.907	197.248	360.909	High
6	Kuantan Singingi	94.124	228.313	231.903	554.340	High
7	Pelalawan	57.240	312.506	936.606	1.306.352	High
8	Rokan Hilir	24.547	229.779	677.601	931.927	High
9	Rokan Hulu	132.932	446.022	186.980	765.934	High
10	Siak	32.756	242.593	505.881	781.230	High
B	**Districts/Kota**					
11	Kota Dumai	12.345	32.386	153.259	197.990	High
12	Kota Pekanbaru	38.602	15.331	9.904	63.837	High
	Riau Provice	**1.045.293**	**2.879.637**	**5.051.155**	**8.976.085**	**High**

Sources: Disaster Risk Assessment Document, BPBD Riau Province 2021

Theoretical Review

Role and Theory

Role theory emphasizes the nature of individuals as social actors who study their behavior according to their work environment and position in society. Role theory attempts to describe the interactions between individuals within an organization, focusing on the roles they play.

Everywhere there is a role you play in life. Roles such as spouses, parents, charitable volunteers, engineers, and managers play important roles in families, communities, and work. These roles also give individuals a sense of who they are and who they become. Within an organization, everyone ends up being an employee, subordinate, manager, department member, customer, supplier, project team member, and so on. These roles may be performed separately (e.g., as a manager in the morning, and as a subordinate in the afternoon) or concurrently (e.g., as a member of the product development team, or as a departmental representative). It will be executed. manager. Neither individuals nor organizations seem able to function without roles in which structured interdependencies organize and create a network of interlocking roles and responsibilities.

According to Soekanto (2009), the meaning of the role is a work that is carried out dynamically according to the status or position it carries. These statuses and positions correspond to social order, even in the order of action they are all adapted to different roles.

Theory of Mitigation

The act of moderating something or the state of moderation: The process or consequence of making something less serious, dangerous, painful, harsh, or harmful the mitigation of the suffering of punishment. It was a time when the Cold War eased, including some renegotiations of the (https://www.merriam-webster.com).

Mitigation is all the efforts and activities undertaken to reduce and minimize the impact of a disaster, including physical preparedness, vigilance, and mobilization capacity readiness and readiness (Depdagri, 2003). Mitigation is an action taken to reduce or minimize the impact of a disaster on society (DKP, 2004). Mitigation is any effort or activity aimed at reducing the impact of a natural or man-made disaster on a nation or society (Carter, 1991).

- *Non-Structural Mitigation*

Non-structural measures tend to be more sustainable because they involve active community participation. National and regional policies should prioritize nonstructural alternatives with lower costs and fewer environmental side effects, and implement structural measures only as a last resort. (Shrestha, 2008).

Non-structural mitigation is an effort to reduce the impact of disasters through policy regulations. For example, the DM Law or the Disaster Management Law, making city spatial plans, or other activities that are useful for strengthening the capacity of citizens (https://www.gramedia.com).

- *Structural Mitigation*

The first approach to mitigating flash floods is to reduce the likelihood of landslides and debris flows and to create landslide embankments. This means taking steps to reduce the likelihood of slope failure. Measures to reduce the gradient error can be divided into three categories: Controls, Constraints, and Others.

Structural measures are physical structures to reduce or avoid the potential effects of hazards or the application of engineering practices or techniques to achieve resilience and resistance to hazards of structures or systems. Common structural measures to reduce disaster risk are dams, flood protection, breakwaters, seismic structures, and shelters.

Structural mitigation is the act of physical change or protection from disasters and hazards. An example of structural mitigation is when a family strengthens their house to make it more wind or earthquake-resistant. In addition, other examples of structural mitigation measures include creating a sandbag barrier around the house in case of potential flooding. In general, structural mitigation is the direct action that people take, build or move to better protect life and property.

Community-Based Disaster Risk Reduction

Community-Based Disaster Risk Reduction is a series of efforts to reduce disaster risk carried out in the face of disaster threats and or the application of physical and non-physical efforts carried out by community members in an actively participatory and organized manner (Direktorat Jenderal Cipta Karya, 2013). Community-Based Disaster Risk Reduction is a working perspective and methodology on disaster management that evolves and is based on communities (Indonesian Constitution No.24/ 2007) Community-Based Disaster Risk Reduction is a disaster risk management process that actively involves at-risk communities to assess, analyze, and manage, monitor and evaluate disaster risk in order to reduce their vulnerabilities and increase their capacity (Haghebaert, 2012).

Disaster Risk Reduction

According to UNISDR (2010), disaster risk reduction concepts and practices analyze the causative factors of disasters, such as reducing exposure to disasters, reducing vulnerability, prudent environmental management, and enhancing preparedness for adverse events. It is implemented through a systematic effort to address this. This is to his observations of Twig (2009), who defines disaster risk reduction as a systematic approach to identifying, assessing, and reducing disaster risk. Disaster risk reduction aims to reduce socio-economic vulnerability to disasters and to manage environmental and other hazards that cause disasters. Another objective of the disaster risk reduction efforts implemented by Widana (2019) is to reduce the damage caused by natural disaster threats such as earthquakes, floods, droughts, and cyclones through preventive measures. Disasters often follow natural disasters. The severity of a disaster depends on the extent to which the hazard impacts society and the environment. The magnitude of the impact, in turn, depends on the choices we make about our lives and our environment.

Methods

In the research entitled The Role of Government of Riau Provincial in Dealing with Forest and Land Fires, researchers used a writing method that used descriptive qualitative writing techniques. Descriptive qualitative writing techniques are writing techniques that use qualitative data presented descriptively. Qualitative data using primary and secondary data. Researchers obtained primary data through interviews with a competent caregiver for domestic work at the Indonesia Defense University and the Focus Group Discussion FGD. Meanwhile, in procuring secondary data, the researcher leveraged journals from previous studies, her research-related websites, and documents supporting that study.

This topic selection technique uses targeted selection. This means that selected resource personnel or informants meet established criteria and are directly involved in implementing disaster management. Informants involved in this study were provided by various ministries and agencies involved in implementing disaster management, including a. Director of Riau's Research and Development Planning Agency (Bappedalitbang); b. Director of Water Resources, Public Works

Department, Housing and Rural Spatial Planning (PUPR-PKPP) Riau. c. Young Expert in Functional Environmental Impact Assessment, Ministry of Environment and Forestry, Riau Province. i.e. A young engineer at the National Institute for Research and Development (BRIN). e. Commander of Military Resort Command 031 Wirabima. f. Air Force Base (Lanud) Commander of TNI AU Roezmin Nurjadin Riau. G. Riau Police Chief.

Results and Discussion

Prevention And Mitigation

To find out how to prevent and mitigate forest and land fires (karhutla), the researcher asked several questions related to the efforts made to prevent forest and land fires in Riau province.

According to the Secretary of the Research and Development Planning Agency (Bappedalitbang) of Riau Province, disaster mitigation has been well managed. Surveillance technology is being developed in the form of real-time forest and land fire dashboards that are accessible to both the public and governments and is working with government agencies on their use of satellites. In addition, we have support from the Task Force and TNI/POLRI to help the Riau Government with forest and land fire prevention. According to Focus Group Discussion, we were joining a Domestic Work College (KKDN) between Disaster Management Master Students of the Republic of Indonesia Defense University and Riau Government provincial on 9th February 2022 there are 41 participants.

According to the Head of Water Resources, Public Works Agency for Housing Spatial Planning for Settlement and Land Areas (PUPR-PKPP) Riau, Structural mitigation to overcome forest and land fires comes in the form of peat restoration through the construction of irrigation systems (water structures) to maintain water levels. In addition, PUPR services also strive to protect peatlands by building irrigation network canals or canal gating systems.

According to the Young Expert Environmental Impact Control Functionalist, The Job Creation Act allows for the burning of firebreak construction records of up to 2 hectares. In reality, it is about the uncontrollability of existing fires, so the solution offered by the government is to provide heavy equipment support. are being implemented.

According to the Young Engineer, the National Research and Innovation Agency (BRIN), Installing sensors in hotspots can prevent forest and land fires. We also use Weather Modification Technology (TMC) to control conditions so that wetlands do not dry out even in hot weather.

According to the Commander of the Military Command Resort Command (Korem) 031 Wirabima, One of the forest and land fire prevention strategies is the village Pembina Bintara (Babinsa) program. In this program, members eat together, sleep together, and build social communication through community communication and interaction. Hope is to be independent. If someone is identified as one of those who will burn the country down, the community itself will prevent it. Korem also conducts regular simulation exercises at all times, including during the rainy season, with the aim of maintaining the operational capability of the force.

According to the TNI AU Air Base (Lanud), Commander Roesmin Nurjadin, Riau Prevention and mitigation efforts are conducted through patrol activities on hotspot information from satellites. Special fire surveillance flights, as well as commercial aircraft flights passing through Riau, can provide information on the situation on the ground due to the presence of integrated communications and coordination. In addition, the Indonesian Air Force has also set up daily Babino Pudirga to circle the air

base ±5 km, visiting communities, building good relationships, and educating the public to change their behavior to be more environmentally friendly.

According to the Head of the Operational Bureau of the Riau Police, the Riau Police has developed an information system called the Nusantara Yellow Lancang Dashboard that is highly effective in combating hotspots. However, if you have limited technology, you can report hotspots or hotspots visually or directly monitor hotspots on peatlands. Then you can report to the most powerful agency in the village with access to the application. Reported information is sent to local law enforcement so they can take immediate action.

Preparedness

To find out how to prepare for forest and land fires (karhutla) disaster, the researcher asked several questions related to the efforts made to prevent forest and land fires disaster in Riau province.

According to the Secretary of the Research and Development Planning Agency (Bappedalitbang) of Riau Province, Civil protection was well managed. Programs initiated by the Ministry of Environment and Forestry, such as B. Firefighting communities and peat trading communities in villages vulnerable to forest and land fires, are designed to improve community capacity and prevent forest and land fire disasters. Born to respond quickly and cultivate the land so that it can absorb water without damage. In addition, the head of water resources at the Public Employment Agency for Urban and Rural Spatial Planning (PUPR-PKPP) Riau said knowledge of forest and land fire disaster preparedness was also carried out by the oil palm farmers department.

According to the Young Expert Environmental Impact Control Functionalist, In addition to the Fire Care Village Program, there are also CSR and Climate Village programs that are implemented in areas prone to forest and land fires (to reduce the country's CO2 emissions, this program helps prevent burns in agricultural activities try). The program is considered highly effective as it can reduce the incidence of forest and land fires by up to 90%.

Emergency Response

To find out how the efforts were made during the emergency response to forest and land fires (karhutla), the researcher asked several questions related to the efforts made to prevent forest and land fires in Riau province.

According to the Young Engineer, the National Research and Innovation Agency (BRIN) Weather Modification Technology (TMC) is not only used in the prevention and mitigation phases but also plays a role in the emergency response phase. During the emergency response phase, TMCs are used to extinguish hotspots and control the rate of fire progression to limit the spread of fires and wildfires.

According to the TNI AU Air Base (Lanud) Commander Roesmin Nurjadin Riau, He provided aircraft and/or helicopters (depending on the situation on the ground) to help conduct TMC operations as ground forces and local governments were unable to reach the area.

According to the Head of the Operational Bureau of the Riau Police, Once the yellow intimidating dashboard retrieves information about hotspots, Babinkatibnas officials share information with their closest members to confirm case reports. If Kemudida falls into the hazardous category, judging by the level of fire reported on the picket line, it will be entered on the dashboard and coordinated with the police department for firefighting efforts. If the police cannot coordinate with the police, the state will take over the firefighting work if the fire area exceeds 5 hectares.

According to the Secretary of the Research and Development Planning Agency (Bappedalitbang) of Riau Province, If the country has already burned to the ground, further investigation will be conducted to find out the cause. Additionally, we work with other sectors such as the Ministry of Environment and Forestry (KLHK), PUPR Services, TNI/POLRI, and local governments to set up command posts in case of emergencies.

Conclusions

Activities related to forest and land fire prevention and control include building firebreaks and building facilities and infrastructure. The purpose of a firebreak is to divide a large fuel area into several parts/fragments so that in the event of a fire the entire fuel area or vegetation is not engulfed by the fire.

Land and forest fires are usually caused by damage to peatland hydrological/aquatic systems resulting from uncontrolled human activities such as deforestation and open burning. To prevent peat from burning, you can prevent it by building a dam around it. This dam stock is maintained near rivers and reservoirs and can pump water from rivers and other reservoirs into large peat bogs during the dry season. Activities in the fire and wildfire disaster preparedness phase are carried out through socialization and program establishment. B. Fire Protection Community.

The Governor of Riau representing the local government has set an emergency alert status. In controlling the problem, the Riau Province Task Force has carried out several blackouts, such as in Bengkalis, Siak and Rengat. In early March the Directorate of Land and Forest Fire Control will launch the Integrated Patrol for the Prevention of Forest and Land Fires and we will strengthen coordination with various parties such as MPA and other Task Force Stakeholders.

a. Socialization

The socialization of forest fire prevention is the most important initial activity in firefighting activities, and it is a work that must be done continuously. Socializing fire safety is a more economical way to reduce fire damage and casualties without the use of expensive equipment. Socialization occurs through the provision of fire information and fire prevention and control efforts. The purpose of this activity is to provide the community with fire knowledge, prevention efforts, and community preparedness education in the event of a fire.

b. Program Establishment

Community fire brigade effectiveness in fire prevention and suppression requires regular training activities to improve knowledge and skills in fire safety practices. This activity takes place at least once a year before the end of the rainy season or the beginning of the dry season.

In the event of a bushfire or swamp fire, the fire alarm center receives information from the patrol team or the community and reports to the village chief via HT radio if the fire cannot be extinguished during normal patrol operations. A community that cares about the fire. In addition, fire caretakers must mobilize all available resources to prevent the spread of fires and extinguish fires while they are still small.

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