

Assessment of State Capacity to Manage Forest and Land Fires in Kubu Raya Regency, West Kalimantan Province

Lestari Agustrihardaning^{1,2*}, Irfan Islamy², Mujibur Rahman Khairul Muluk²,
Yonosuke Hara³

¹ Local Disaster Management Agency, West Kalimantan Province

² Magister of Public Administration, Brawijaya University

³ University of Tokyo

Abstract

Forest and land fires in Kubu Raya Regency are caused by human activity such as farming by burning land and have caused a lot of environmental damage and material loss. There is a need to overcome or to minimize disaster by conducting activities aiming to reduce the risk and the impact. This paper focuses on the government capacity to address disaster, particularly forest and land fires in Kubu Raya Regency and describes government capacity, particularly within organizations, coordination among organizations, human and material resources, and budgets related to forest and land fires, in order to discover whether the capacity is strong or weak. It attempts to describe state capacity and to answer the question about the government capacity to manage forest and land fires in Kubu Raya Regency. The method that is used to analyze the question is a qualitative and descriptive method by doing interview and reviewing literature and documents related with the forest and land fires issues. This research found that government has the capability to address forest and land fires, but there does not exist a particular organization to handle the fires, lack of coordination, budget, and both human and material resources which proves that state capacity is still weak.

Keywords: disaster, forest and land, state capacity

INTRODUCTION

Forest and land fires in West Kalimantan, especially in Kubu Raya have caused a lot of environmental damage and material loss. These fires are caused by human activity such as farming by burning land. The government already makes efforts to reduce the fires, but the lack of organization to deal specifically with fires, as well as a limited budget of human and material resources are the main reasons fires still happen. This means that state capacity to overcome disaster is relatively weak.

There is a need to overcome or to minimize disaster by conducting activities aiming to reduce the risk and the impact. Disaster management is a dynamic process of managing multiple functions such as prevention, mitigation, preparedness, emergency response, and recovery. Among those, prevention is the most important because it can minimize the budget and reduce the impact as much as possible. Also, it is important to understand that disaster management is not just a one-department approach but is rather a cross-departmental

issue. Central and local governments are in charge of the implementation of disaster management. The responsibilities carried out by the National Agency for Disaster Management (BNPB) is of the central government and the Local Disaster Management Agency (BPBD) is of local government.

BNPB is the organization responsible for coordinating disaster management among related organizations at several levels such as the central government, provincial and regency BPBDs around Indonesia, and the Indonesia National Army (TNI) in the disaster management framework [1]. This will clarify which parties are able to mobilize all resources to address the emergency related with disaster management in case of disaster. In case of disaster, there will be many parties actively involved in disaster management so one organization is needed to coordinate those parties. According to Maarif (2010), disaster management has always used a responsive approach to handle disaster during and after it has occurred [2].

Capacity refers to a government's ability to respond effectively to change, make decisions efficiently and responsively, and manage conflict [3]. Investing in state effectiveness improves the state's ability to implement a range of policies. They found that in the development community,

* Correspondence address
Lestari Agustrihardaning
Email : tari1508_raikkonen@yahoo.co.id
Alamat : Jl. Putri Candramidi Gg. Sukahati No.6
Pontianak 78116, Kalbar

a lack of state capacity as manifested in weak states is often cited as a major obstacle to development, such as low legal capacity, civil war, and lack of fiscal capacity [4].

The aim of this paper is to give a brief explanation on the government capacity to address disaster, particularly forest and land fires in Kubu Raya Regency. It describes governmental capacity, particularly within organizations, coordination among organizations, human and material resources, and budgets related to forest and land fires, in order to discover whether the capacity is strong or weak. Government has the capability to address forest and land fires, but a particular organization to handle the fires, does not exist. There is a lack of coordination, budget, and of both human and material resources. Furthermore, the less damaging impact of fires compared with floods has made the government prioritize funds for flood management.

This paper attempts to describe state capacity and to answer the following question: To what extent is the government capacity to manage forest and land fires in Kubu Raya Regency?

LITERATURE REVIEW

It is important to begin with understanding and describing some concepts connected with disaster, disaster management, and state capacity. This provides a review of background readings on the subject.

Disaster, Disaster Management, and State Capacity

Disaster has several meanings and definitions. According to Quarentelly (1985), disaster is a crisis situation that far exceeds the affected community's capabilities. It is similar to VUSSC that describes disaster as a situation in which the community is incapable of coping. Furthermore VUSSC explains that disaster is a natural or human-caused event which creates intense negative impacts on people, goods, services, and/or the environment, exceeding the affected community's capability to respond; therefore, the community seeks the assistance of government and international [5,6].

Thirunayukarasu mentioned that disasters are mainly divided into two types: natural disasters (earthquakes, floods, land slides) and man made disasters (war, bomb blasts, chemical leaks). According to Thirunayukarasu, the phases of all disasters, be it natural or man made, are the same but often differ in quantity of damage or in quality of the type of medical consequences [7].

Similarly to Thirunayukarasu, Nugroho (2010) divided the potential causes of the disasters into 3 types: natural disasters (earthquakes, volcanic eruptions, hurricanes, landslides, droughts, forest/land fires due to natural factors, pest or plant diseases, epidemic, incidence of occurrence, and space incidence), non-natural disasters (forest/land fires caused by humans, transportation accidents, construction/technology failures, the impact of the nuclear industry, explosions, environmental-pollution and space exploration activities), and social disasters (social unrest and social conflict). Those definitions provide a general view of disaster because they provide an understanding of the different types and the causes of disaster [8].

In order to overcome a disaster, an effort called disaster management is necessary. All communities are vulnerable to disaster, both natural and man-made. Disaster management is a cyclical process; the end of one phase is the beginning of another, although one phase of the cycle does not necessarily have to be completed in order for the next to take place [6]. Disaster management needs a special organization that has a good capacity for dealing with disaster so that the process runs well. The government of Pakistan established the National Disaster Management Authority (NDMA) in 2007 as proof, in theory at least, that the state is developing its capacity for disaster management, from preparedness through to response under construction [9].

The National Institute of Disaster Management New Delhi (2013) stated that capacity has been defined as the ability of the people, organizations, and society as a whole to manage their affairs successfully. Every individual, community, and organization should have some inherent capacity that needs to be **acknowledged** and further developed [10].

Similarly, Rondinelli and Cheema (2003) argued that the state plays a critical role in alleviating poverty, protecting the environment, promoting human rights and human security, and ensuring gender equity—all necessary conditions for spreading the benefits of global economic and social interaction more widely [11]. A state is said to have "failed" if it does not fulfill the most basic obligations of statehood and institutions to provide adequate services to the population [12]. Furthermore Cochrane (2008) explained that the existence of a central government agency responsible for all aspects of disaster management, such as NDMA, should be utilized

to its full potential. He stated that while its capacity may still be weak, donors and international agencies, which genuinely want to support the primary responsibility of a sovereign state for victims of humanitarian emergencies, should seize the opportunity that is now available [9].

Local capacity is all potential resources available to carry out disaster management. The higher the threat, the higher the risk of the area. Similarly, the higher the level of vulnerability of local residents, the higher the level of risk. On the contrary, the higher the skill of local residents, the smaller the risk faced.

Pros and Cons of Disaster Management

There are differences in handling disasters between one country and another. Coordination is critical in flood disaster management to overcome the inevitable fragmentation resulting from departmental specializations, geographic boundaries, and among operational phases in the disaster cycle. They stated that coordination begins with sharing of information, but also requires the capacity to use such information effectively and to implement various intervention measures [13].

Natural disaster management system in the United States is structured, in its ideal form, as a bottom-up model where local governments are in charge of first response. According to them, because a natural or technological disaster occurs in a specific geographic area, the local government of jurisdiction has the primary responsibility for managing the event. When state and local governments are **overwhelmed** by a disaster, the federal government likewise provides financial resources and other assets relevant to response and recovery [14].

While Pakistan's immediate relief response to the earthquake has been widely praised by the United Nations, it is also recognized that the country was poorly prepared for a disaster of this magnitude, despite warnings in previous years of potential seismic activity. The military stepped in very quickly to play a key role in the relief response, rather than a civilian authority, due to their superior technical and logistical capacity, and existing presence in affected areas [9]. These experiences indicate that the structures are not yet well enough established or resourced for local state authorities to perform responsibilities in responding to disasters. Instead, their level of success largely depends on the effectiveness of the individual authorities. Activities of governmental and private organizations to

respond to the earthquake in Mexico City can be divided into two time period segments: the first three days after impact and the remainder of the fortnight. They found that in the first level the response was lacking coordination, involving duplicative efforts, and resulting in some organizational conflict, but in the second level activities by a number of federal and district agencies were effectively coordinated [15].

The institutional structure in response to the 2005 earthquake and to the 2007 floods in Pakistan were very different. According to Cochrane, an ad hoc relief agency (FRC) was set up to respond to the earthquake, while the National Disaster Management Agency (NDMA) was set up for the floods. The capacity of NDMA was very weak during its response to the floods with only had less than ten staff members, very limited logistic and financial resources. He also found that the geographical location of the disasters influences on the different patterns of state response [9].

The response to Hurricane Katrina is an example of the poor response arising from a failure to manage a number of risk factors. Poor coordination and disagreements among the actors about what to do and who was to do it are the reasons for the failures. Moynihan found that better coordination among the network of responders, a greater sense of urgency, and more successful management of related risk factors would have minimized some of the losses caused by Katrina [16].

When disaster happens, the government cannot handle this problem alone. It needs external support and volunteers in order to improve disaster management. The government of Pakistan's response to the earthquake was very quick-within 12 hours, an open invitation to international humanitarian agencies had been issued, and the government made efforts to facilitate their arrival, registration and access. It was found that the ability of international agencies to support and to build up local state capacity largely depends on the relevant authorities, but a good balance must be achieved to ensure that relations with the central government are not threatened through closer coordination at the local level [9].

Volunteer assistance is important because it can be quickly provided by people living or working close to damaged areas. Volunteers can also augment emergency staff with basic skills and support activities, allowing responders to focus their efforts on specialized work [17].

Volunteer typically involves two concepts: provision of a service of one's own free will and/or provision of a service without promise, expectation, or receipt of compensation for the service. Type of the volunteer is divided into three: volunteers on assigned resource, recruited volunteers, and spontaneous volunteers [18].

Some examples of using volunteers, especially emergent groups related to spontaneous volunteers are citizens who developed an ad hoc system for transporting commodities as a response to the Mexico City earthquake. A group of telecommunications employees and companies created a system and process to identify the location of missing persons' mobile phones as a response to the World Trade Center towers' collapse. During the recovery from a tornado in central Florida volunteer agencies combined to create a common disaster relief [18].

Those studies provide a general view of state capacity in managing disaster. Government establishes a organization responsible for handling the disaster, but the capacity and the characteristics are different among the various organizations. Some disasters may need national capacity, while others could be effectively managed locally.

The perspective of this paper is that disaster management needs good coordination among related organizations. Organizational coordination is the important factor to implement disaster management effectively and to assess the capacity of the government in handling disaster. Kubu Raya Regency already has a disaster organization to manage forest and land fires, but it pays less attention to the problem due to the scarce impact of the fires. Moreover, the lack of human resources is another factor that hampers disaster management. This is in line with Cochrane's (2008) explanation about the limitation of the staff, logistic, and financial resources during the response to the floods in Pakistan [9]. Moynihan (2009) also stated that better coordination among the related institutions would have minimized the losses caused by disaster (i.e. Katrina) [16].

Forest and Land in Kubu Raya Regency

Kubu Raya Regency is the new area of the main regency, Pontianak Regency, established by Law number 35, 207, West Kalimantan Province [19].

As we seen in figure 1, in 2011, the forest area in Kubu Raya Regency is 831,771 ha,

consisting of: 388,392 forest ha (47%) including 171,477 ha of protected forest, 98,104 ha of production forest, 53,041 ha of conversion production forest, and 65,769 ha of rested.

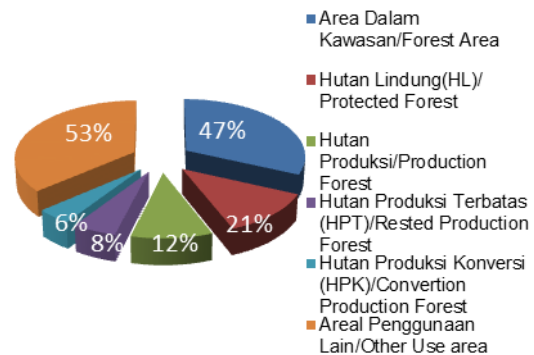


Figure 1. Area of Forestry in Kubu Raya Regency,2011 (Ha) [20]

Forest and Land Fires

According to Law 6 of West Kalimantan Province, 1998 regarding the prevention and control of forest and land fires, "forest" is a field of growing trees, and is a natural living environment. An area outside the forest, both vegetated (reed, shrubs, cultivated plants, etc.) and non-vegetated are intended for development in the field of agriculture, plantation, forestry, transmigration, mining, and others.

Forest fires in the disaster area includes damage of the forest's products and loss of objects of scientific, economic, or environmental value. Further, the law stated that land fires are also a state where the land affected by the fires experiences degradation, leading to loss of objects of scientific, economic, and or ecological/environmental.

The main cause of burning forests and land is human activity to exploit forest and land resources. Government policy to protect forest resources and land from the threat of fire has been unsuccessful. Broadly speaking, the causes of forest and land fires can be grouped into four categories: (1) agriculture, (2) natural, (3) biological, and (4) socio-economic culture [21].

Judging from the type, forest and land fires according can be divided into three kinds, namely [22]:

1. Ground fires: fires occurred in the humus layer of soil. Until now there is no easy method to cope with fires of this type, because all methods require the availability of water in very large quantities. In the dry season, water supplies are usually very limited.

2. Surface fires: fires on the ground, or on shrubs that do not reach the leaves of trees. Fires of this type are likely to occur on the critical land where trees have been felled. To handle this type of fire, many methods are developed.

3. Crown fires: fires in the canopy to the top of high trees.

Technically, a forest fire (U.S. Force *in* Brown & Davis, 1973) is defined as the combustion process that spreads freely, and consumes forest fuels such as grass, litter, twigs, dead wood, poles, weeds, shrubs, and trees' fresh foliage [22].

The Actors Involved

The actors have an important role in the success of a state program. This means, that those implementing policies know their positions and their responsibilities well in the implementation of the policy. In the policy of managing forest andland fires in the Kubu Raya Regency, various actors are involved: the governmental agencies, community members, and industrial companies. All these actors have different roles and responsibilities, but they have the same goal to manage forest and land fires and to minimize the impact of these fires. They should coordinate and cooperate with each other in order to prevent and to manage fires.

Government Organizations

Government organizations related with the managing of forest and land fires in Kubu Raya Regency, include: (1) Environment Agency, which has the task of managing local government affairs in the field of the environment, based on the principles of autonomy, job de-concentration and assistance duties; (2) Plantation, Forestry, and Mining Office, which has the task of carrying out the affairs of local government in the areas of plantation, forestry, and mining, based on the principles of autonomy, job de-concentration and assistance duties; (3) Health Office, which has tasks related with the health of people due to the impact of fires; (4) Manggala Agni, which is an Indonesian forest fire control brigade formed by the Ministry of Forestry in order to carry out the task of forest fire control activities, including prevention, outages, and post-fire management. However, Manggala Agni is not only involved in handling forest fires but also the community and company land fires.

Based on Law 24, 2007 on Disaster Management, the key agency tasked with disaster management at the national level is the National Agency for Disaster Management. This

agency is responsible for formulating policies in disaster management and displaced person management through rapid, accurate, effective and efficient actions, and is also responsible for the coordination of disaster management among government offices and multi-stakeholders.

In the regions, the agency tasked with conducting disaster management is the Local Disaster Management Agency/BPBD. BPBD is established both at the provincial and regency/city levels. BNPB at the central level and BPBD at the local level, are responsible for the formulation of policies related to disaster and displaced people. The body is also tasked with the coordination of disaster management related activities [23].

BPBDs of West Kalimantan is a new agency established by the governor of West Kalimantan's Regulation 76, 2009 as mandated by law with the aim to reduce the incidence of disaster as well as its risk and its impact. As a new agency in government, the position of this agency is under other organizations established earlier, so the allocation of funds and resources is not optimal. To improve its task, the establishment of BPBDs at the regency level is needed and one of the BPBDs in West Kalimantan Province is BPBDs Kubu Raya Regency established based on Kubu Raya Regency Regulation 14, 2009.

Community

Besides government organizations, the support from the community is also important. As mentioned in law 6 of West Kalimantan, 1998, efforts to prevent and control forest and land fires need participation of all stakeholders, including community members around the forest and land area, especially in fire prone areas. The efforts involving active community members are a form of community participation in development.

The establishment of a fire care community is one of the government efforts to maximize the community's role in forest and land fire management. A fire care community is a community organization concerned with helping government with prevention and to extinguish forest and land fires. Fire care community is under sub-district control, and there is an implementers' unit located at the village level.

Forest and land fires occurring in West Kalimantan, especially in Kubu Raya Regency, need special and more attention from government and related parties-both communities and plantation companies. Generally, it is difficult to determine the most

culpable agents among plantation companies, communities, weather factors, or soil conditions. However, based on information, companies might be the main actor causing forest and land fires.

So far, community members have always been blamed as the biggest arsonists, but this is not true. People start burning the land for early farming during the dry season between April and August. People burn a maximum of 2 ha according to agreements among the community. If people burn their land and damage other people land or negatively impact land around them, they are punished by paying the appropriate reimbursement. Meanwhile, it is not yet known exactly whether company did a massive burning as well in the dry season or not. Peat land, which is common in Kalimantan, is a soil type that has heat and can even sustain fire at a certain depth; this can spread widely to the land surface.

Company

A company's involvement in forest and land fire management is also important so that the policy can function well and align with expectations. Even though many companies still burn for reasons of efficiency, cost-saving, and speed, they should consider the impact that can hamper those around the affected area. Among those companies, there are a few that realize that land-clearing by burning is bad, so they use heavy equipment to clear the land and to start planting.

RESEARCH METHODOLOGY

The type of research method that is used for this study is qualitative method. Qualitative method properly seeks answers to questions by examining various social settings and the individuals who inhibit these settings [25]. To answer the question, this research focuses on the state capacity of Kubu Raya Regency to manage forest and land fires specifically the base of policy implementation, the actors involved, and the results of the implementation. This paper is aimed to analyze the government capacity to manage forest and land fires in Kubu Raya Regency. Qualitative method emphasizes in theories and literature.

Collecting Data Process

This study mainly used a qualitative data collection method. On the basis of research question, the data collection is done with interview: a series of interviews is done with local government unit that is closely related to forest

and land fires control policy. These interviews are aimed to identify what the critical process and problems in controlling forest and land fires process and literature review: the study of literatures is meant to obtain or to get accurate theories and references regarding to the data of the result findings related to public policy analysis, documents and also Law, Act and regulation. Those literatures can be found in the government office, library, internet, and other related offices.

Data Analysis

The data analysis in this qualitative research consisting of three concurrent flows of activity: data reduction, data display, and conclusion drawing/verification.

RESULTS AND DISCUSSION

Causes of Forest and Land Fires

In Kubu Raya, the main cause of fires is human activities, and only a small part is caused by nature. Human activities include land-clearing for farming by companies and farmers. Important reasons for these activities include a cheaper cost, shorter time, practicality, and efficiency. This activity is done usually in the dry season between April and August. This can be seen in Table 1 on hotspot recapitulation.

Table 1. Hotspot Recapitulation in Kubu Raya Regency and West Kalimantan Province

No	Month	Year/Area									
		2008		2009		2010		2011		2012	
		KR	Kalbar	KR	Kalbar	KR	Kalbar	KR	Kalbar	KR	Kalbar
1	January	0	0	0	55	0	16	5	68	6	45
2	February	0	14	0	48	0	29	11	68	5	57
3	March	0	16	0	30	0	35	12	68	26	133
4	April	0	32	0	79	0	32	50	162	14	158
5	Mei	0	346	0	81	0	11	5	62	30	167
6	June	0	118	0	250	0	40	24	213	56	390
7	July	0	46	0	1677	0	23	31	530	44	329
8	August	0	2108	0	6528	0	347	84	2533	118	2515
9	September	0	2822	0	1284	0	532	40	1011	77	2511
10	October	0	270	0	91	0	542	6	79	14	217
11	November	0	41	0	8	0	55	1	21	2	17
12	December	0	4	0	17	0	0	0	6	1	11
	Total	0	5817	0	10148	0	1662	269	4821	393	6550
	%		0.00%		0.00%		0.00%		5.58%		6.00%

Source (processed): [26]

From Table 1, we see that between April and August a high number of hotspots were observed, which are related to an increase in the burning activity of the farmers and the companies in order to start planting. However, the fires are also high in September and October when farmers are not burning anymore and have started planting. We also see from the table that between 2008 and 2010 the number of hotspots observed in Kubu Raya Regency is 0, but

according to other sources the number of fires in 2009 and 2010 were 451 and 22 for Kubu Raya Regency respectively. This difference is due to differences in the way of recording the number of hotspots, either because of the tools used or because of the method of calculation.

To overcome forest and land fires, the government of Kubu Raya Regency has done better in its prevention efforts, as well as in post-fire extinguishing. The most effective method is fire prevention because the fire will be easier to extinguish when small and will not spread into unwanted areas. Establishment of a forest fire community and a brigade of forest and land fires control will not be effective if there is not a good level of cooperation among related parties who are involved in fire control.

The reason companies' burn land is that it is cost-effective, faster, and more efficient. Burning land without using heavy equipment will save money and time and does not need much labor. The community reason for burning is that it is fast, practical, efficient, effective, and inexpensive, and community members do not know any other better and cheaper way to clean up the land for a place to plant and grow crops.

In dealing with fires, unfortunately the government cannot function effectively in overcoming this issue. Regulations and policies related to the prevention and control of fires are still not able to reduce the incidence and the influence of fires. Reducing the amount of hotspots does not mean that the number of fires decreases. The reduction could be due to the reduction in burning land, or weather factors that made soil conditions more humid, or deadly fires that are underground.

Table 2. Forest and Land Fires Report

No	Area (ha)	Year			
		2008	2009	2010	2011
1	Burning	280	424	105.35	687.05
2	Extinguish	296	104	8.5	380.75

Source (processed):[24]

Table 2 shows that the number of burn areas has increased from year to year but the extinguishing area has also increased, but if we look at the ratio of burning to extinguishing areas, 2008 is the best year. The amount of the burning area is located in local area but 2 ha is the maximum area of the burning, whereas the numbers of companies burning is not much but the burning area is big. In 2008, the burn area was successfully extinguished both in terms of

the local community and company area. For 2009-2011, the fires happened in community areas but the action is only on the ground.

Financial and human resources are the main obstacles in overcoming fires. Kubu Raya Regency is new regency so the problem of limited funds and personnel are major problems to address fires. Manggala Agni and Fires Care Community are groups formed to help the government overcome and reduce fires. Manggala Agni was established by the Indonesian Ministry of Forestry in 2003 and formed in order to carry out the task of forest fire control activities including prevention, and handling of post-extinction of forest fires (Directorate of Forest Fires Control). During its development, Manggala Agni not only controls the fire in the forest, especially the conservation area, but also on land. Fires Care Community is comprised of members of the community who volunteered to devote power at the lowest level in helping government, especially in preventing and combating fires.

The establishment of specific organizations that handle fires in open land and in communities will help prevent fires that damage humans and the environment. Indeed, the government has formed a team of commandos implementing forest and land fire control at the provincial level, but the lack of coordination among agencies led to the slow process of handling.

Discussion

Prevention

In carrying out disaster management particularly of fires, of course BPBDs Kubu Raya will not work alone, but will cooperate with other organizations. These organizations include the Police, Environmental Agency, the Plantation, Forestry, and Mining Office, the Health Office, and Manggala Agni. All organizations should work together for prevention and post-fire management. On prevention efforts, almost all of the aforementioned organizations have programs addressed to the community and the company. Socialization both of community members and the company, as well as training regarding fire prevention, giving and distributing means to the community, should be done regularly (every year) according to the available budget. This will minimize the incidence of fires.

Table 3 shows that even when there are many organizations interlinked on the aspect of service, the assistance provided or received is unconfirmed by others. Number 1 means that there is a confirmed relation among organizations and 0 means there is no confirmed

relation among organizations. The organization system depends on many stakeholders, but the inter-organizational relationship is low, because the roles in coordination are not clearly identified. In addition, the concept of cooperation and the concept of capability are not implemented well. The organization should focus more on developing its own capability, but in reality the organizations are relying more on other organization resources [27].

Table 3. Inter-organizational Relationship on the Aspect of Service Delivery in Kubu Raya Regency

No	Organization	1	2	3	4	5	6	7	8
1	Executive	1	1	1	1	1	1	1	1
2	Regional Military Command	1	1	1	1	1	1	1	1
3	Local Disaster Management Agency	1	1	1	1	1	1	1	1
4	Police	1	1	1	0	0	0	0	1
5	Environmental Agency	1	1	1	0	0	0	0	1
6	Plantation, Forestry, and Mining Office	1	1	1	0	0	0	0	1
7	Health Office	1	1	1	0	0	0	0	0
8	Manggala Agni	1	1	1	1	1	1	0	0

Source (processed): [27]

BPBD is the main organization in case of a disaster. BPBDs will gather information and assistance from other organizations for disaster response based on each organization's duties. BPBDs meet regularly with organizations related to forest and land fires to share information of the forests and environment as well attempts to prevent disaster.

Coordination among organizations related to disaster management cannot be said to be weak or not good. The organization has its own duty and function to handle fires. The Plantation, Forestry, and Mining Office handle fires related to the forest, plantation, and mining area; Health Office sees the impact of fires on society as caused by the smoke arising, Police act if there is a big fire and send out a helicopter to extinguish it, and the Environmental Agency will see the impact of fires on the environment. However, the main point is, Manggala Agni is the main actor to manage forest and land fires in Kubu Raya Regency and local residents are more dependent on assistance from Manggala Agni if fires happen.

Post-Fire

Unlike the prevention, the post-fire effort still depends on Manggala Agni which is always on standby to handle fires. Besides having trained

personnel, Manggala Agni also has enough means to extinguish the fires. However, sometimes in handling this fire, Manggala Agni also faces difficulties, especially if the location is far and quite difficult to reach and to which to water.

Manggala Agni plays a more active role and is directly related with communities and companies in both prevention and post-fires. People are more familiar with Manggala Agni and often asked Manggala Agni for assistance more often than government organizations, because sometimes government is rather complicated and bureaucratic.

In the disaster management team of forest fires, BPBDs is not included as an active organization both for prevention and handling during and after a fire. BPBDs as an organization is particularly established to overcome the disaster and should be involved as a core member or as the main coordinator collecting and coordinating other organizations in case of disaster.

Budgeting

In accordance with the mandate of the law, the state gives budget priorities on education, health and public works. Budgets for disaster management is relatively small compared to the budget of education, health or public works. Meanwhile, the budget for each type of disaster can be seen in Table 4.

Table 4. Indicative budget for each hazard In the National Disaster Management Plan

No.	Hazard	Indicative Budget (Billion Rp.)	%
1.	Earthquake	12,489.0	53.2
2.	Tsunami	4,007.5	17.1
3.	Volcano Eruption	931.0	4.0
4.	Land Mass Movement	1,111.6	5.7
5.	Flood	2,150.0	9.9
6.	Drought	650.2	2.8
7.	Forest and Land Fires	474.5	2.2
8.	Erosion	380.5	1.6
9.	Building and Housing Fires	312.5	1.3
10.	Extreme Wave and Abrasion	241.5	1.0
11.	Extreme Weather	197.0	0.8
12.	Technological Failure	151.5	0.6
13.	Epidemics and Disease Outbreaks	210.5	0.9
14.	Social Conflict	156.5	0.7
	TOTAL	23,463.8	100

Source: [23]

We see in Table 4 that the budget for forest and land fires stands in seventh place, which is Rp. 474,500,000,000 for five years or an annual average of Rp 94,900,000,000, and it is also below floods. This means that governments do not pay much attention to fires even though the impact of fires spreads to neighboring countries and damages the environment and natural ecosystem.

In West Kalimantan, floods or cyclones are given higher priority than fires because the impact of floods and cyclones are felt directly, and fires are predictable (in the dry season) and still regarded as an ordinary case. A low budget allocation indicates that state attention is more focused on disasters that have a huge impact on humans and the environment.

Human Resources and Equipment

Kubu Raya is a new regency as a division of the Pontianak Regency. As a new regency, the allocated budget is still very limited and the priority is on education, health, and public works. Human resources in almost all agencies and offices, mostly come from Pontianak Regency employees, but the number is limited. As in BPBD, there are only 12 employees [24]. This is too small if we compare it with the large number of people in Kubu Raya Regency and areas prone to fire disaster. It is difficult to optimize disaster management efforts without cooperation and coordination with other organizations.

Besides a few number of employees, equipment resources for disaster management is still limited. The means for firefighting still depend on Manggala Agni, which has human resources and adequate equipment. Manggala Agni members, who have been trained to deal with fires in practice, are always ready to help people in case of fire. With sufficient means and human resources, it is hoped that disaster management efforts can be maximized.

Based on the data of available means and human resources of Manggala Agni related to forest and land fires, these means and human resources are enough to manage fires. However, sometimes there were difficulties extinguishing fires due to the limitation of water and the distance.

CONCLUSION AND POLICY RECOMMENDATIONS

Conclusion

Disasters are unpredictable so it is necessary for all organizations, companies, and society to anticipate them. This anticipation includes prevention, emergency response, and

rehabilitation and reconstruction. These activities must be conducted continuously by setting development policies that will reduce the incidence of disasters.

Forest and land fires in West Kalimantan Province, especially in Kubu Raya Regency, are due to human factors: companies and local farmers cleaning their land by burning and continuing with planting. According to information from some sources, companies are burning land more than local farmers, causing smoke and disturbing transportation.

The government of Kubu Raya Regency has an important role to manage this issue. A lack of government concern for the fire issue is proved by an organization handling the disaster. The human resources, means, and funds are not enough. In general, it can be concluded that government has the capability to address forest and land fires, but there does not exist a particular organization to handle the fires. Further, there is a lack of coordination, budget, and of both human and material resources, which proves that state capacity is still weak.

Policy Recommendations

It is suggested for the government of Kubu Raya Regency that handling disasters, particularly forest and land fires, should be given more attention. Here are recommendations for government:

1. Establish a part in disaster institution that specializes in handling forest fires, land fires, and residential fires. This new part should be provided with good equipment to ease the mobilization and the fire management effort.
2. Government should approach plantation companies persuasively and discuss the forest and land fire issue. By sitting together, it will be possible to realize the problem facing the plantation company and to find the best solution to minimize fires.

From the Japan Fire Service, there are some lessons that can be implemented by local government:

1. Provide knowledge to students starting from elementary school and extending to senior high school on disaster management efforts and preventive action, and what they should do in case of disaster.
2. Enhance the capacity and skill of the forest and land fire service personnel by giving education and training at fire academies, and fire training in other countries.

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