



The Strategies and Challenges of Non-Governmental Organization Roles In Flood Disaster Management In Jakarta

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ABSTRACT

The paradigm shift in disaster management places non-governmental organizations (NGOs) as the actors who contribute to the process. However, NGOs still face many challenges both internally and externally. The author tries to find challenges from the role of NGOs and tries to formulate the right strategy. This research is categorized as a post-positivist paradigm and uses a mixed active method. The NGOs analyzed were Yayasan Peta Bencana and MPBI. The results show that there are internal and external challenges. The challenges are the number of volunteers is limited, lack of volunteer knowledge, there is no program evaluation, and financial accountability from NGOs. Meanwhile, external environmental barriers are still low in understanding and role of society and the contribution of the private sector is still low. The authors formulate nine strategies to overcome these problems. A limitation in this study is that researchers only use secondary data to explain the role of either the government or other actors.

Keyword:

Challenges, Disaster Management, Role of NGO, and Strategies

INTRODUCTION

Disaster is a term used to describe a whole range of distress situations, both individual and communal (Kumar, 2000). These distress situations can cover a wide range of phenomena both caused by either nature or human-made such as earthquake, volcanic eruption, tsunami, tropical cyclone, flood, landslide, bushfire (or wildfire), drought, epidemic, major accident, civil unrest, starvation, plagues, and rats/locust infestation (Kumar, 2000; Carter, 2008). The efforts to minimize its

impact can be done in the form of humanitarian response and designed human intervention. While humanitarian response capacities are vital and need continued attention, the focus on addressing risk underlines the recognition that human intervention intended to reduce the vulnerability of communities and assets can reduce disasters (UN/ISDR, 2002). Multisectoral involvement is one of the critical aspects to ensure disaster management effectiveness in application.

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Moe & Pathranarakul (2006) and Carter (2008) stated that disaster management must establish arrangements to engage governments, voluntary and private agencies in a comprehensive and coordinated way.

As one of the actors that usually need to be involved in disaster management, NGOs certainly have a particular role that is hard to replace by other actors, with their ability to mobilize volunteers and funds in ways that the government cannot. They help connect various actors, mental rehabilitation, data collection, food aid, call for help, temporary shelter building, reproductive health issues, and specialized services that communities need to rebuild (TEC, 2006; Verayanti, 2011; Osa, 2013; Yuanjaya, 2015; Farazmand, 2016). NGOs' roles in disaster management have had strong development since post-World War II; Lassa (2018) classify the event to five-phase: 1) 1945-1970; 2) 1971-1989; 3) 1990-2005; 4) 2005—2015, and 5) post-2015. From the first phase to two-phase, the role of NGOs still low because they just focus on curative action. There is the extensification of NGOs' roles focused on advocacy to the government about strategy and long-term plan on disaster mitigation in third phase (Lassa, 2018).

Phase four (2005-2015) known as the Hyogo Framework of Action (HFA) on Disaster Risk Reduction (DRR). HFA addresses that DRR is a national, local, and global priority with a strong institutional basis (Izumi and Shaw, 2014; Lassa, 2018). Furthermore, in this period, the global NGOs networking started to form the Global Network of Civil Society Organizations for Disaster Reduction (GNDR) that launched in 2007 (Lassa, 2018). This phase shows that multi-stakeholders play an essential role in DRR (Izumi and Shaw, 2014). Period 5 (post-2015) is an era of using DRR as awareness of traditional disaster management. Amount of NGOs that are growing so fast is

increasing the potential to attract attention and funding for the program.

Based on the data, it shows that Jakarta's flood disaster expects to intensify in the future with the highest flood risk globally (Garschagen, Surtiari, & Harb, 2018). Jakarta, Bandung, and Surakarta are the areas that account for 39 percent of the disasters impacting metropolitan with an average of 173 events between 2003 until 2017 (Kryspin-Watson et al., 2019). Back to the most severe of extreme flood events, especially in 2007, there were 56 deaths, 340.000 people evacuated, more than 74.000 houses flooded, and the economic damage calculated at around USD 560 million (IFRC, 2007; Wijayanti et al., 2017). The flood events also happened in 2013, 2014, 2015, and early 2020. In early 2020, researcher of the Institute for Development of Economics and Finance (INDEF), Bhima Yudhistira said that the economic damage at around 10 billion rupiahs (bbc.com, 2020 January 05).

The flood events caused by the wicked problems such overlapping land management, continued urban sprawl, sea-level rise, low of participation, the lack of effectiveness in the existing risk management, and change the precipitation driven by climate change (Budiyono et al., 2016; Wijayanti et al., 2017; Garschagen, Surtiari, & Harb, 2018; Hidayat, 2020). Both the state actor and non-state actors are attempting to solve that problem. There is a tendency of DKI Jakarta's Government to involve non-state actors in flood disaster management. DKI Jakarta's Government implemented the agreement in January 2020. From republika.co.id (January 2020), they collaborate with humanitarian organizations to handle and overcome Jakarta's flood. They sign a Memorandum of Understanding (MoU) to prepare the prevention of possible floods and mapping the impact that could happen. NGO's expected to teach the local communities in disaster mitigation, such as when and how

they must evacuate themselves when flood nearly arrives.

Hidayat (2020) suggests that the involvement of non-state actors in public policy has a positive impact on the disaster management process, especially the role of NGOs (Osa, 2013). Based on his findings, it shows the component of disaster management (early warning system) called Petabencana.id has become an element of its institutional framework. It was initiated by Yayasan Peta Bencana to provide the information as soon as possible when the flood event occurs. On the other hand, Masyarakat Penanggulangan Bencana Indonesia (MPBI) also has a similar role, which refers to developing community preparedness. This role is taken by MPBI by actively holding events related to Disaster Literacy Movement (MPBI, 2020a). NGOs also focus on preventive action and curative action in terms of disaster management. For example, Yayasan Buddha Tzu Chi Indonesia gave logistic help at around 640 foods and evacuated people in Kapuk Muara Urban Village in North Jakarta City, which that area is one of the most impacted by flood events in early 2020 (Tzuchi.or.id, 2020 January 03).

Various studies related to the role of non-government actors in disaster management only focus on the role when a disaster occurs or after recovery of conditions in an area (Puig & Bakhtiari, 2020; Bakhtiari, 2018; Bulkeley & Schoreder, 2012). Even though the role of non-government actors is very important, especially with strategic matters such as encouraging the development of capabilities for the community capability development can be linked to the urgency to encourage disaster literacy in the community and foster community urgency regarding disaster preparedness (Janitra, 2020; Pah, 2016; Novert, 2015). Until now, especially in Indonesia, there is still little literature that discusses this. So that researchers see topics related to the strategic role of non-government actors in

developing community capabilities to be important. In this context, the locus in Jakarta is the right choice because of the active role of non-governmental organizations. Non-governmental organizations have even facilitated and strengthened cooperation with agreements in disaster management.

From the previous paragraph, it describes how the role of NGOs is one of the essential parts in flood disaster management. We want to seek the factors in terms of the effective role of NGOs and NGOs' challenges in flood disaster management. This research is supposed to give the empirical fact to make the role of NGOs to be effective. Especially the role of NGOs in preventive and curative action (strategies action). The focus in this study is to examine the role of Yayasan Peta Bencana and MPBI's contribution to flood disaster management in Jakarta. The justification of these NGOs is that they are consistently taking part in flood disaster management both in the preventive and curative phases.

METHODS

This research uses the post-positivist paradigm and mixed methods in collecting data. Researchers use in-depth interviews to obtain the primary data, and secondary data were collected through literature study online. This research uses the illustrative method as a qualitative analysis strategy. This method applies theory to a concrete historical situation or set of social and organized both the primary and secondary data based on theory (Neuman, 2014). Informants included researchers from Yayasan Peta Bencana and chairman of MPBI.

RESULT AND DISCUSSIONS

Disaster management needs full support from the government by its policy.

Figure 1. A comparison of the project life cycle and disaster management

Project Life Cycle Phases	Disaster Management Phases	Time	Activities	Approach
Initiation	Prediction	Before	Mitigation	Pro-active
Planning			Preparedness	
Executing	Warning	During	Response	Reactive
	Emergency Relief			
	Rehabilitation (short-term)	After	Recovery	
	Reconstruction (long-term)			
Completing				

Source: Moe & Pathranarakul, 2006, p. 401

It can make any actor know their boundary to implement the program. For NGOs, after disaster management gains support from the policy, the next problem is where they can find the funding to make the program sustain (Verayanti, 2011). There are three major categories of works of NGOs: a) relief & welfare; b) local self-reliance; and c) sustainable system development. Those categories classify into some action (Izumi & Shaw, 2014). As Gemmil & Bamidele-izu (2002) and Lassa (2018) mentioned the roles of NGO in disaster reduction included: 1) NGOs as first responders; 2) NGOs as policy drafters and advocacy; 3) Promotion of Community-Based disaster risk reduction; 4) Promotion of participation by children; 5) linking modern knowledge with indigenous or local culture; and 6) assessment and monitoring.

Disaster management is interchangeably used with term emergency management (Moe & Pathranarakul, 2006). It involves plans, structures, and arrangements established to engage the normal endeavors of governments, voluntary and private agencies in a comprehensive and coordinated way to respond to the whole spectrum of

emergency needs. Moe & Pathranarakul (2006, p. 399) describing a certain relation between phases, time, activities, and approach that can be seen in figure 1.

Osa (2013) stated the essential principle that should be considered in every NGO based on humanitarian action could only serve the interest of the citizen, not political motives, religious interests, or other agendas. It roots by definition by United Nations (2000) in Shaw & Izumi (2014), NGO as any non-profit, voluntary citizen's group, which organizes on a local, national, or international level. Another important factor in disaster management is data. They must collect the data to know what communities needed the most during or post-disaster to predict future events that are going to happen (Verayanti, 2011). The Data helps them to act correctly and effectively, such as giving advocacy to disaster mitigation that communities can accept easily. NGOs can also use the network to assist them in delivering the needs of disaster management, so they must maintain the coordination line either to government, communities, private, or other NGOs that work in the same field. Disaster management can work effectively

when the communities have the capacity, knowledge, and skill (Verayanti, 2011).

The Rationalities and NGOs Contribution In Flood Disaster Management

Legally founded in 2017, Yayasan Peta Bencana is an NGO that supports the residents of Indonesia in reducing risk from disasters and increasing emergency response times, by providing free real-time information and transparent communication between government and local agencies, first responders, and residents (Yayasan Peta Bencana, n.d.a; Yayasan Peta Bencana, n.d.b). The foundation is committed to democratizing decision support tools; ensuring that all residents have access to the information they need to coordinate individual and collective actions for safety, while also providing first responders with tools for evidence-based emergency response, alleviates confusion, minimizes losses, supports coordination, and improves community resilience (Indepth Interview with Hotniida Sinambela, Adhitya Yusuf, and Anarita Widyaningrum, 2019). Before its debut in 2013 (as PetaJakarta.org), disaster-related information in DKI Jakarta Province that published by BPBD DKI Jakarta is dependent on print-based media. This dependency creates some kind of barrier that hampers people understanding of disaster occurrence in their community. This hampering affects community readiness to face a certain disaster. With its commitment, Yayasan Peta Bencana is willing to reduce the high risk of disaster and to make people adapt to climate changes with real-time information. To actualize that commitment Yayasan Peta Bencana develops and manages a free web-based platform that produces megacity-scale visualizations of disasters in real-time, using both crowd-sourced reporting and government agency validations called Petabencana.id that previously known as PetaJakarta.org (Yayasan Peta Bencana, n.d.a; Hidayat,

2020). To support the implementation of Petabencana.id, Yayasan Peta Bencana also develops wide range partners like UrbanRISKLab, Humanitarian OpenStreetMap Team, BNPB, BPBD DKI Jakarta, Twitter, MapBox, CNN Indonesia, The Jakarta Post, etc. Yayasan Peta Bencana also creates government-to-government interaction to ensure the information can be disseminated widely such as the coordination among BNPB and DKI Jakarta Government through Qlue application.

Founded on 3 March 2003, MPBI is an NGO that acts as a communicator between Indonesia organizations and institutions that focus on disaster management (MPBI, 2020b). The vision of MPBI is expecting to create "an Indonesian Society attaining their wellbeing through inter-alia and effective management of disaster risks". MPBI itself has three main aims that consist (1) support Indonesian welfare actualization through disaster risk reduction, (2) become a critical partner for various parties to achieve the implementation of professional disaster management, and (3) promote practices and contribute to solving disaster management problems.

To actualize those aims, MPBI has the main strategy in its programs that is implemented by (1) involving MPBI members and networks and (2) partnering with institutions that have similar goals. Their programs are also divided into 5 areas that consist of (1) education and research, (2) problem solving, (3) communication & cooperation, (4) public information, and (5) organizational strengthening. From this information, we can construe that MPBI has an active role in all disaster management phases proposed by Moe & Pathranarakul (2006). This involvement in every phase is in line with MPBI Chairman, Dandi Prasetya's statement that MPBI is having a role in before, during, and after disaster

occurrence (Indepth Interview with Dandi Prasetya, 2020).

To ensure the role of MPBI in the whole process of disaster management, it is supported by the skillful members with their specifications relating to disaster management. One notable thing about disaster management, it is including multi-expertise such as policy, law, psychology, and disaster management itself. Within their expertise in terms of disaster management, they can advocate the strategy needed including the process from preventive, curative, and recovery action. Such as, in the recovery process, we cannot only focus to recover in the material aspects but also the immaterial aspects such as psychological conditions to who have been impacted by a disaster. In terms of preventive and curative, MPBI has been assisting both for BNPB and especially BPBD DKI Jakarta about disaster management policy. MPBI also takes in charge of mapping the data about NGOs and their contribution when a disaster occurs. The data is focusing to define the 3w (Who, When, and What) in every disaster. MPBI is managing it with Desk Relawan(<https://deskrelawanpb.bnpb.go.id>), this platform is one of the outputs by collaboration between MPBI and BNPB.

The Evaluation of NGOs Role In Flood Disaster Management

Based on what we mentioned, it shows how the A-Z process of disaster management has been shifting from the government center role into the collaborative process as well as the change of DRR all around the world. One thing should be considered, the more complex of actors' participation, the more problems there. Both Yayasan Peta Bencana and MPBI face problems which it is hindering their contribution to society. We define the source of problems from the internal aspects of NGOs and external factors based on the evaluation.

Based on Hidayat (2020), Yayasan Peta Bencana still faces various problems, 1) lack of transparency & accountability, 2) the role of the private sector still ineffective, 3) socialization that is still not cover all the administrative areas of the city, and 4) non-involvement of primary and secondary education in socialization activities. The non-state actor's participation and people's participation are the biggest problems. Although Yayasan Peta Bencana is widely engaging through activities such as: 1) serve as volunteers in terms of raising public awareness about flood disaster management; 2) make donations; 3) serve as volunteers to socialization about Petabencana.id useful features; and 4) dissemination the information through online. The roots of problems are: 1) the high heterogeneity in the community; 2) NGOs' role in linking the technology and people's knowledge still low ; and 3) the lack of ability of people to use the features.

The data of the in-depth interviews with the informants shows the same results. The challenges come from the government and public or communities. From the government, they faced some bureaucratic problems like licensing. Challenges from the communities come from their ignorance about the organization. The communities often assume Petabencana.id as a profit organization so they think Petabencana.id offers products to them and they must pay for it. The challenges are how Petabencana.id share their knowledge to engage the communities with their platform. Even Petabencana.id has some scientists in their internal to make their analysis more reliable, they still need many personnel to spread the information about their program. Because Petabencana.id needs a lot of participation from communities to make their platform perform well. Another problem comes from infrastructure feasibility such as the internet and gadgets. The scale of Petabencana.id is national and because of that, they must make their platform easy to

access from another region that doesn't have proper internet access or/and proper gadget.

Hotniida Sinambela, staff of Petabencana.id, pointed out in our interview that Petabencana.id is supported by funding program from the United States (Indepth Interview with Hotniida Sinambela, Adhitya Yusuf, and Anarita Widyaningrum, 2019). They also receive funds from various stakeholders such as domestic donor agencies and contributions from the public and private sector and community distribution. By 2019, the total amount of funds accumulated had reached \$ 874,000 or the equivalent of IDR 12,334,762,000 (Globalinnovationexchange.org, 2019). But, until 2020 Petabencana.id has not released yet any financial report for their activities. The financial report is important to show their transparency which can make their organization count as accountable. Accountability can attract more donors to fund their operations because donors can see how well the organization manages its funds in disaster management. If people assume Petabencana.id's program useful, they will not hesitate to fund the organization.

Just like Yayasan Peta Bencana with its Petabencana.id, MPBI also has a similar platform that has a certain role in handling Jakarta Flood. Co-managed by MPBI and BNPB, this application can be accessed on DeskRelawanPB.BNPB.go.id. The main function of this application is to gather certain information (what, why, and when) about volunteer activity in certain disasters. For example, this website has a feature to facilitate individual volunteer registration and organizational volunteer needs. Then, this website will correlate that two information and facilitate both individual desires to volunteering and organizational need of volunteers. This website also has a feature that mapping those volunteer activities and publishing it on its website based on information that

can be submitted to the website. All of that information is published every day at 8 a.m. and can be accessed by the public.

This platform can be classified as crowdsourcing, the pressure point of it is about the participation of both individuals and NGOs to report about their activities. However, there are obstacles such as some volunteers or NGOs have not reported because of their incomprehension about using the platform. Although, the information of the platform already disseminated snowballing from one NGO to other NGOs (Indepth Interview with Dandi Prasetia, 2020). The use of data focus to measure the disaster resilience in an area. Especially in DKI Jakarta Province, the government used the data in a flood disaster in early 2020 to monitor the distribution of logistics or any kind help. The government also can be responsive to give help as soon as possible or distribute help by NGOs to make sure people's lives during the disaster situation.

MPBI has a role to enhance the capability of NGO members to be skilled volunteers and society with training and socialization one per month. In the disaster situation, the volunteer should have the proper knowledge to ensure the people's condition. In some cases, besides basic skills such as first-aid skills, volunteers need the specific skill to respond to the extraordinary case. As mentioned by our informant, he said in flood events in Jakarta or earthquakes people need volunteers who can tackle the snake that appeared after the disaster occurred. It shows that in the disaster condition, the capability of volunteers plays an important role. The data of Desk Relawan assists in estimating the strength of volunteers in an area affected by a disaster. Based on that, the role of each of the nearest NGOs will be illustrated and if there is some aspect or area that is not yet covered, both government and other NGOs will reinforce them.

On the other hand, the government needs to increase disaster literacy in society. Based on various sources, it shows that disaster literacy in society is relatively low (tirto.id, 2020 Mei 02). They still do not know about the whole process of disaster management. It will endanger their lives and it is one of the weaknesses of disaster management in Indonesia (Carolina, 2018). In terms of definition, disaster literacy is the ability of the individual level to read, understand, and use the information to make the right decisions and follow instructions in terms of mitigating, preparing, responding, and recovering from disaster (Brown, Haun, & Peterson, 2014). Brown, Haun, and Peterson (2014) also said there are systematic steps to improve disaster literacy and should match with the existing condition of society.

In this context, MPBI is constantly socializing the information to boost people's literacy. Based on the interview, our society is still unable to differentiate which information they need. For example, the theme of socialization is always change related to the current issue. When they socialized about the impact of the disaster on the outlook of the economy, it was attended by 5 people. While socializing about how to tackle snakes, it was attended by more than 100 people. From that, we can conclude the people only focus on the information they can easily understand, and the information can be applied. To some extent, they are still unable to provide considerate information that could be useful in the long term. The other problem should be considered, there is no pre-test and post-test mechanism to measure the understanding of people about the issue and it is hard to know whether people get the information or not.

The Strategies to Strengthening NGOs Role In Flood Disaster Management.

From the previous part, it is illustrated that the role of NGOs in flood disaster management in Jakarta is still

facing various problems, both internal and external. Therefore, various strategies are needed to support the better role of NGOs. The strengthening strategy is aimed not only at NGOs because as is well known, currently there is a tendency where collaboration between parties is an essential part of disaster management. There is even an improvement in conditions as explained by Dandi Prasetya that disaster management, especially on a national scale or particularly Jakarta, has been carried out collaboratively compared to before. To solve the problem, there are several strategies that the researchers formulated

Based on primary data, it showed that NGOs are impactful on flood disaster management, especially in the engagement with communities. It is important to reduce the impact caused by floods, especially in Jakarta that the flood disaster is well known happens every year. The government has made an improvement step to reduce the impact by making collaborations with NGOs in Jakarta. As we say, that collaboration between actors is important to build awareness about flood disaster management. Gemmil & Bamidele-izu (2002) and Lassa (2018) mentioned the roles of NGO is vary, so the differences that exist should be the answer to handling the impact of flooding. Each NGO can promote other NGOs with different programs so that the community can feel a broad impact and not only in one aspect.

Oftenly, people assume NGOs as a profit-oriented company that sells their product to the communities (In depth interview with Petabencana.id, 2020). From the statement, we know that some people do not know what NGOs is and the purposes of the organization. It needs the strategy of communication until the grass-root level and both online and offline. The easy one is online publication; they can arrange strategy for massive online promotion. As an example, the Instagram account of Petabencana.id (@petabencana) only has 1,5 thousand followers. We know

that Petabencana.id scope is national, so 1,5 thousand followers is not enough to promote the organization.

More worse than Petabencana.id, MPBI instagram's account (@mpbi.indonesia) only has 141 followers. So both of them or other NGOs that work on disaster management must use the right approach to promote their organizations. Also, they can use influencers that care about disaster management to promote their organization. Moreover, their program is based on volunteering so they can seek volunteers that work on online publication. The government can help them too if there is a program that needs collaboration with NGOs. About offline publication, their program is still effective to promote their roles. As an example, based on our in-depth interviews with MPBI, they held a webinar about disaster management, but the audience was only interested in technical disaster management rather than broad themes such as the economic impact of disaster. From that, when the event was well attended, they should promote what their organization has in the role of disaster management beside the themes of the event.

From the in-depth interview with both Petabencana.id and MPBI, they both still don't have a system that shows their transparency and accountability. Lehr-Lehnardt (2005) and in his research said that both transparency and accountability on NGOs is important because it shows legitimacy of the organizations. Also, the more transparent and accountable the more they can gain public trust, just like governments do (Cucciniello and Nasi, 2014). Public trust can make their organizations reliable, so it makes their publication acceptable. Transparency and accountability can show their proof about the title non-profit they held, and the public can trace what the organization does and where the affiliation is. This also can help the organization to open donations for the funding because the public already has trust in them. For NGOs such as MPBI that never open public funding, transparency and accountability can help to attract more

volunteers. Volunteers usually seek for a reliable organization that can make sure their participation is counted.

NGOs movement is well known for their collaboration with government to influence policy or just to make advice in their field. They move in community areas, so they are civil organization that knows the grassroot problem. Their knowledge about local problems makes their data needed by the government to make a policy to solve that. But their existence is dependent on legitimacy by the government. In Indonesia, legal legitimacy is shown by Law Number 03 of 2013 about the Civil Service Organization (CSO). As mentioned before, legitimate support for disaster management's NGOs from the Government of Jakarta was marked by the signing of MoU.

NGOs plays a role in helping the government because of the flood in early 2020. They help to distribute the logistic support from camp to camp, evacuate the people that are affected by the flood, also send their tools such as inflatable boats, safety gear, etc. Dandi Prasetya, Head of MPBI, says that MPBI and the other disaster management's NGOs are always being called up by BNPB when disaster happens. He says BNPB is asking for advice about the best way to handle disaster. This discussion shows they need each other by doing a collaboration. MPBI is also given a task from BNPB to seek desk volunteers to help the disaster's evacuation. Petabencana.id also works with BNPB for providing disaster mitigation that can save more lives.

Another important aspect in disaster management that did not fully apply by both NGOs are public communications. Effective communication that can raise public awareness are important aspects in both disaster management and disaster risk reduction (Kumar, 2000; UN/ISDR, 2002; Moe & Pathranarakul, 2006; ADB, 2008; Izumi & Shaw, 2014). Hitherto, YBP did not yet have specific methods to promote public awareness about their main program which refer to Peta Bencana (in-depth interview with YBP Members).

This condition was also found in MPBI that mainly focused on empowering volunteers but did not have specific strategies to advertise their program to involve public awareness (in-depth interview with MPBI Director).

These conditions also worsened by the absence of yearly evaluation on both NGOs that make it difficult to measure public awareness on their program and what kind of communication that effectively raises public awareness on their programs. Not only communication from NGOs to the Public, both Peta Bencana and Desk Relawan also needed information from the public to improve their data accuracy. Without good communication from both NGOs, their main data that is collected from the public are potentially limited or even inaccurate. This means both NGOs need to put their focus on developing good communication that can raise general public awareness about their programs.

Private sector involvement is potentially having a positive impact both in disaster management and disaster risk reduction (UN/ISDR, 2002). This involvement can be done in various activities- i.e., funding, technological support, data collection, etc. In this case, both NGOs (especially YPB that are still lacking in private involvement) need to re-considerate private sector involvement to advance their programs.

Another aspect that still lacks in both organizations is the focus on developing public disaster literacy. Disaster literacy itself is described as an individual's capacity to read, understand, and use the information to make informed decisions and follow instructions in the context of mitigating, preparing, responding, and recovering from a disaster (Brown & Haun, 2014). Based on our findings both NGOs Programs are having potential to increase public literacy. YPB with their Peta Bencana can educate the public about disaster locations and its severity.

On the other hand, MPBI are even having an involvement in a program called Gerakan Literasi Bencana (Disaster Literacy Movement). However, this program did not have a specific goal in developing a

certain disaster literacy rate but only based on current events. Without adequate disaster literacy, information from both Peta Bencana and Desk Relawan cannot maximize its potential since the public did not know how to utilize that information. For this, a certain effort to develop disaster literacy needs to be done.

Last aspect that is still lacking in both NGOs based on our findings is Program Evaluation. For social programs, Program Evaluation itself is important for assessing the effectiveness and identifying the factors that drive or undermine their effectiveness (Rossi, Lipsey, & Henry, 2018). These kinds of evaluation can help both NGOs to understand what they achieve and what they need to improve to achieve their main goals in certain programs

CONCLUSION

Based on our findings in Yayasan Peta Bencana and MPBI, it shows that there is a paradigm shift which more accommodate the role of NGOs in disaster management especially in DKI Jakarta Province. The role of NGOs is still ineffective due to both the challenges both from internal and external. To overcome the challenges, we also formulate the eight strategies which not only focus on NGO but the whole of actors in disaster management. There is one notable thing to further research to complete our research gap. It is related to exploring how the government can enhance the role of NGOs with their support and how effective that effort is. From that data, it can make sure the need strategies both from NGOs & government perspectives.

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