

Research Paper

Study on The Disasters Management System in Indonesia

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ABSTRACT

Palu City is one of the provincial capitals in Indonesia which is right on the Equator line. In addition, this city is one of the many regions in the eastern part of Indonesia that have a considerable potential for natural disasters. The natural disaster that occurred in Palu on September 28, 2018 consisted of three types of disasters, the first was an earthquake, the second tsunami and the last was liquefaction. This natural disaster caused damage to supporting infrastructure and thousands of people died. The large number of fatalities illustrates that the preparation and preparedness of the community and local government authorities are still low, mainly due to a lack of knowledge and concern for these natural phenomena and their consequences. The earthquake and tsunami disaster that took place in the city of Palu Sigi and Donggala was a momentum to change the paradigm of disaster management by increasing community preparedness. This research tells the story of the phenomenon of the three natural disasters, also tried to explain the steps and design of disaster mitigation. Disaster Mitigation must be implemented to reduce the risk of natural disasters. Public policy about community preparedness towards disaster management is very important and urgent to do in order to reduce disaster risk. Disaster cases in Palu City as a case study are considered relevant for the implementation of disaster management systems.

1. Introduction

Indonesia is located on the Pacific 'Ring of Fire', where continental plates meet, causing high levels of seismic activity. It has the world's largest number of active volcanoes, making Indonesia a dangerous area (Bev & Katrina, 2010). Between 2004 and 2010, more than 180,000 Indonesians died due to natural hazards (Kompas, 2010). During this, natural hazards contributed to the rise of new poverty in Indonesia. At

least 1 or 2 million people slipped into poverty following tsunamis and earthquakes (Royat, 2009). Table 1 provides some of the country's major disasters during this period.

Learning from this, Indonesia should plan for facing other disasters that might take place in the near future. To fail to do so would lead to even worse loss of life. In post-Suharto Indonesia, people do hope that their government can do much in dealing with natural hazards

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and disaster victims. In fact, Indonesia is not the only country prone to natural disasters; many countries in Southeast Asia, and countries around the world, experience similar problems. Nevertheless, they may have different methods and approaches to cope with the natural emergency events.

A major feature of the structure of governance in Indonesia is how it involves three levels all intertwined—central government, provincial government and regional government. There is invariably an inter-governmental aspect of disaster management in term of building coordination among the stakeholders. Further, several policies have been implemented to deal with natural disaster management. However, natural disaster management is an area in local government which requires assistance from other responsible levels of government, so current disaster management always faces this basic inter-governmental dilemma (Bev & Katrina, 2010).

Table 1. The Impact of Disaster in Some Provinces of Indonesia

No	Disaster	Year	Killed	Homeless
1	Volcanic eruption, Yogyakarta	2010	259	303,000 (refugees)
2	Tsunami in Mentawai, West Sumatra	2010	503	15,000
3	Landslides, West Sumatra	2010	470	16.848
4	Flash floods, West Papua province	2010	148	9.016
5	Landslide in Palopo	2009	30	3.866
6	Earthquake, Java	2009	100	51.879
7	Earthquake, Padang, West Sumatra	2009	1,100	10.442
8	Floods and landslides, Java	2007	130	59.290
9	Sulawesi floods, landslides	2007	130	42.022
10	Sumatra earthquake	2007	73	141.216
11	Jakarta floods	2007	80	522.569
12	Sumatra floods	2006	300	350,000
13	Undersea earthquake, Java	2006	650	5.840
14	Sulawesi floods	2006	350	13,000
15	Earthquake, Yogyakarta region	2006	5,800	1.5 million
16	8.6-magnitude quake, Nias island	2006	900	12.542
17	Landslide, south of Jakarta	2005	140	3.530
18	Earthquake and tsunami, Sumatra	2004	168,000	460.312

Sources: Indonesia Statistics, Kemenkes (Kompas, 2010; Royat, 2009).

Disaster is inevitable, but risks can be reduced. With the advancement of science and technology, and the democratisation in Indonesia, the government is expected to take a major role and responsibility for disaster risk reduction by restructuring the prevention and management systems. During the New Order period, there was no special institution to handle natural disasters. The Susilo Bambang Yudhoyono (SBY) administration has established several specialised agencies related to research activities or natural disasters. In response to disasters, through law 24/2007, the government established a new disaster agency named BNPB (National Disaster Management Agency), which replaced BAKORNAS (National Coordination Agency for Disaster Management). In addition, the national

government has approved several policies in order to strengthen BNPB. Some natural disasters function as a type of shock therapy for policymakers and society to appreciate the benefits of science, technology and local wisdom. After the tsunami struck in Aceh, it was followed by earthquakes in Nias Island, Yogyakarta and Central Java in 2006, killing more than 300,000 people (Nasir, 2010). At that time, disaster management was controlled fully by BAKORNAS. This agency was very bureaucratic in its organisation from central to regional areas, and its system was very slow to deliver aid. This led to public disillusionment towards the disaster management system that had been established by the government. Therefore, the government responded by passing the 24/2007 law on disaster management as a response to the national government's handling of the tsunami disaster in 2004 and the major earthquake in Yogyakarta in 2006.

For example, Japan and the United States are also threatened by the possibility of devastating earthquakes and tsunamis, just like those that occurred in western Indonesia. Earthquakes, tsunami, hurricanes, volcano eruptions, floods and other types of natural disasters have taken place in Japan. Indeed, the Japanese have a belief that the most frightening thing in the world is 'Jishin' (earthquake) and 'Kaminari' (thunderbolt). They are afraid of these events because, as the Japanese proverb goes, 'Gaiga wasureta koro ni wa kuru Yate', which means disaster comes at an unexpected time (Oliva & Lazzarotti, 2018). Therefore, the Japanese government has tried hard to develop early warning systems and sustainable disaster mitigation practices in order to reduce the impact of natural disasters in the lives of its citizens. In many ways, the Japanese government is considered to be the most successful in reducing the risk of natural disasters.

The term 'disaster' actually does not have an exact definition. Some define disaster as God's will (Kusumayudha, 2010), and others view disasters as social disruption (Nasir, 2010), noting that disasters are often accompanied by looting, social disorganisation and deviant behaviour (Sukma, 2010). The Indonesian government in its natural disaster law defines 'disaster' as an event or series of events that threaten and disrupt the lives and livelihoods of communities, caused by both natural factors and human factors, resulting in human casualties, damage to the environment, loss of property and psychological impact (Law 24/2007). We have also witnessed that public responses to disaster event can fail, when local

organisations cannot protect themselves from the tremendous power of major disasters. That is why, the central government should also take responsibility for supplementary aid efforts.

The paper aims to contribute to a serious discussion concerning: (1) the role of communities in disaster management at both the emergency response phase

and recovery phase, (2) changes that have occurred in government policy in terms of disaster management both before and after the issuance of Law No. 24/2007, and (3) alternative ideas about disaster management, especially given that the bureaucracy in Indonesia is considered as a major obstacle to disaster risk reduction. In addition, this paper discusses the role of private–public partnerships in relation to disaster mitigation and relief.

2. Literature Review

There are many definitions of public–private partnership (PPP), mainly the government's priorities and strategies in implementing PPP, particularly in the natural disaster management. However, PPPs are long-term contractual arrangements between the government and a private partner whereby the latter delivers and funds public services using a capital asset, sharing the associated risks; this definition excludes an arrangement where non-governmental organisations (NGOs) such as non-profit civil society groups are involved in the development and delivery of public or semi-public services (OECD, 2012). The United Kingdom defines a PPP as '...arrangements typified by joint working between the public and private sectors. In their broadest sense, they can cover all types of collaboration across the private-public sector interface involving collaborative working together and risk sharing to deliver policies, services and infrastructure (OECD, 2012)'.

Basically, to increase the effectiveness of any organisation, cooperation between the government and the private sector is developing in accordance with the needs of the organisation, joint working between the public and private sectors as a collaborative sharing to arrange the policies, public service and infrastructure. In terms of management activities, Agrawal and Ostrom (2001) argue that management is the right to regulate their usage patterns or to divert resources. Management is divided by three different levels of authority required to make the following types of key decisions, namely, (1) determine how resources should be protected and used (rule-making), (2) define how to monitor and enforce compliance, and (3) resolve difficulties through public policy. According to Anderson (2011), public policy involves the actions of established actors to address an issue or a problem. Public policy is a policy developed by government agencies and officials which may also be influenced by non-governmental forces such as pressure groups and interest groups. Public policy has several implications, namely, the following things:

1. Generally, public policy in the modern political system is not something that just happens, but is planned by the actors involved in the political system.

2. The policy is the direction or pattern of actions taken by government officials and is based on their own decision. A policy is not only a decision to establish the law on a matter, but also the implementation of this.
3. The policy is what is actually done by the government in the form of laws and policies.
4. Public policy may have both positive and negative sides. Positively, the policy includes a clear form of government action to bring influence in the specific problem. Negatively, the policy may include a decision by government officials not to take action and do something about a problem that should require government involvement.

Blomquist (2007) defines a public policy as a set of interrelated decisions taken by a political actor or group of actors concerning the selection of goals and the means of achieving them within specified situations where that decision should in principle be within the power of those actors to achieve (Blomquist, 2007). According to Eyeston, public policy is defined as government units' relations with the environment.

Ostrom argues that the problem could also be at a policy or collective-choice tier where decision makers repeatedly have to make policy decisions within the constraints of a set of collective choice rules (Ostrom, 2015). In this case, the policy decisions then affect the structure of arenas where individuals are making operational decisions and thus impact directly on a physical world (Parks et al., 2005). Kraft & Furlong define public policies as a government action to respond to social problems. Social problems are conditions which the public widely perceives to be unacceptable and therefore require intervention (Kraft & Furlong, 2015). In addition, to increase governability, cooperation is needed between the government and civil organisations in terms of joint working or collaborative sharing arrangements which especially include PPPs.

3. Results and discussion

3.1 Background: Governability, Civil

3.1.1 Society and Disaster

The distribution authority from central to the local government 'decentralized politics' in Indonesia is expected to improve the management of natural disaster and reduce the risk of threats, as well as the disaster management to handle from the emergency response phase to the recovery phase. Especially, the rules of government relating to disaster management that involve civil society organisations (CSOs) or cooperating with International stakeholders

concerning various issues in response, mitigation and recovery. In the Indonesian context, strengthening the role of civil society has been a key part of the transition process to a post-authoritarian regime that has generally followed processes of democratisation, liberalisation and consolidation. These processes result from either a split in the authoritarian regime or by popular mobilisation, or they could be a result of an interaction between the two. Transition is defined as 'the interval between one political regime and another' (O'Donnell, Schmitter, & Whitehead, 1991).

Because local governments depend heavily on the national government, it is not surprising that, if the central government continues implementing a top-down policy or a project-based policy, the model of disaster management policy is seen as being commanded by the central government. This means that the national government wants to control finances (mainly from foreign-aid) to reduce the impact of disasters. However, many NGOs are now demanding that central and local governments be more transparent in their management of natural disaster funds, and there is a conflict between regulatory bodies on this issue. In several cases, the corrupt bureaucracy has tended to keep documents secret.

The political situation has changed towards democracy which should make the local government stronger (Klinken & Barker, 2009). The local media which have ability to encourage aggregation to understand behavioral patterns of communities, and various social organizations and political will activities. This includes natural disaster responses. In post-tsunami Aceh, there was public trust in civil society and NGOs to help disaster victims by delivering their aid through CSOs. There are many CSOs in Indonesia, such as faith-based organisations, religion-based groups, sports and business associations and so forth. This is the case not only in Indonesia, but also in the United States (Post-Katrina, n.d.). Generally, civil society organised various activities during the emergency period and even after the date of the emergency, and they have continued working to help the disaster victims. Many NGOs have gotten involved in reconstruction and recovery phases, which have lasted for years. They seek their own financial resources. Some NGOs, with the affected communities, conduct advocacy towards government policies, demonstrating in front of the local government offices and the heads of villages (Hartono, 2010). It was this so-called 'collective action' that is intended to gain benefits in the interest of both disaster victims and citizens in general, in contrast with what Olson (1965) states, namely, that groups of individuals with a shared interest will not act on behalf of that interest (Dasgupta & Beard, 2007). He further argues that people only seek to maximise their personal welfare and are reluctant to act on behalf of a common interest because it is the rational choice, and it only happens by coercive power. Again, this

was not the case in Yogyakarta.

3.1.2 State-Society Relationship in Indonesia

Political society, civil society and business society are the three groups that are always present in modern societies. Their relationships to each other are sometimes affected by economic, political and global changes, as well as natural disasters. Business classes are often the actors behind the scenes in various political processes, since they collaborate with politicians and political parties in many ways. Meanwhile, civil society groups try to influence policymakers in order to shape government policies to be more pro-poor. Putnam (1995) emphasises the owners of 'social capital' as a dominant factor in the civil society groups. In contrast, Diamond (1994) defines civil society as 'the realm of organised social life that is voluntary, self-generating, (largely) self-supporting, and autonomous from the state, and bound by a legal order or set of shared rules'. In a similar vein, according to Stalling (2002), civil society is an 'arena of the polity where self-organising and relatively autonomous groups, movements, and individuals attempt to articulate values, to create associations and solidarities, and to advance their interests'. In this paper, the term community will be used interchangeably with the term civil society. Civil society is distinct from political society, which encompasses all organised actors and whose primary goal is to win control of the state, or at least some positions for themselves within it. According to Diamond, organisations in civil society may form alliances with parties. But, if they are captured by parties, or if sources of hegemony arise within them, they move their primary locus of activity to political society and lose much of their ability to perform certain unique mediating and democracy-building functions.

During the New Order (1965-1997), the central government was very strong, while CSOs were weak. The government limited the number of political parties in order to reduce public involvement in politics and to control the activities of the people. The fall of the Suharto regime opened up opportunities for public awareness operating between the state and society—which have their respective roles and are integral or complementary. The state has authority, while the community has social capital and the entrepreneurs have financial resources. These three groups ideally complement each other, but, in reality, they see each other as competitors and often think that a transfer of power is a zero-sum game.

The relationships between central and local government entities have often been strained in

decentralised systems. The local governments claim that they have their own authority and power. However, the central government alone tends to maintain its authority, whilst the local governments remain dependent on it for financing development in the form of either DAU (General Budget Allocation) or DAK (Special Budget Allocation) programmes. Most regions do not have enough funds for disaster mitigation activities. However, the presence of CSOs itself can mean a lot to the community, especially when they form a diverse group of NGOs or non-profit organisations in the community that play an important role in the democratic society (Diamond, 2002; Mercer, 2002; Putnam, 1995; Sismudjito, 2007).

Governability, Civil Society and Disaster

The central government still has a paradigm in place that civil society is a rival in the handling of the disaster. This is insofar as the role of civil society has been not fully appreciated. This can be seen from policies related to natural disasters: Law No. 24/2007, Government Regulation No. 24/2007, PP No. 22/2008 (Peraturan Presiden RI, 2009), Government Regulation No. 23/2008 and Presidential Regulations No. 8/2008. Most of these policies do not specify how the government should cooperate with civil society groups in tackling a disaster event.

Nonetheless, the government has made its own rules relating to disaster-related funding in the national budget and international assistance to post-disaster recovery efforts. These regulations limit the local CSOs from cooperating with international NGOs. Another issue is that disaster management bodies established by the government seem exclusive, and in many areas, disaster management agencies do not work effectively before a disaster actually occurs.

The role of volunteers in handling a disaster event has become more important since the beginning of the democratic era. The national and local governments should be made aware of community involvement in making policies related to the natural disasters. No doubt, the government itself is ineffective in its handling before, during and after disasters without the support of the community. Civil society requires only relatively a short time to organise itself for mutual partnership deals concerning various issues related to natural disasters, including evacuation, medical care and treatment, meals, clothing, shelter and other basic needs.

Putnam (1995) offers a provocative thesis relating to the problems faced by civil society in the United States. He argues that society's health is being threatened by the erosion of relationships, networks and interactions.

That is why, he argues for the role of social capital in society. In contrast, natural disasters in Indonesia have occurred prior to the strengthening of the formation of civil society groups and associations at both the local and national levels. Moreover, community organisations also use the Internet to conduct fund raising and provide information related to natural disasters and to publish opinions about public policy advocacy.

According to Putnam, unlike financial capital or human capital, social capital is created by human interaction—which is often fostered by clubs, organisations and other forms of interaction. Social capital allows for greater productivity, promotes volunteerism and encourages concern for the greater good. In the case of Yogyakarta, the situation is similar to Putnam's idea that social capital is created as people interact. Also, one of the ways that social capital is created is through voluntary organisations. Some organisations only admit people who already think alike, creating what Putnam calls 'bonding' social capital. Other organisations bring together people from very different backgrounds and beliefs, creating 'bridging' social capital. While both bonding and bridging social capital are useful in a society, it is bridging capital that is particularly useful in a pluralistic democracy.

To see further how community roles and government failures affect the results of efforts intended to address natural disasters, this paper will present two cases that occurred in Palu, namely, the Palu earthquake in 2018 and the Tsunami exploded in 2018. These dual disasters in Palu are important to observe because of the area's special political status, the cultural values that have affected the shape of policy and how there has been competition between local and national authorities.

3.1.3 Indonesian Case Studies in the Challenges of Disaster Response

We have also witnessed that the government agencies which should respond to disaster event can fail to do so. This is typically because of disaster management lacking appropriate coordination and communication. The government should also take responsibility for making policies related to the natural disasters through the strengthening of civil society groups and associations at both the local and national levels.

The public response in handling disaster can be divided into three phases. First is the emergency response phase, when the Humanitarian Department gave aid directly to the victims since the first day of the disaster. The emergency response period lasted about a month. In this phase, attention was given on major business needs of daily life of the victims, so as to mitigate suffering and to

facilitate survival until things recovered. Civil society groups arrived after the earthquake happened.

The next phase was the transition, essentially a period of social preparation for restarting their life as well as before disaster struck again. Social institutions must be rebuilt. Therefore, the purpose and main goal of this stage were the formation of formal organisations of government at village levels, which would mobilise other citizens to engage in recovery and restructuring of infrastructure and socio-economic institutions in their villages. This stage was meant to foster awareness of self-esteem and their dignity as human beings with a spirit of solidarity and cooperativeness.

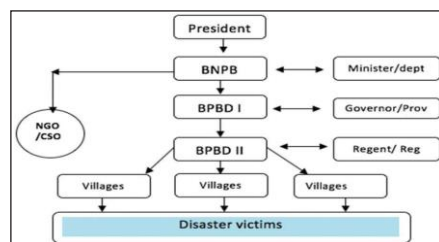
The next stage is reconstruction and rehabilitation. This stage is the real core of the whole process of disaster management. Based on experience, this stage is also the most often overlooked or is regarded as a primary responsibility of the government alone. As a result, many of the processes of recovery and restructuring in many areas during this disaster took place within the framework of a centralised approach and tended to ignore the principles of community participation and local autonomy for social institutions. Thus, some NGOs tried to stay involved in this final stage with the main purpose of creating a 'model' recovery and community-based reordering, in response to the government's weak handling of community empowerment programmes.

Unfortunately, the policymakers did not pay any attention to this local 'science' in the community. Therefore, the national government and local government failed to learn from the experience as a basis for future public policy design. Many natural disasters have occurred in Indonesia, but they do not serve for either a heuristic or an incremental approach and allow for learning from previous mistakes in disaster management. So far, government entities have always used emergency response teams rather than mitigation planning. It might seem too hard to implement, because the natural hazard happens simultaneously in many places. In fact, emergency responses cannot reduce the effects of a disaster, and solutions are not found with a 'business-as-usual' approach. When disasters occur, the government spontaneously adopts a policy that creates new difficulties when entering the post-emergency phase. In fact, these natural disasters can be predicted, and science is highly developed, but governments are reluctant to use preventive measures (Sukma, 2010). Therefore, local and national government budgets for disaster mitigation are very small compared with the budget allocations for emergency response.

The facts on the ground show that local NGOs and community organisations have been involved in disaster management activities for years, and they are not

limited to emergency response only. However, to date, the government still considers the role of communities and CSOs to be limited to spontaneous activities. This is reflected in the manual handling of the disaster, as shown in the chart in Figure 1.

Figure 1. Stakeholders Involvement in Disaster Management Process



Sources: BNPB

The government places itself in a position of regulator rather than a facilitator. Instead, society that later became the owner of the building is often used as an object of policy. Whereas the disaster-affected communities do not do enough to emphasise the function of policy-making, there is no clear mechanism on how the decision should be executed. Some victims of natural disasters do not even get basic rights: security, sanitation, education and food in times of emergency.

The role of the community cannot be underestimated in any occurrence of a natural disaster. Local organisations are hesitant to take over policy-making in an emergency, but they could decide where to evacuate and how to distribute food to refugees. At the time of an emergency, when assistance from the government does not come, local communities and NGOs take care of everything. This section presents some serious problems and the role of civil society in dealing with this issue. Of course, we will also identify what should and should not be done by the government as the owner of authority (Woodward, 2010).

process while agility correlate to the creativity, improvisation and adaptability. In the case of Palu, the discipline is fully owned by the military force, and the agility is found in the CSOs or within communities. They complement each other. Without discipline and agility, it is predicted that even a small disaster will have a major impact. Natural disasters are often followed by conflict, and social crisis can be a result of the destruction of social and political institutions in the community. A clear indicator of this is that, in post-disaster areas, it is often necessary to create new groups in society who tend to dominate in determining the policies and access to resources. This was studied in the work concerning the sociology of disasters (Stalling, 2002). The delivery of public services should be comprehensive by taking into account multiple aspects and multiple disciplines (Harrald, 2006; McEntire, 2002).

In the view of McEntire (2002), disaster management requires a holistic public policy, measurable in terms that can be evaluated at each step of the way. In addition, the model must be flexible for disaster handlers from one approach to another approach. They gave as an example the spontaneous method of search and rescue—that is, to save the living first, then work for a self-resilient community, sustainability, development and a comprehensive approach to emergency management, with the final idea being comprehensive vulnerability management. This concept is an innovation that offers scientists a model to reduce the impact of disaster risk, especially useful in Indonesia, which is geographically located in the Pacific ring of fire.

Although the government may be supported by a huge amount of money, this will not automatically entail an optimal implementation of disaster management. Such failings could be due to the absence of PPPs, leading to low professionalism, lack of agility and lack of discipline in overcoming natural disasters. Generally speaking, government entities are caught up by complicated bureaucracy, wherever and whatever the situation. We can see how BAKORNAS and BNPB dealt with the Palu earthquake and Tsunami. They were not ready to face the human tragedy. In a time of disaster, it is similar to the war on terror, in that government agencies should change their approaches and strategies from centralised policy to community-based and partnership-based policies. In addition, national and local governments ought to work with all elements of society to achieve these ends. The question is this: how we can best create an understanding and awareness among society and government entities to build partnerships within the framework of disaster management in a sustainable manner.

Conclusion

Under the authoritarian regime, the state played a central role in policy-making and dealing with social problems. The democratic state has led civil society to get involved in natural disaster management, for the mitigation, emergency response and post-disaster recovery. This has increased the number of opportunities for communities to play a significant role in all aspects of life. However, the community's role is often misunderstood as being a competitor to the government (less capacity), which poses a dilemma for a society that is in transition from an authoritarian state. On the one hand, they want to strengthen the state authority and, on the other hand, they want to play a bigger role in building a better community.

As pointed out earlier, the findings from this paper are, first, that the public has a central role in disaster management both before and after the government-imposed law 24/2007. Second, the government has-to-

date failed to create better public services and local-value-based policies in Palu. It is important to emphasise these points because Palu has strong local wisdom and local knowledge in facing natural and social problems. Finally, both national and local governments failed to build private-public partnerships, national-local government cooperation and state-society relationships in order to better engage in natural disaster management.

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The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

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