Examining the Effectiveness of Government Agencies in Disaster Recovery: Evidence from Indonesia

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Abstract:
This paper seeks to examine the effectiveness of government disaster management agencies in Indonesian post-disaster recovery. The case studies focus on the Central Aceh earthquake and Mt. Kelud, East Java, volcanic eruptions in 2013 and 2014 respectively. The findings suggest that while the local government disaster management agencies (*Badan Penanggulangan Bencana Daerah*/BPBD) were responsible for the recovery process in both the affected areas, the outcomes differed significantly. Different social contexts in the two locations such as local politics, budget constraints, institutional capacities and the challenges of the decentralization policy were among the driving factors that led to different outcomes. The policy implication suggests a need for stronger coordination and partnership to achieve better results in disaster recovery operations. This study is drawn from this author's fieldwork in Aceh, East Java and Jakarta, using a qualitative approach mainly employing in-depth interviews and observations.

Keywords: *disaster recovery, local government, decentralization, Gayo, Kelud, Indonesia*

1. Introduction

Indonesia is one of the most disaster-prone countries in the world, which regularly experiences disasters such as tsunamis, earthquakes, volcanic eruptions, floods, landslides and droughts. This paper seeks to explore the extent to which the Indonesian government has been effective in providing recovery assistance to communities affected by natural disasters.[1] It is fair to say that disaster management practice in Indonesia has been improved from time to time where the 2004 Indian Ocean earthquake and tsunami served as a catalyst and a driving factor that has led to the significant

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1 For the purpose of this study, I use the UNISDR (2009, 23) definition of disaster recovery as "the restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors." This definition implies that disaster recovery is a process designed to make things better, and is multi-dimensional, i.e., economic, physical, social, cultural and environmental.

development of policies and institutions related to disaster management. As evidence, the Disaster Management Law was enacted in 2007, which designated the government as the main responsible party in disaster management in Indonesia. A year later, a dedicated government agency called the Disaster Management National Agency (*Badan Penanggulangan Bencana Nasional*/BNPB) was established at the national level. The government was also required to establish provincial and district-level disaster management agencies, both named *Badan Penanggulangan Bencana Daerah* (BPBD). Further details will be discussed in another section of this paper.

This paper examines the recovery efforts by the Indonesian government in two disasters in Indonesia, namely the 2013 Gayo earthquake in Aceh and the 2014 Mt. Kelud eruption in East Java. On July 2, 2013, a 6.1 magnitude earthquake struck the Central Aceh and Bener Meriah districts in Aceh Province of Sumatera, 2013. The disaster killed 42 people, injured 558 persons, and displaced more than 50,000 individuals. The estimated financial loss was IDR 1.4 trillion, equivalent to roughly USD 104 million (BNPB, 2013). Less than a year later, Mt. Kelud erupted on February 13, 2014. Four people died and over 200,000 inhabitants of 35 villages who live within a 10-kilometer radius of Mt. Kelud had to be evacuated. In total, 56,089 displaced people were temporarily housed at 89 evacuation centers across the Blitar, Malang and Kediri districts. The volcanic ash from Mt. Kelud traveled more than 250 kilometers, across four provinces, namely East Java, Yogyakarta, Central Java, and West Java. The ash damaged many houses across these areas and forced the closure of seven major airports on the Java islands. The most heavily affected regions were Malang and Kediri districts. In terms of financial losses, it was estimated to have cost around IDR 1,1 trillion or USD 90 million (BNPB, 2014).

Figure 1. Study sites: The Gayo earthquake and Mt. Kelud Eruption in Aceh and East Java provinces respectively. Created by the author.

2. Previous Studies and Research Significance

Studies on the role of government in the recovery phases of disasters that occurred after 2008 are scarce. One of the few scholars who focuses on this issue is Sulistiyanto (2014). In his research on the roles of both the local and central governments in responding to the 2010 Mt. Merapi eruptions in Yogyakarta, Sulistiyanto (2014) demonstrates that there was poor disaster governance by both the local and national governments. Some issues raised were, for instance, the lack of management and coordination between the provincial and district government agencies, data inaccuracy, reduced

payments for the survivors and political tension between the local leader of Yogyakarta (Sultan Hamengkubuwono X) and the Indonesian President (Susilo Bambang Yudhoyono at that time).

Additionally, studies on the role of the government in disaster management in Indonesia largely focus on the capability and capacity of local government agencies (Kusumasari and Alam, 2012; Anantasari et al., 2017; Kusumastuti, 2014; Yumarni and Amaratunga, 2015). For instance, Kusumasari and Alam (2012) argue that the local government, in this case the Bantul of Yogyakarta, had a good capability in response to the 2006 Java earthquake. The achievement of the local government in disaster recovery was demonstrated through its ability to employ local culture and wisdom with a focus on community empowerment. However, they found that the government's weakness was in policymaking as there was a lack of regulations particularly regarding building disaster preparedness. In their research on the government housing reconstruction program, Kusumastuti (2014) suggests that the degree of success in disaster management practice at the local level relies highly on the competency of local government institution (BPBDs) manager. She argues that local disaster managers with higher competency will perform better and further contribute to the positive results of disaster recovery outcomes. In contrast, Anantasari et al. (2017) believe that all government staff involved in disaster risk reduction at the local level – not necessarily only managers and staff belonging to disaster management agencies – play a critical role in producing positive outcomes of disaster management. Their study found that, in general, the capacity and capability of the local staff needs to be improved. The local BPBDs staff in particular are relatively weak in coordination, planning and budget negotiation. Finally, Yumarni and Amarunga (2015), look at the role of the local government from an integrating gender-mainstreaming perspective in the disaster context. The findings of their study reveal that the capacity of local government has improved, mainly because of women's leadership and participation, financial resources, and assistance from non-state actors such as NGOs and local gender organizations. In short, the local government alone cannot perform well without external support.

The studies above, while acknowledging the significant roles of the local governance in Indonesian disaster management, did not discuss much on another equally important aspect, that of central or national governance. This paper seeks to fill the gap by exploring the dynamic interaction at different levels of state agencies; namely the national, provincial and district levels respectively, and how these dynamics affect the performance of the government in delivering recovery assistance in a post-disaster context.

Indonesia, following the fall of the authoritarian regime of Soeharto in 1998, has transformed into a democratic country. Prior to 1998, Indonesia adopted a centralized "state corporatism" policy, with emphasis on cooptation and repression (Carnegie, 2008, 519). In practice, the local government did not have any power except to follow policies issued by the central government. The so-called *Reformasi* or Post-Soeharto era has provided a space for dynamic relations between national and local government institutions through decentralization policies, where power has been shared between government agencies at all levels. Decentralization is supposed to lead to a "more efficient, accountable, and equitable planning and development" (Das and Luthfi, 2017, 85), including in disaster management.

Additionally, there has been little attention to study on the intersection of decentralization and disaster management, particularly in the Indonesian context. Among a few, these studies have been conducted by scholars like Scott and Tarazona (2011), van Vorst (2015), Grady et al. (2016), and Putra and Matsuyuki (2019). These researchers maintain that decentralization is supposed to improve

disaster management practices, including disaster recovery. However, there are also challenges of decentralization that may prevent disaster management from running smoothly. In other words, decentralization was proven to be either one of the keys to success or one of the challenges for disaster recovery in Indonesia.[2]

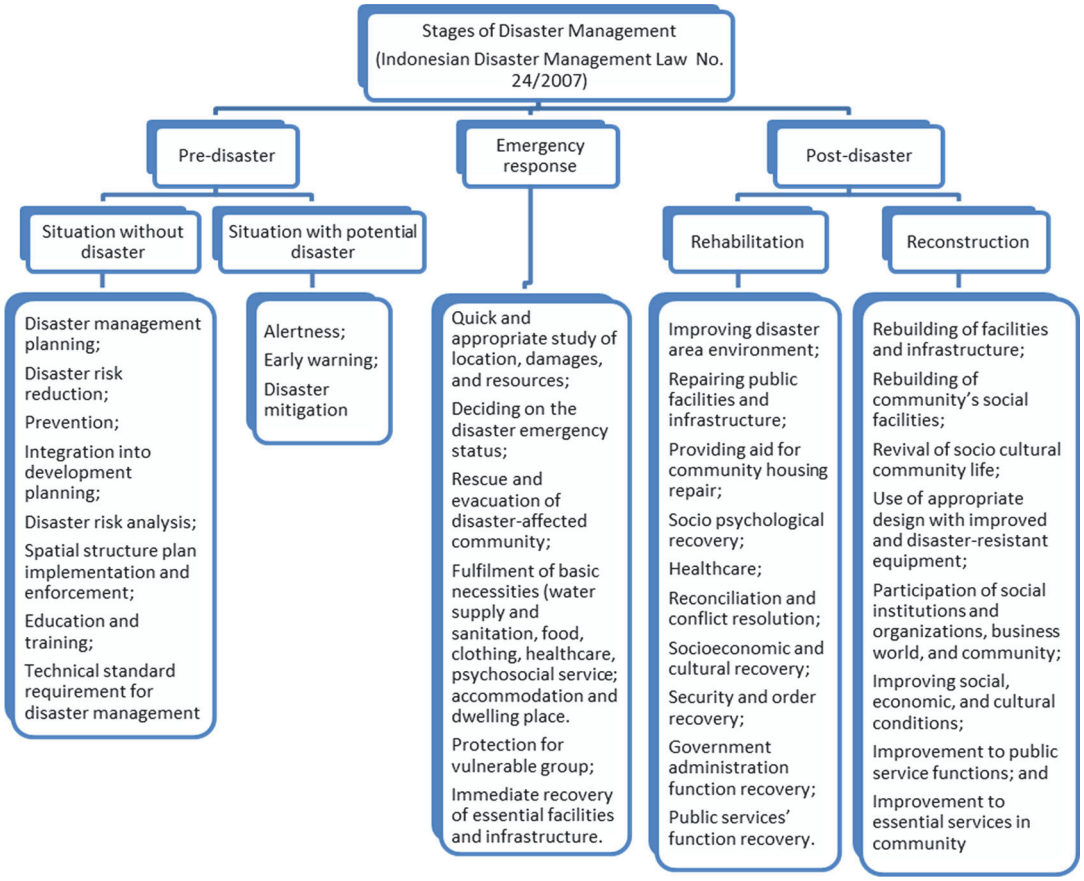

Figure 2. Disaster management cycle and its breakdown activities according to Disaster Management Law 24/2007. The figure was developed by the author.

With these developments in mind, this paper seeks to answer the following questions: To what extent has the Indonesian government been effective in delivering disaster recovery assistance to the affected communities in both East Java and Aceh? What are the key challenges that were faced by the Indonesian government? What are policy recommendations to improve the practice of disaster recovery by the Indonesian government?

2 One considerable outcome related to decentralization was the enactment of Disaster Management Law No. 24 in 2007, which has made fundamental changes in disaster management practices in Indonesia. The Law openly declares that it is the government (both national and regional or local) that holds the main responsibility in all phases of disaster management (pre-disaster, during disaster, and post-disaster, as illustrated in Figure 1) in the country. Article 5 of Chapter III on Responsibility and Authority states that "government and regional governments shall bear responsibility for disaster management" (The President of the Republic of Indonesia, 2007, 6). The Law further states that as the Indonesian government bears the main responsibility for disaster management in Indonesia, they shall establish national and local institutions in the field of disaster management. The development of national and local disaster management agencies, namely the BNPB and BPBD will be briefly discussed in another part of this paper.

3. Methodology

This study uses anthropology of disaster's approach. According to Henry (2005, 17) anthropology "offers the field of disaster studies broad comparative, contextual, and cross-cultural perspectives, particularly from its extensive work in the developing world." Thus, the overall character of this study is exploratory, using a qualitative approach. The first fieldwork was conducted in three places, namely Jakarta, Central Aceh and East Java, from April to September 2015, and followed by the second fieldwork in Central Aceh and East Java in July 2021.

There are two reasons for selecting these two disasters. Firstly, studies on disasters in Indonesia mostly focus on large-scale disasters such as the 2004 Indian Ocean Tsunami, the 2006 Java earthquake, the 2009 West Sumatra earthquake, and the 2010 Mt. Merapi eruptions. Research on medium-scale disasters that happen more frequently than large-scale disasters is still scarce. Secondly, in terms of timing, the two disasters occurred just before the author started the first fieldwork in 2015 when there was a need to explore the dynamics of post-disaster recovery. The findings, however, suggest that the context is still relevant to current scholarly and policy discussions related to the governance of post-disaster recovery in Indonesia.

During the fieldwork, I used mainly in-depth semi-structured interviews with key informants as well as participant observations. A total of 44 respondents were interviewed, representing government bodies, Civil Society Organizations (CSOs), affected community members or disaster survivors. The interviewees were selected because of their involvement in disaster response and recovery in both disasters, in Aceh and East Java. Interviews with government and CSOs staff were conducted during office hours, while those with community members were more informal, usually in the early morning or evening outside their working hours. The interviews were conducted individually and lasted for about 45 to 60 minutes each. They were audio-recorded and transcribed verbatim. The general questions for the interviews were on the detailed process, the outcomes and the challenges of disaster recovery in the affected areas. Additionally, I conducted a triangulation (using more than one method and source of data collection) by employing a literature review which involved the collation and review of the existing literature, documents, reports and media. The benefit of triangulation in qualitative research, according to Phillips (1997, 188) is that it "enhances the credibility and trustworthiness of the data and findings, permits for that desirable thick, rich context to develop, and facilitates emergent questions and problems."

4. Results and Discussion

Years after the Merapi eruptions in 2010, have government agencies learned from the recovery in Yogyakarta and from other disaster-affected areas? The findings of this study suggest that it depends on the context. Both the BNPB and BPBD in Gayo performed better than in the Mt. Kelud disaster recovery. However, it does not mean that the governance of the disaster recovery in Gayo was completely positive. I separate the analysis into three aspects: recovery planning, organizational strength and coordination, and the implementation of recovery. These three aspects were derived from the findings of this study, using the inductive approach of an anthropological perspective. This approach focuses on hypothesis-generating research, instead of the deductive approach which is based on hypothesis-testing research (Bernard, 2018).

(1) Recovery Planning

I measure the extent to which government agencies have been successful in recovery planning in Indonesia through the process of developing a planning document called the Action Plan (*Rencana Aksi/Renaksi*). As I will explain shortly, the Action Plan is an instrumental policy document that influences the results of recovery. In Gayo, the development of an Action Plan brought a positive outcome. The evidence was the enactment of the "Action Plan for Rehabilitation and Reconstruction After the Earthquake Disaster for District of Central Aceh and Bener Meriah Year 2013-2014." It was signed and endorsed by the Head of BNPB (*Peraturan Kepala BNPB*) and numbered 01/2013. The date of endorsement was August 30, 2013, which means the regulation was issued exactly one month after the earthquake. This is in stark contrast to the Mt. Kelud case in which the Action Plan had still not been agreed to or signed in 2015, one year after the eruption. What explains this difference? I contend that it was due to the complexities of the budgeting process and the politicization of the disaster.

In terms of the budgeting process, to get funding from the national government, the local government had to develop an Action Plan.[3] In the context of both the 2013 Gayo earthquake and the 2014 Mt. Kelud eruption, the United Nations Development Program (UNDP) Indonesia provided technical assistance to the government in conducting assessments and developing an Action Plan. Results from the assessments were further developed into detailed resources, i.e., recovery activities, a timeline and financial budget. All levels of government agencies (national, provincial and district) have to agree and share responsibility for these aspects and finally issue a committed Action Plan, which has to be implemented.

In the Gayo earthquake, the agreements between the three levels of government were reached, which led to the enactment of the Gayo' Action Plan mentioned above. The district BPBD was responsible for implementing recovery activities. The provincial and national agencies took part in monitoring and evaluation. In relation to a timeline, the three levels of agencies agreed that the recovery should start immediately and run until December 2014. In relation to budgeting, the allocations were also clear. The total approved budget for the recovery was USD 62 million. There was no financial responsibility attached to the district government. Rather, it was shared between the provincial and national governments. The latter covered most of the recovery cost.[4]

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3 Disaster Management Law (Article 35 and 36) specifies that every region, either province or district/municipality, has a responsibility to prepare a plan for all phases of disaster management (The President of the Republic of Indonesia, 2007). In the pre-disaster phase, the plan focuses on building preparedness and mitigation. The plan includes a mechanism and guidelines for disaster preparedness and mitigation, including preparation of a contingency plan. In the phase of disaster, the government has to develop an Operational Plan for managing emergency activities. This includes the allocation of a budget for emergency called *Dana Siap Pakai* (Ready to Use Budget, DSP). Lastly, in the recovery phase, an Action Plan is needed. The development of an Action Plan is based on two assessments conducted by the BNPB and BPBD jointly called the Damages and Losses Assessment and Human Recovery Needs Assessment. These assessments focus on the following five elements: housing and settlement, infrastructure, economy, social, and cross-cutting sectors (governance, security and banking).

4 The shared budget was for housing reconstruction activities. The government has three classifications of the damage level of affected houses: heavy, medium, and light. The national government allocated the budget for reconstruction of heavy-damaged homes at USD 2,800, medium-damaged homes at USD 1,400, and light-damaged homes at USD 700. However, the estimated cost for heavy and medium damaged houses was higher than the allocated funds, estimated to be USD 4,200 and USD 1,700 respectively. The remaining gap was filled by the Aceh government which decided to use a portion of the annual local budget for the housing reconstruction. In

The Mt. Kelud case was similar to Gayo's case except for the process of reaching an agreement on a budget for the recovery fund.[5] The estimated funds needed for the recovery were USD 30 million. In July 2015, the draft of the Mt. Kelud Action Plan was endorsed at the district level. At the provincial level, the process of budgeting became deadlocked. The reason was political. When Mt. Kelud erupted a year ago, the Governor of East Java told the media that he would allocate USD 70 million to the recovery (Ali, 2014). When the national government heard this news, they considered that amount to be enough to fund the recovery activities, so they waited to make sure the Governor kept his promise.[6] In the end, the amount of USD 70 million was actually not available, but was rather only a political promise.

The tension between both the provincial and national governments can be seen in the following contradicting statements. The East Java BPBD perceived that they had fulfilled their responsibility and used their available budget. According to the Head Executive of East Java BPBD:

> We are confident that we have done our best. There is no other province that, when a disaster occurred, it was declared directly as a provincial disaster [main responsibility of district level]. We did not beg [from others] but directly spent our money. Then they [BNPB/national government] talked about the Action Plan. But those at the Central [national government] level should have tried to coordinate well first so that the accumulated [budget] could be collected. We filled the gap by giving [IDR] 60 billion. So, the Central government should coordinate well. Not only were we required to but also the Central government could have approved. Was the Action Plan required? We had already proposed [the fund]. (Interview, Surabaya, June 5, 2015)

When I presented the respondent's opinion to a BNPB representative, the latter argued that it was the responsibility of the East Java BPBD. The national BNPB will help only if the district and provincial governments are unable to deliver recovery assistance. The BNPB's Social Economy Director for Rehabilitation and Recovery Division says:

> Actually [the required fund] was not big and based on the law, the most responsible agency was at the district level. If the district was not capable, then the province, then the Central government. From the analysis, it was not correct to say it was the Central [government's responsibility]. We at the Central (government) are ready to help.... But the Action Plan cannot go alone. It has to be proposed to the Central Government because, in the law, there is no formulation that the money will automatically come. It still has to be based on a proposal [formal request] from the local government. Try to check the laws. [The proposal] did not exist (Interview, Jakarta, June 11, 2015).

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summary, in the context of Aceh, there were clearly defined responsibilities divided among the district, provincial and government agencies. For details of the funding responsibilities, see BNPB (2013 p. 82).

5 In relation to the specific funding for disaster recovery in Indonesia, the money comes mainly from the state budget (*Anggaran Pendapatan Belanja Negara, APBN*) and the local budget (*Anggaran Pendapatan Belanja Daerah, APBD*), and in some cases, grants from donor agencies. The district government holds the primary responsibility to ensure a budget is available. If the district fund is insufficient, the district will ask for support from the provincial government. If both the provincial and district government need more financial support, they can request it from the *BNBP*.

6 The total damage was USD 82,000.

In response to the tension above, the UNDP, which was involved in the development of the Action Plan in Kelud, attempted to act as a mediator between the central and provincial governments. On March 25, 2015, the UNDP facilitated a meeting between the BPBD and BNPB. It was revealed that the promised IDR of 1 trillion did not exist (Interview with Rinto, UNDP, Yogyakarta, May 25, 2015).[7]

(2) Decentralization Effect: Organizational Strength and Coordination

Booth (2005) argues that the post-Suharto period was marked by the decentralization of power, and governance was shared with local leadership. Evidence of this can be found in Law Number 22 on Local Governance, passed in 1999. In contrast to the Suharto period when all resources and power were centralized, Law 22/1999 details the new decentralized Indonesia. In short, there was more autonomous power at both the provincial and district/municipality levels.[8]

By autonomous power I mean that each district had to develop its own capacities. In relation to disaster management agencies, each local BPBD, particularly at the district level, should have adequate capacity (Table 1). In this regard, the level of institutional capacity of BPBD was categorized as being either Level A or B as regulated by the Instruction of Minister of Internal Affairs 46/2008. Level A indicates a strong institutional capacity of local agency while Level B refers to a relatively weaker BPBD. The BPBD in Central Aceh and Bener Meriah were established in 2010 and graded as level A BPBDs. The BPBD of Malang and Blitar were found, in 2011 and 2012 respectively, also to be level A BPBDs.

In contrast, the BPBD in Kediri was classified as level B. The reason for this was the lack of political will and its limited resources. The development of the BPBD at district level was the

Table 1. Comparison of different capacities among BPBDs involved in disaster recovery of the studied cases. Source UNDP & FAO (2016), modified by the author.

Component of Capacities	Blitar/Central Aceh/ Bener Meriah BPBD	Malang BPBD	Kediri BPBD
BPBD Level	A level	A level	B Level
Local legal framework	Local law for DRR enacted	Local law for DRR enacted	No local law
Planning document	Developed DRR plan	Developed DRR plan	No plan
Budgeting	Allocated budget	Allocated budget	Allocated budget only after 2016
Networking strength	Medium extensive with emergency actors	Medium extensive with emergency and DRR actors	Limited network
Resources and support for disaster management	Infrastructure and personnel equipped	Infrastructure and personnel equipped	Limited. Infrastructure and personnel not equipped

7 When my fieldwork was completed in September 2015 (which was more than a year after the Mt. Kelud eruption), the process of negotiation was still ongoing. When I came back to East Java in 2021, I found that the program was delayed and finally completed in 2016. The complexities mentioned above, particularly relating to the budgeting process, have led to different results in the Gayo and Mt. Kelud areas.

8 For more on decentralization see for example Aspinall and Fealy (2003); Hill (2014).

responsibility of the Regent. In Kediri, there was no initiative from the Regent to support the BPBD. As a result, the BPBD Kediri had weaknesses in planning and implementing disaster management activities, including recovery.

One negative result of the limitations of BPBD Kediri was its poor coordination with other BPBDs. As Kelud affected three districts, the Kediri BPBD had to coordinate with the Malang and Blitar BPBDs. However, the coordination between these three agencies was difficult (Wasono, 2015).

In contrast to Mt. Kelud, the findings in Gayo showed that the coordination between government agencies in the Central Aceh and Bener Meriah districts was efficient because they were at the same level (A). They were also able to develop good coordination with provincial and national agencies. The Aceh government and the Central Aceh government developed a father-son relationship. This indicates the strong family relationship. While the district government could sometimes bypass the provincial level by communicating directly with the national government, it can be understood as a consequence of decentralization. According to the Head of Rehabilitation of Reconstruction of Aceh BPBD:

> [Coordination] is maintained, as a must, but still as father and son. It is not obligatory but now we have autonomy so the district government can go directly to the Central (government). For example, if they need more funds they can go there because we do not have enough here. So they can ask [the Central] immediately. Sometimes we were informed but sometimes not because of the autonomy. They considered themselves to be stand-alone but actually if there is autonomy, the province is still the parent. ...The most important thing is that the people are supported. (Interview, Banda Aceh, September 16, 2015).

The good coordination between Central Aceh BPBD and BNPB is expressed below:

> [Coordination with the BNPB] was good. Whatever we say it was about the budget [availability]. They [BNPB] tried hard. In addition to the housing, they also supported the infrastructure. There are some roads that were reconstructed, particular in Ketol [Subdistrict of Central Aceh]. We had five roads that have been paved by the Central government. (Interview, Takengon, August 27, 2015).

From the situation outlined above, we clearly see that the unequal level of BPBDs had caused a lack of coordination. As this is evident in the Mt. Kelud case, I argue that this weakness has contributed to the delay of recovery and resilience building.

(3) Recovery Implementation

There were different approaches to recovery implementation by the government in both respective areas. For instance, in terms of economic recovery, the local government in Gayo implemented a cash-for-work program for earthquake victims. Households with heavy and medium-damaged houses received a daily amount of IDR 50,000 (USD 3.5) for two months, and this was reduced to one month for those whose houses were only slightly damaged. The cash-for-work programs have been implemented in many emergency areas.[9] However, the assistance had only short-

9 For some scholarly works on cash-for-works see, e.g., Doocy et al., 2006; Farrington and Slater, 2006; and Harvey, 2007.

term benefits, thus, was unable to provide a longer-term recovery impact. Meanwhile, the case of Mt. Kelud was worse, as there was no evidence of economic recovery assistance. The main reason was the lack of an available budget in the Action Plan, as discussed above.

However, both governments do have something in common. In terms of a timeline for the implementation of both recovery Action Plans, government agencies in both Gayo and Mt. Kelud delayed the implementation of recovery. According to Gayo's Action Plan, the housing construction should have started by September 2013 and been completed by December of the same year. In reality, it was only completed two years afterward. During my fieldwork in Gayo in 2015, I found that some houses were still under construction. The housing recovery project was finally targeted to be completed by the end of 2015. In relation to the recovery of other sectors, it was planned that it would be conducted between January and December 2014 (BNPB, 2013). Yet, the progress was also delayed for a year. The impact was massive, with many communities forced to live in temporary accommodation such as in tents or temporary shelters for a long time.

In the context of Mt. Kelud, it was even more difficult to trace the progress of reconstruction due to the bottlenecks explained above. According to the Action Plan, the housing reconstruction projects should have been initiated by July 2014 and finished in December of the same year. Reconstruction in other sectors was planned from August 2014 until the end of 2015. Interestingly, in the timeline outlined in the Action Plan (BNPB, 2014, p. 197), there was an additional column in which was written "*pasca tahun 2015* (after year 2015), which means that there was a possibility that the recovery program would continue into the following year, but it was not mentioned exactly when it should be completed. At that time, there was no data available on the progress of the recovery by the government in targeted areas. As I mentioned earlier, the reconstruction effort by the government was delayed and finally completed in 2016. Similar to or worse than the Gayonese society, the communities in East Java had to wait even longer for the government to help them in recovery. In summary, the delay of implementation by the government has harmed community recovery and resilience in both Gayo and Mt. Kelud.

To sum up, the findings presented above demonstrate that the roles of government agencies in disaster recovery varied. The whole process of recovery depended on the local capacity of each BPBD and the socio-political contexts.

5. Conclusion

I have emphasized that disaster recovery is a complex process. The first question this article has sought to answer is to what extent has the Indonesian government been effective in delivering disaster recovery assistance to the affected communities in both East Java and Aceh? In summary, the findings show that the government had inadequate capacity to manage disaster recovery in the areas affected by the Gayo earthquake and the Mt. Kelud eruption. While the recovery assistance by the government in Gayo was provided in a more efficient way than in Mt. Kelud, particularly in terms of planning and coordination, I argue that the implementation of recovery, in general, was ineffective. Both national and regional disaster management agencies (BNPB and BPBD) in Gayo and Mt. Kelud struggled to deliver timely recovery assistance. I argue that the government agencies did not really learn from previous disasters, such as the case of the 2010 Mt. Merapi eruption mentioned above.

The second question is regarding the key challenges faced by the Indonesian government. Despite the Indonesian government's long involvement in disaster recovery and experience in managing

complex emergencies in the country, this study, particularly the case of Kelud shows that there were challenges that hampered the recovery efforts. There was disharmony, i.e., a lack of coordination between local, regional and national governments, weak institutional capacity, and limited resources, which led to delayed recovery outcomes. The decentralization in Indonesia since the early 2000s has not always been advantageous, particularly when dealing with low capacity and scarce resources at the sub-national level.

The third research question is regarding policy recommendations to improve the practice of disaster recovery by the Indonesian government. Firstly, better planning and coordination are crucial in order to facilitate the process of a seamless recovery. Secondly, due to the limited capacity particularly regarding funding for disaster recovery, the government needs to find additional resources to support their work. This can be done by approaching potential donors and humanitarian actors such as the World Bank, UN agencies, NGOs, philanthropic groups, and corporations. Finally, while the Indonesian government is responsible for disaster management, it cannot do all the disaster recovery jobs by itself. To improve recovery practices, it would be better for the government to work collaboratively with other disaster recovery agencies, which in this case study was found to be lacking. This can also become the potential basis for future research on how to improve the governance of disaster recovery in the country which can provide good lessons to be learned for Indonesia and beyond.

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