

The Involvement of Community Organizations in Disaster Management in Indonesia: A Study on The Role of Muhammadiyah Disaster Management Center

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Abstract

Indonesia is a prone to natural and non-natural hazards due to its geographical position and the plurality of its population. Both the government and private sectors play significant roles to mitigate these hazards. Community organizations are also involved, including Muhammadiyah, one of the moderate Islamic organizations. This research aims to examine the involvement of Muhammadiyah through the Disaster Management Institute, known as the Muhammadiyah Disaster Management Center (MDMC), which was specially established to overcome hazards. Furthermore, it involves a juridical scientific procedure to determine facts based on scientific logic from the normative perspective. The results showed that Muhammadiyah through MDMC performed significantly well in optimizing disaster management networks. These include both internal Muhammadiyah networks as well as external networks with the Government, foreign donors, NGOs, and other humanitarian organizations. According to the findings of this study, Muhammadiyah's involvement and responsibility through MDMC in coping with natural hazards significantly addresses the issues associated with hazard events. It can also serve as an example for other local governments and organizations. Experts have applied disaster theory in numerous natural and non-natural management crises both inside and outside of Indonesia using the Muhammadiyah paradigm.

Keywords: Community Organizations; Hazard; Muhammadiyah Disaster Management Center; Indonesia.

1. Introduction

Indonesia is prone to natural, geological, and hydrological hazards, because the territory is located at the confluence of three active tectonic plates, namely the Indo-Australian Plate in the south, the Eurasian Plate in the north, and the Pacific Plate in the east (Widayatun & Fatoni, 2013). Indonesia is also among the 35 countries in the world at high risk of casualties and economic losses due to various hazards (Purwowidhu, 2022). According to natural hazard data in 2021 which occurred in 34 provinces, there was a total of 52670 events. The details include 11 tsunamis, 1913 sea tide, whirlwind/tornado/typhoon 5286, volcanic eruption 241, forest fire 1338, and drought 2570 (Badan Pusat Statistik, 2021). Furthermore, since early 2022, the Badan Nasional Penanggulangan Bencana abbreviated to BNPB (the National Disaster Management Agency) recorded 1,971 natural hazard events from January 1 to March 16, 2022. According to BNPB records, hazards and hazard-affected areas cover all provinces, and in 2022, most of these occurred in Jakarta with 490, Central Java with 328, and East Java with 240 events (BNPB, 2022). In terms of population, Indonesia consists of various tribes living in various regions with different customs. This shows a large potential for conflict between people in one tribe and another. Significant conflicts that previously occurred in Indonesia include the conflict in Ambon in 1999, in Sampit in 2001, the riots in Ambon in 2011, the Shia attack in Sampang Madura in 2012, the inter-tribal conflict in Papua in 2013, and the operation of Operation Free Papua (OPM) against the Government which is still frequently carried out today (Amindomi, 2018).

Previous studies show that natural hazards are one of humanity's main problems. Economic costs are often considerably increased to deal with these hazards (Strömberg, 2007). Furthermore, they result in economic losses for the population, especially for workers in the informal sector, as well as damage to agricultural land and loss of livelihood (Widayatun & Fatoni, 2013). The state budget does not pay enough for disaster management and requires personal assistance. The cost of mitigation and disaster management is an average of Rp 3.1 trillion, while the average direct economic loss due to hazards reached Rp 22 trillion (Aldin, 2022). According to data from The Asia Pacific Disaster Report 2010 compiled by The Economic and Social Commission for Asia and the Pacific (ESCAP), and The UN International Strategy for Disaster Reduction (UNISDR), Indonesia ranks second on the list of the highest number of deaths from natural hazards in the Asia-Pacific. Additionally, over the past 20 years, various natural hazards have caused economic losses of around US\$ 22.5 billion (Ulum, 2013). In 2022, the hazards caused 112 deaths, causing 629 people to be injured, 16 people missing, and 2,456,489 people who had to be displaced.

Meanwhile, the casualties due to natural hazards in 2022 include damage to houses, as many as 4332 heavily damaged, 4857 moderately damaged, and 16,116 lightly damaged. The flood hazard submerged 445,137 houses, while other hazards damaged public facilities such as 404 schools, 178 houses of worship, 66 health facilities, 81 office buildings, and 100 bridges (BNPB, 2022). The increasingly varied incidence of hazards causes vast losses in society. Throughout Indonesia from 1815 to 2019, these were mostly caused by climates such as

10,438 floods, 6,050 landslides, 2,124 incidences of drought, and a total of 1,914 forest and land fires (Yulianto et al., 2021). High-frequency natural hazards are hydro-meteorological namely floods, landslides, droughts, tornadoes, and tidal waves (Widayatun & Fatoni, 2013). Sugeng Yulianto et al. stated that there is a tendency for an increase in the incidence of hazards yearly (Yulianto et al., 2021). Furthermore, the government ensures the readiness of funds in each phase of disaster management through the State Budget, and there are three stages in the disaster management mechanism as stipulated in Law Number 24 of 2007 concerning Disaster Management (Disaster Management Law) and Government Regulation Number 22 of 2008 concerning Disaster Assistance Funding and Management, namely the pre-hazard, emergency response, and post-hazard stages (Purwowitz, 2022).

This paper examines Muhammadiyah's involvement through the Disaster Management Institute established in Indonesia, which is undoubtedly inseparable from Muhammadiyah's perception and attitude toward hazards. As explained in the Disaster Jurisprudence, the perception of hazards states that hazards are a form of God's affection for humans (Pimpinan Pusat Muhammadiyah, 2018), namely as a medium of introspection for all human actions that bring adverse events to humanity (Farkhan et al., 2020). For example, earthquakes are believed to be the awakening of giant creatures in the bowels of the earth (Sabir & Phil, 2016). Muhammadiyah seeks to educate the public with a new understanding of hazards (Math et al., 2015).

This research is based on the argument that as a humanitarian organization that relies on religion, Muhammadiyah certainly does not sit idly by and watch natural hazards occur in various regions. During the pandemic, these hazards undoubtedly made people more miserable and helpless. Therefore, it must remain committed to carrying out humanitarian tasks, both in regular times and especially during a pandemic. This study explored Muhammadiyah's involvement and role in dealing with natural hazards in general and significantly builds on Muhammadiyah's humanitarian contribution and lays the foundation for stakeholders to make future policy decisions.

2. Method

The type of research is library research, prescriptive, with a juridical-normative approach. The data in this study is in the form of documents related to the Muhammadiyah Disaster Management Center (MDMC) and other literature related to the subject matter of this research, such as books, journals, previous research reports, and decrees of the Central Leadership of Muhammadiyah. Data collection techniques are carried out by literature studies to obtain research data by reviewing various MDMC documents and other literature related to the subject matter of this research, such as books, journals, and previous research reports. While a data analysis uses a descriptive-analytical method that begins with data systematics through data selection, data classification, and descriptive presentation of data. The results of the research will be described in an analytical descriptive manner. Conclusion making is

carried out by the logical method of deduction.¹ This deductive reasoning leads researchers to think logically and analytically in terms of making conclusions based on increasingly intense, systematic, and critical observations. The processes of qualitative analysis in qualitative research can be explained into the following three steps (Salim, 2006): (1) Data reduction, namely the selection process, focusing on simplification, abstraction, and transformation of rough data obtained in the field of study. (2) Presentation of data, which is a description of an organized collection of information that allows for drawing conclusions and acting. Presentation of data in the form of narrative text. (3) Drawing conclusions and verification, namely looking for the meaning of each symptom obtained in the field. During the research, every conclusion set will be continuously verified until valid and solid conclusions are obtained.

3. Results and Discussion

3.1. Community Organization Involvement in Disaster Management

The perspective of disaster management has entered a new paradigm, from previously focusing on emergency response activities to currently using mitigation and preparedness approaches (Rasadi et al., 2020), applying hazard risk reduction or mitigation efforts (Namirah, 2010). Disaster management contains functional areas, namely mitigation, readiness, response, and recovery (Kusmiati, 2005). This new paradigm fosters democratic institutions that are as responsive to bottom-up issues as are top-down interests, building cooperative initiatives across public, private, and voluntary sectors; and strengthening human development capabilities in parallel with economic development (Sawalha, 2020). Furthermore, under this paradigm, it implies a mindset rooted in social justice that emphasizes vulnerable populations in the distribution of recovery resources (Emrich et al., 2020).

From the beginning, the disaster management policy model was compiled, not only focusing on the role of the government but in line with the concept of collaborative governance. This involves an interactive government command and control model alongside a collaborative governance network model (Shalih & Nugroho, 2021). Disaster management efforts must be based on the principle of collaboration between the government, all other layers of public organizations, the private sector, the non-profit sector, and citizens (Kusmiati, 2005).

Government agencies playing a role in natural hazard management already exist (Pratama & Gischa, 2020). These include (1) the National Disaster Management Agency (Badan Nasional Penanggulangan Bencana abbreviated to BNPB) which is in charge of providing guidelines

¹ Deductive reasoning is a framework or way of thinking that departs from an assumption or statement that is general in nature to reach a conclusion that is more specifically meaningful. It is often also interpreted by the term minor logic because it explores the basics of conformity in thinking with certain laws, formulas, and standards.

and direction on disaster management efforts such as hazard prevention, hazard emergency management, rehabilitation, and reconstruction in a fair and equivalent manner, and (2) the Regional Disaster Management Agency (Badan Penanggulangan Bencana Daerah abbreviated to BPBD) which has the same duties as BNPB in the regional scope, (3) The National Search and Rescue Agency (Badan Nasional Pencarian dan Pertolongan abbreviated to BASARNAS) which is in charge of evacuating or providing assistance to victims of natural hazards, (4) the Indonesian Red Cross (Palang Merah Indonesia abbreviated to PMI) which functions in disaster management services, and (5) the Center for Volcanology and Geological Disaster Mitigation (Pusat Vulkanologi dan Mitigasi Bencana abbreviated to PVMBG), is one of the units within the Geological Agency (Ministry of Energy and Mineral Resources), with the main task of carrying out research, investigation, and engineering services in the field of volcanology and geological disaster mitigation (Pratama & Gischa, 2020).

The roles of non-state actors do not reduce the role of the five institutions mentioned above. However, the Merapi eruption hazard that occurred in 2010, for example, shows the increasing strength of non-state actors in disaster management, with many non-governmental organizations, political parties, and companies involved in disaster management. It indicates that there are limitations that the state faces in carrying out disaster management actions (Akbar, 2012).

Partnership is defined as the existence of a close relationship between the government and other actors, including non-state organizations, which support the state, especially in the disaster management process and recovery (Akbar, 2012). The government carries out partnerships to respond to all aspects of hazard recovery efforts, assisted by Non-Governmental Organizations (NGOs), companies, private and academic institutions, as well as community organizations from other regions (Rita, 2014).

The involvement of non-governmental institutions should not only be in emergency response when hazards occur but also in intervention by relating development to hazards (Namirah, 2010). The existence of non-governmental organizations is often motivated by the desire to improve the flawed government system with practices for an extended time and sustainable action. Therefore, the activities of non-governmental organizations in disaster management are not just responses to hazards that occur but the application of risk reduction approaches through direct programs in the community or by advocating (Namirah, 2010).

3.2. The Role of the Muhammadiyah Disaster Management Center (MDMC).

Muhammadiyah has three attitudes towards hazards: *First*, ethically, it gives understanding to the victims to be patient and ask Allah for help. *Second*, it is anticipatory, providing mitigation and suitability for hazards by taking actions to save human life, minimize hazard victims, reduce material losses, rehabilitate all public service facilities to an adequate level, and post-

hazard reconstruction. *Third*, technically, they have carried out disaster management procedures in form of mitigation and preparedness, emergency response, recovery, fulfillment of victims' rights, technical socialization of worship in search, and handling of assistance (Syifa, 2020).

Muhammadiyah plays a significant role in various fields, ranging from religious and political to disaster management. It has been unfortunate in various disaster management that has occurred in Indonesia. As a religious organization, it has several reasons that strengthen the resolve to be involved in disaster management: *First*, it has the task of carrying out *amar ma'ruf nahi munkar* (enjoining good and forbidding evil), especially in the field of society. *Second*, it identifies as a *tajdid* (renewal) movement and was known as TBC (Superstition, heresy, and credulity). The *tajdid* movement constitutes the foundation of Muhammadiyah in carrying out disaster management, especially in the recovery stage. Consequently, in the future, it is hoped that it can change the paradigm that is built in some communities about hazards. A solid religious base in hazard recovery efforts is supported by its strong network in Indonesia in form of spreading various kinds of charitable enterprises, such as hospitals, universities, and schools (Akbar, 2012).

The internal structure of Muhammadiyah management is divided into assemblies and institutions that oversee certain areas within the organization. The Disaster Management Agency (LPB) is one of the structures responsible for various hazard-related issues. In 2007, the Muhammadiyah Disaster Management Centre (MDMC) was established as a new body under the command of the Disaster Management Agency (LPB) (Center, 2020). Furthermore, in 2010, *Tanfidz* Decree of the Muhammadiyah One Century *Muktamar* established the Pilgrim Movement Program and the proselytizing of pilgrims for community empowerment. The concern for disaster management was then charged to the bottom of the organization's structure, namely the Muhammadiyah Branch Leader (Isngadi & Khakim, 2021).

Disaster management carried out by Muhammadiyah is one of the efforts of *amar ma'ruf nahi munkar*, whose process is continuous. From the formation of MDMC, it can be stated the organization has adopted a network model or the concept of a networked government. The network formed was represented by the Muhammadiyah ideology, which sought to accommodate all the institutions and assemblies' efforts into an integrated disaster management unit (Akbar, 2012). MDMC functions as a coordinator and communication liaison from various assemblies and institutions in its body of disaster management, therefore the network continues to run well.

In the context of disaster management, Muhammadiyah also built an external network, aiming to amplify its efforts. It collaborates with BNPB as the official government agency in disaster management. This cooperation is essential considering that the government is one of the actors who play a significant role in the recovery process. The government's ability to build houses, for example, is not possessed by Muhammadiyah. In addition to BNPB, it also builds external networks with institutions/organizations that are equally engaged in disaster

management, such as the Institute for Disaster Management and Climate Change of Nahdhatul Ulama (LPBI NU), Indonesian Inter-Resident Radio (RAPI), PRAMUKA, Disaster Preparedness Cadets (TAGANA), *Zakat, Infaq* and *Shadaqah* Institution of Muhammadiyah (LAZISMU). PKO Hospitals and government-owned Hospitals, Universities, and Muhammadiyah Schools (Mochammad Ichsan & Prasetyoningsih, 2021).

MDMC also collaborates with foreign institutions that donate funds or logistics to Muhammadiyah which are then distributed to persons in need or used to carry out programs that have been designed. MDMC has carried out disaster management in Indonesia and abroad, such as in The Philippines, Rohingya, Bangladesh, Afghanistan, and Nepal (Mochammad Ichsan & Prasetyoningsih, 2021). The collaborations carried out with international institutions include AUSAID, World Vision, the Singapore Red Cross, Direct Relief, Catholic Relief Service, Solider Suisse, World Health Organization (WHO), United Nations Children's Fund (UNICEF), United Nations Office for The Coordination of Humanitarian Affairs (UNOCHA), and RedR International (Mochammad Ichsan & Prasetyoningsih, 2021).

The role of the central MDMC in the network as a disaster management coordinator is a significant position. MDMC drafts the strategy in its efforts to succeed in the implementation of disaster management programs. *First*, MDMC structurally builds a network for management known as Muhammadiyah Regional Management (Provincial level) and the Muhammadiyah Regional Administrators (District level). *Second*, a personal approach is taken to recruit disaster volunteers, therefore MDMC utilizes a network of friends among students, such as the Muhammadiyah Youth Association and the Muhammadiyah Student Association.

MDMC has enacted various efforts in handling natural hazards, including hazard risk management, emergency response efforts, and post-hazard recovery. MDMC's humanitarian actions have an impact and are felt directly by people who are victims of the hazard. MDMC is always ready to handle hazards that occur in various regions in Indonesia (Alfaris et al., 2022). Furthermore, MDMC is continuously responsive to unexpected hazards, preparing what is needed during implementation. MDMC also performs the rehabilitation phase, aiding in health, education, and helping the post-hazard community (Hawing, 2021).

Regarding MDMC's handling of natural disasters during the Covid-19 pandemic, Ichsan (Mochammad Ichsan, 2022) reported as follows: Due to the elevated risks facing both the victims and the volunteers who assisted, Muhammadiyah described the natural hazards that occurred during the Covid-19 outbreak as a "multi-hazard." As a result of the ongoing pandemic, these people are extremely vulnerable. Although several victims of natural disasters that rotated across various places in Indonesia have received assistance from Muhammadiyah, the organization has persevered and shown no sign of stopping in fulfilling its humanitarian duty. The two sets of statistics below demonstrate how the organization

responded to these occurrences by aiding numerous locations affected by natural disasters between January 2020 and June 2021:

First, the data on Muhammadiyah's response to natural hazards between January and December 2020 show that:

- The Emergency Response, Rehabilitation and Reconstruction Division (TDRR) of the Muhammadiyah Disaster Management Center (MDMC) of the Muhammadiyah Central Leadership has responded to 103 hazards, including 49 floods, 14 landslides, 1 earthquake, 9 fires, 7 search and rescue operations, 6 tornadoes, 5 droughts, 6 downed trees, and 6 mountain eruptions.
- Along with DKI Jakarta, East Java, and NTB, there have been three responses in each of Aceh, West Sumatra, Central Sulawesi, and Banten, as well as two in each of North Sumatra, West, and Central Kalimantan. One response each from South Sumatra, Bengkulu, Lampung, South and East Kalimantan, Gorontalo, Maluku, West Papua, and NTT have also been received, along with four from South Sulawesi, ten from West Java, sixteen from Central Java, and twelve from the Special Region of Yogyakarta.
- The overall cost was Rp 7,552,887,757.
- There were 1,965 members of the Muhammadiyah Response Team, including 175 SAR team members, 174 psychological staff, 1,234 general volunteers, 7 support teams, 77 post-management, 116 health team, 145 available kitchen, and 37 logistic team members.
- 86,200 individuals in all will benefit from efforts to clean up regions damaged by fires, landslides, fallen trees, and floods. There were 94 units of temporary accommodation, 3,200 recipients of clean water, 2,753 psychological assistances, 42,888 logistics distributions, 7,700 recipients of masks, 4,010 recipients of health treatment, 25,052 recipients of ready meals, and 315 recipients of school kits.

Second, the data concerning its response to natural hazards between January-April 2021 showed that:

- From January to April 23, 2021, the TDRR of MDMC of Muhammadiyah Central Leadership implemented 80 hazard responses.
- Yogyakarta, NTB, East Java, West, and Central Java received 10, 6, 5, and 4 times as many responses, respectively, with Central Java receiving the most (19). Less frequently than three times in each region, the remaining ones were in 14 other provinces.
- MDMC distributed Rp. 8,121,779,632 for the 80 answers that were implemented in total. These monies were provided by several sources, including contributions from extended Muhammadiyah members and the general public through Lazismu and support from partner organizations of the MDMC as Swiss Solitaire, CRS, and Allianz.

- Through a variety of response activities, including SAR operations, the distribution of ready-to-eat food, Covid-19 kits, clean water, logistics and non-logistics, psychosocial assistance, health services, environmental cleaning, emergency/temporary/permanent shelters, socialization, and emergency bridges, 298,891 people benefited from MDMC funds.
- A total of 2,870 volunteers participated, including 2,268 general, 200 medical, 76 psychological, 7 assistants, 150 cooking volunteers, 86 members of the SAR team, 57 logistics, 3 members of the media, and 4 drivers.
- In April 2021, Muhammadiyah volunteers entered three hazardous regions: West Nusa Tenggara, specifically Bima and Dompu due to extreme rainfall; East Nusa Tenggara due to the cyclone Seroja; and East Java due to the earthquake that struck the southern regions, including Blitar, Lumajang, Malang, and Jember.
- Local volunteers in West Nusa Tenggara provided flood-affected residents in Bima and Dompu with logistical support, prepared meals, and easy access to medical services in addition to executing a thorough environmental cleaning.
- The MDMC Head deployed the National Muhammadiyah EMT to support the local volunteers following the landslide in East Nusa Tenggara. Free medical care, logistical and psychosocial support, and enhanced clean water advice for the locals are among the provided services.
- The volunteers helped the survivors in Blitar, Lumajang, Malang, and Jember in East Java by providing supplies and cooked meals, cleaning up the wreckage left by the earthquake, providing psychosocial support, and offering free medical exams.

4. Conclusion

Limited sources and resources of government funds in disaster management open a vast space for the involvement of CSOs. Muhammadiyah, a religious organization deeply rooted in Indonesia, has long collaborated with the government in disaster management. Through MDMC as a coordination center in disaster management, it has carried out its role well in optimizing disaster management networks, both internal and external networks with the government, foreign donors, non-governmental organizations, and other humanitarian organizations. This has successfully created programs that were designed for disaster management.

The involvement and role of Muhammadiyah through MDMC in dealing with natural hazards, according to the results of this study, significantly addresses the problems of hazard events, as shown in this research. Furthermore, it can be used as an example by other community organizations and governments. In the Muhammadiyah approach, experts understand and have put disaster theories into practice in many natural and non-natural management situations within and outside Indonesia.

This research is limited to assessing the involvement and role of Muhammadiyah in overcoming hazards in collaboration with various parties. Therefore, further comparative research should be carried out to identify and map the strengths and weaknesses of the measures implemented by Muhammadiyah and other humanitarian organizations to support and complement each other in helping communities cope with multi-dangerous hazards. This is based on the belief that an organization cannot handle hazards alone, whatever their size and magnitude, nor can the government solely manage natural hazards without including the community. Therefore, a collaboration between all parties in handling natural hazards needs to be encouraged as this will help the community and ease their burden, fostering gratitude even though hazards occur.

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