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## Mass Gathering Mitigation: Examining Muhammadiyah National Congress of 2022 in New

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### Abstract

The COVID-19 pandemic significantly affected Indonesia following its initial confirmation on March 2, 2020, and was officially designated as a national disaster on April 13, 2020 through Presidential Decree No. 12/2020, before being formally declared ended in June 2023 under Presidential Decree No. 17/2023. Despite the ongoing pandemic conditions in late 2022, Muhammadiyah—one of the largest Islamic organizations in Indonesia—successfully organized its National Congress in November 2022, an event attended by approximately three million participants. This situation presents a critical case for examining how large-scale public events can be managed under pandemic-related risks. This study aims to analyze how Muhammadiyah implemented a risk management framework to mitigate public health risks during the Congress. Addressing the limited empirical research on large-scale religious events under pandemic conditions in developing countries, this study adopts a qualitative case study approach. Data were collected through document analysis, stakeholder reports, and observational insights related to the planning and implementation of the Congress. The analysis is guided by a risk management framework encompassing risk evaluation, risk mitigation, and risk communication. The findings indicate that Muhammadiyah implemented a structured and adaptive risk management strategy. Risk evaluation was conducted through multi-stakeholder coordination to assess potential health risks. Risk mitigation involved modifications to event design, including enhanced venue capacity, enforcement of health protocols such as mask usage, and strengthening of organizational capacity. Risk communication was operationalized through the dissemination of guidelines, regulatory frameworks, and preventive measures to participants. Furthermore, Muhammadiyah ensured vaccination compliance among participants and established supporting health infrastructure, including field hospitals, coordination with regional healthcare facilities, and deployment of emergency medical teams. This study contributes to the literature on public health governance and risk management by demonstrating how non-state actors can effectively organize mass gatherings during a public health crisis through structured, collaborative, and adaptive risk management strategies.

**Keywords:** Mass gathering, national congress, risk management, risk mitigation, risk communication

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**Abstrak**

*Pandemi COVID-19 secara signifikan memengaruhi Indonesia sejak kasus pertama dikonfirmasi pada 2 Maret 2020 dan ditetapkan sebagai bencana nasional pada 13 April 2020 melalui Keputusan Presiden Nomor 12 Tahun 2020, sebelum secara resmi dinyatakan berakhir pada Juni 2023 melalui Keputusan Presiden Nomor 17 Tahun 2023. Meskipun kondisi pandemi masih berlangsung pada akhir tahun 2022, Muhammadiyah—sebagai salah satu organisasi Islam terbesar di Indonesia—tetap menyelenggarakan Muktamar Nasional pada November 2022 yang dihadiri sekitar tiga juta peserta. Kondisi ini menjadi kasus penting untuk mengkaji bagaimana penyelenggaraan acara berskala besar dapat dilakukan di tengah risiko kesehatan masyarakat. Penelitian ini bertujuan menganalisis bagaimana Muhammadiyah menerapkan kerangka manajemen risiko dalam memitigasi risiko kesehatan selama pelaksanaan Muktamar. Menanggapi keterbatasan studi empiris mengenai penyelenggaraan acara keagamaan berskala besar di masa pandemi, khususnya di negara berkembang, penelitian ini menggunakan pendekatan studi kasus kualitatif. Data dikumpulkan melalui analisis dokumen, laporan pemangku kepentingan, serta observasi terkait perencanaan dan pelaksanaan Muktamar. Analisis dilakukan dengan menggunakan kerangka manajemen risiko yang meliputi evaluasi risiko, mitigasi risiko, dan komunikasi risiko. Hasil penelitian menunjukkan bahwa Muhammadiyah telah mengimplementasikan strategi manajemen risiko yang terstruktur dan adaptif. Evaluasi risiko dilakukan melalui koordinasi multipihak untuk mengidentifikasi potensi risiko kesehatan. Mitigasi risiko diwujudkan melalui penyesuaian desain kegiatan, termasuk peningkatan kapasitas dan fasilitas lokasi, penerapan protokol kesehatan seperti penggunaan masker, serta penguatan kapasitas panitia. Komunikasi risiko dilakukan melalui diseminasi informasi secara proaktif, penyusunan aturan dan pedoman, serta penerapan langkah-langkah pencegahan bagi peserta. Selain itu, Muhammadiyah memastikan kepatuhan terhadap vaksinasi peserta serta menyiapkan infrastruktur kesehatan pendukung, seperti rumah sakit lapangan, koordinasi dengan fasilitas kesehatan, dan penyediaan tim medis darurat. Penelitian ini berkontribusi pada literatur tata kelola kesehatan publik dan manajemen risiko dengan menunjukkan bahwa aktor non-negara mampu menyelenggarakan kegiatan berskala besar secara efektif di tengah krisis kesehatan melalui strategi manajemen risiko yang terstruktur, kolaboratif, dan adaptif..*

**Kata Kunci:** *Kerumunan massa, Muktamar/Kongres Nasional, manajemen risiko, mitigasi risiko, komunikasi risiko*

**INTRODUCTION**

The COVID-19 pandemic has significantly affected Indonesia since its first confirmed case on March 2, 2020, and was subsequently designated as a national disaster on April 13, 2020 through Presidential Decree No. 12/2020 (BNPB, 2020). In response, the Indonesian government implemented a series of public health policies, including Large-Scale Social Restrictions (PSBB) under Government Regulation No. 21/2020, initially applied in DKI Jakarta on April 10, 2020 and later expanded to other regions (Mashabi, 2020). These measures were further refined into the Enforcement of Restrictions on Community Activities (PPKM) in January 2021 (Andryanto, 2021), which imposed limitations on public mobility, the closure of

educational institutions and workplaces, and restrictions on mass gatherings, including activities in commercial and religious spaces (Ariawan et al., 2021; Kurniawan, 2021).

As the pandemic evolved, the government gradually introduced a policy of easing mobility restrictions beginning in March 2022, based on Instruction of the Minister of Home Affairs No. 18/2022 concerning PPKM implementation at levels 1 to 3 in Java and Bali (Antara, 2022; Sekretariat Kabinet RI, 2022). This policy allowed hybrid forms of public activities under precautionary measures, reflecting a significant decline in infection rates. Empirical data indicate a decreasing trend in daily COVID-19 cases, from 30,148 cases on March 8, 2022 to 11,093 cases on March 19, 2022, despite the emergence of the Omicron variant (Covid19.go.id, 2022; Humaidi et al., 2022). However, this improvement was not sustained, as infection rates increased again in mid-2022, reaching 1,264 daily cases in June and peaking at 7,893 cases in early November 2022 (CNN Indonesia, 2022; Purwanti, 2022).

Within this fluctuating epidemiological context, Muhammadiyah—one of the largest religious organizations in Indonesia—proceeded with organizing its National Congress in Surakarta on November 18–20, 2022, after postponing the event from July 2020 due to the pandemic. Notably, this event was planned during a period when COVID-19 cases had risen significantly, with total confirmed cases reaching over 6.5 million and projections indicating a potential new wave within one to two weeks prior to the event (Flora, 2022). The Congress was expected to attract approximately three million participants from across Indonesia, thereby posing substantial public health risks and raising critical concerns regarding the governance of large-scale gatherings during a pandemic (Oktaviani & Sasongko, 2022).

The organization of such a mass event under uncertain epidemiological conditions highlights the importance of risk management and crisis governance, particularly in contexts where non-state actors play a central role. Muhammadiyah has been actively involved in COVID-19 response efforts since the early stages of the pandemic, including the establishment of the Muhammadiyah COVID-19 Command Center, which coordinated multi-sectoral responses across its institutional network. This background positions Muhammadiyah as a significant case for examining how civil society organizations manage large-scale events while balancing public health risks and organizational objectives. Despite the growing body of literature on COVID-19 policies and public health responses, existing studies tend to focus predominantly on government interventions, epidemiological outcomes, or general mobility restrictions, with limited attention to the governance of mass gatherings, particularly those organized by non-state actors in developing country contexts. Moreover, while prior research has discussed pandemic management strategies, there remains a lack of empirical analysis on how risk management frameworks are operationalized in large-scale events during transitional phases between restriction and normalization.

Existing literature on COVID-19 has extensively examined government responses, public health policies, and mobility restrictions. Studies have analyzed the effectiveness of lockdown measures, social restrictions, and policy interventions in controlling virus transmission (Ariawan et al., 2021; Kurniawan, 2021). Other research has focused on the socio-economic and behavioral impacts of pandemic policies, including compliance with health protocols and public risk perception. However, relatively limited attention has been given to the governance of mass gatherings, particularly those organized by non-state actors in developing country contexts. Research on mass gatherings during pandemics has highlighted the importance of risk management, multi-stakeholder coordination, and adaptive governance. Previous studies emphasize that large-scale events can act as “super-spreader” environments if not properly managed, thereby requiring comprehensive planning, surveillance, and risk mitigation strategies. Furthermore, literature on crisis governance underscores the role of collaboration between state and non-state actors in managing complex risks, particularly in situations where government capacity is limited or shared with civil society organizations.

In the Indonesian context, several studies have examined the role of civil society organizations, including Muhammadiyah, in responding to the COVID-19 pandemic. Muhammadiyah has been recognized for its proactive role through the establishment of the Muhammadiyah COVID-19 Command Center, which coordinated healthcare services, public communication, and community-based interventions. However, these studies predominantly focus on health service provision and humanitarian responses, with limited analysis of how such organizations manage large-scale public events during ongoing health crises. Moreover, while the concept of risk management—particularly as outlined by international frameworks such as the World Health Organization—has been widely discussed in relation to pandemic response, its application in the governance of mass gatherings remains underexplored. Existing studies tend to present risk evaluation, mitigation, and communication in descriptive terms, without sufficiently operationalizing these concepts into concrete analytical dimensions within specific empirical contexts.

To address this gap, this study examines the preparedness and mitigation strategies implemented in the Muhammadiyah National Congress in Surakarta, Central Java, in November 2022. Drawing on a risk management framework encompassing risk evaluation, risk mitigation, and risk communication, this research aims to analyze how Muhammadiyah designed and implemented policies, procedures, and preventive measures to minimize the risk of COVID-19 transmission during the event. By focusing on the intersection of mass gathering governance, crisis management, and non-state actor involvement, this study contributes to the literature on public administration and risk governance by providing empirical insights into how large-scale events can be managed under conditions of public health uncertainty.

## LITERATURE REVIEW

The COVID-19 pandemic has generated a substantial body of scholarship examining public health interventions, mobility restrictions, and crisis governance. However, this literature remains predominantly state-centric, focusing on government-led responses, epidemiological outcomes, and compliance mechanisms, while comparatively neglecting the governance of mass gatherings, particularly in developing country contexts and under the leadership of non-state actors. Existing studies on mass gatherings during the pandemic consistently identify such events as high-risk environments due to population density, mobility patterns, and prolonged social interaction (Ebrahim et al., 2020; Furuse, 2021; Shimizu et al., 2022; Suñer et al., 2022; Glaria et al., 2023; Alahmari et al., 2024). These studies converge on the importance of risk-based approaches, including surveillance, capacity control, and enforcement of public health protocols. Nevertheless, the literature exhibits two notable limitations. First, it tends to prioritize technical and epidemiological perspectives, often treating risk management as a set of standardized procedures rather than a governance process shaped by institutional capacity and actor coordination. Second, empirical analyses are largely concentrated in formal or state-managed settings, leaving a gap in understanding how complex, large-scale events are governed by non-state or hybrid actors.

Research on religious mass gatherings further underscores the tension between public health imperatives and socio-cultural obligations. Ahmed et al. (2022) and Yousefian et al. (2022) demonstrate that compliance with health protocols in religious contexts is mediated by trust, legitimacy, and cultural norms. While these studies highlight the importance of communication and community engagement, they primarily focus on behavioral compliance, with limited attention to the institutional and strategic dimensions of event governance. Similarly, studies on sporting events during the pandemic (Shimizu et al., 2022; AlSamhori et al., 2023) provide insights into adaptive event management and participant responses. However, these studies remain event-specific and do not sufficiently theorize the broader governance mechanisms and inter-organizational coordination required for managing large-scale risks.

In the Indonesian context, research on Muhammadiyah has highlighted its significant role as a faith-based organization in pandemic response, particularly in healthcare provision, public communication, and policy adaptation (Humaidi et al., 2022; Ichsan, 2022; Prakasa et al., 2021). These studies demonstrate Muhammadiyah's institutional capacity and social embeddedness; however, they largely conceptualize the organization as a service provider rather than a governance actor capable of managing complex, large-scale events under crisis conditions. Taken together, the literature reveals three critical gaps. First, there is a lack of empirical studies examining mass gathering governance during transitional phases of pandemic management, where restrictions are partially lifted but risks remain significant. Second, the role of non-state actors in risk governance is under-theorized, particularly in

relation to their capacity to coordinate, regulate, and enforce mitigation measures. Third, while risk management frameworks are widely referenced, they are often applied descriptively, without being operationalized into analytical dimensions that enable systematic evaluation of governance practices.

### **Theoretical Framework: Risk Governance in Mass Gatherings**

This study adopts a risk governance perspective, drawing on the World Health Organization (WHO) framework for mass gathering mitigation (WHO, 2023a; WHO, 2023b), while extending it through an institutional and governance-oriented lens. Mass gatherings are defined as events involving large numbers of participants within a specific temporal and spatial setting, potentially exceeding the capacity of local systems to manage associated risks (WHO, 2023a; Alahmari et al., 2024b). Such events are characterized by heightened vulnerability to disease transmission due to crowd density, mobility, and resource constraints (González-Val et al., 2022; Zhu et al., 2023). While the WHO framework provides a structured approach to risk management, it is primarily normative and operational in nature. Previous studies have largely adopted this framework as a technical guideline, focusing on procedural compliance rather than its implications for governance processes. This study advances the framework by conceptualizing risk management as a form of risk governance, wherein multiple actors engage in decision-making, coordination, and implementation under conditions of uncertainty. To enable empirical analysis, the WHO framework is operationalized into three interrelated analytical dimensions:

#### **1. Risk Evaluation (Anticipatory Capacity)**

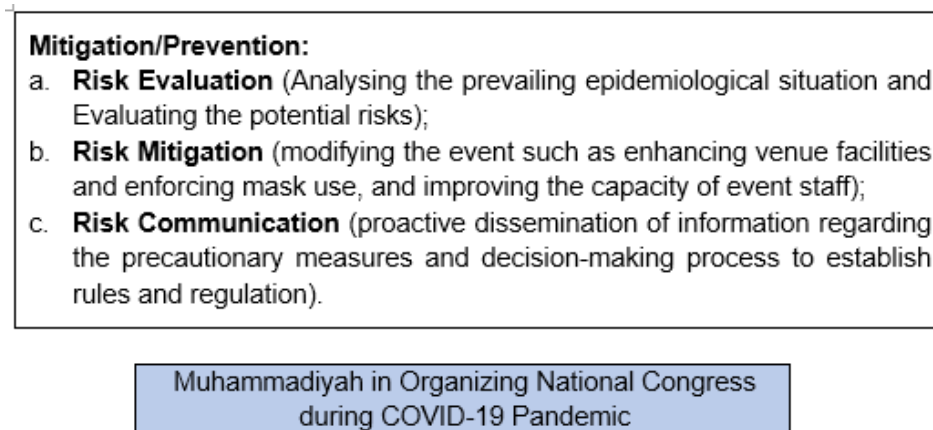
Risk evaluation refers to the capacity of actors to identify, assess, and anticipate potential risks prior to event implementation. This includes: epidemiological assessment (infection trends, transmission risks); event-specific risk profiling (scale, duration, participant mobility); evaluation of healthcare system readiness. This dimension reflects the anticipatory governance capacity of the organizing institution.

#### **2. Risk Mitigation (Adaptive Capacity)**

Risk mitigation involves the development and implementation of strategies to reduce identified risks. This includes: modification of event design (capacity control, spatial arrangements); enforcement of preventive measures (masking, vaccination, distancing); strengthening institutional and operational capacity (staffing, emergency response systems); coordination with external stakeholders (health authorities, security agencies). This dimension captures the adaptive capacity of governance actors in responding to evolving risks.

### 3. Risk Communication (Collaborative Capacity)

Risk communication refers to the processes through which information, rules, and decisions are disseminated to stakeholders and participants. This includes: communication of policies, guidelines, and protocols; transparency in decision-making; strategies to foster compliance, trust, and public engagement. This dimension reflects the collaborative and relational capacity of governance actors.



**Figure 1. Conceptual Framework**

**Source: Mass Gather Mitigation Concepts Modified from (WHO, 2023b) and (Alahmari et al., 2024)**

Thus, the concepts are used to identify how Muhammadiyah in carrying out the Congress by analysing the risk in developing and implementing mitigation procedure refers to strategy that must be designed the policy to prevent emerging cases in organizing mass gather. The concept of Mass Gather Mitigation consists of risk evaluation, risk mitigation, and risk communication as well as each parameter. This part is suitable to measure how Muhammadiyah develop strategic planning and mitigation measures to reduce the impact of COVID-19 Pandemic. It highlights the needs establishing communication protocols and raising awareness among attendees. Therefore, the concept allows for structured analysis of how Muhammadiyah implemented mitigation strategies during the national congress. Moreover, it is relevant to evaluating and justifying the measures of Muhammadiyah in doing the national congress as mass gathering during COVID-19 Pandemic.

## METHOD

This study adopts a qualitative case study design to examine the mitigation and preparedness strategies implemented by Muhammadiyah in organizing its National Congress during the COVID-19 pandemic. A case study approach is appropriate for exploring complex social phenomena within their real-life context, particularly when the boundaries between the phenomenon and context are not clearly defined (Creswell, 2015; McCombes, 2019;

Reboljs, 2013). This study employs an explanatory case study, aiming to analyze how risk management strategies were operationalized in a large-scale mass gathering under conditions of public health uncertainty. Muhammadiyah was selected as the case due to its institutional capacity as a major faith-based organization and its significant role in organizing a high-risk event involving approximately three million participants during an ongoing pandemic. This case provides a critical opportunity to examine non-state actor governance in crisis conditions.

## **Data Collection**

Data were collected through multiple qualitative techniques, including in-depth interviews, document analysis, and observational insights, to ensure data triangulation and enhance the credibility of findings.

### **1. In-depth Interviews**

Primary data were obtained through semi-structured interviews with key informants involved in the planning, coordination, and implementation of the Muhammadiyah National Congress. The interview protocol was designed based on the analytical framework of risk evaluation, risk mitigation, and risk communication, as well as preparedness dimensions such as coordination and capacity building. The interviews explored:

- processes of risk identification and assessment
- mitigation strategies and operational adjustments
- communication strategies and stakeholder engagement
- coordination mechanisms and institutional challenges

All interviews were conducted between June and September 2023. Data were recorded through detailed field notes and, where possible, supported by transcription to ensure accuracy.

### **2. Sampling Strategy and Informants**

This study employed a purposive sampling technique, selecting informants based on their direct involvement and knowledge of the Congress organization (Creswell, 2015). This approach enables the collection of in-depth and contextually relevant information. A total of seven informants were involved, representing key institutional roles, including:

- leadership of the Muhammadiyah COVID-19 Command Center (MCCC)
- members of the central organizing committee
- health division coordinators

- representatives of the Central Board of Muhammadiyah
- operational committee members responsible for participant management

These informants were selected to ensure coverage of both strategic (decision-making) and operational (implementation) perspectives.

**Table 1. List of Informants**

<b>Number of Informants</b>	<b>Initials</b>	<b>Positions</b>	<b>Date of Interview</b>
1	AS	Head of Muhammadiyah Covid Command Centre who are responsible for COVID-19 management.	Sept 2023
1	BDK	Co-author who is a member the National Committee of Muhammadiyah National Congress	During the research was conducted
1	AN	Secretary of Muhammadiyah Covid Command Centre who are responsible for COVID-19 management and member of national congress committee.	June 6, 2023
1	SO	Chief of Office of Central Board of Muhammadiyah who is responsible as committee organizer for health care during the congress	June 7, 2023
1	DSS	Vice chairman of Muhammadiyah Covid Command Centre who are responsible in health mitigation and planning during the congress	June 7, 2023
1	AF	Health division on preparation and reediness or creating pandemic emergency shelters during the congress	July 31, 2013
1	RL	Organizing committee that responsible to manage the supporters/visitors/attendees during the congress	August 2, 2023

### 3. Document Analysis

Secondary data were collected through document analysis, including:

- official decrees and policy documents issued by Muhammadiyah
- congress guidelines and operational procedures
- meeting notes and internal memos
- program agendas and implementation reports
- evaluation reports related to COVID-19 mitigation

These documents were used to validate interview data and provide contextual understanding of institutional practices.

### **Data Analysis**

Data were analyzed using a thematic analysis approach, following the framework proposed by Miles et al. (2014), which includes data reduction, data display, and conclusion drawing. The analysis process involved several stages:

1. Data familiarization through repeated reading of interview transcripts and documents
2. Open coding, identifying key concepts related to risk management practices
3. Categorization, grouping codes into themes aligned with the analytical framework:
  - a. risk evaluation (anticipatory capacity)
  - b. risk mitigation (adaptive capacity)
  - c. risk communication (collaborative capacity)
4. Interpretation, linking empirical findings to theoretical concepts and identifying patterns, inconsistencies, and governance implications

This structured analytical process ensures that findings are systematically connected to the theoretical framework.

### **Validity and Trustworthiness**

To ensure the credibility and rigor of the study, several strategies were employed:

- a. Data triangulation: combining interviews, documents, and observational insights
- b. Source triangulation: involving informants from different institutional roles
- c. Cross-verification: comparing interview findings with official documents
- d. audit trail: maintaining systematic documentation of data collection and analysis processes

These measures enhance the validity and reliability of the findings.

### **Ethical Considerations and Limitations**

This study adheres to ethical research principles by ensuring:

- a. informed consent from all participants

- b. confidentiality and anonymization of informants
- c. responsible use of institutional data

However, several limitations should be acknowledged. First, the study relies on a relatively small number of informants, which may limit generalizability. Second, the involvement of insiders in the research context may introduce potential bias, although this was mitigated through triangulation and cross-verification. Third, the study focuses on a single case, which may limit broader applicability but allows for in-depth contextual analysis. Finally, the analysis process was carried out using data triangulation analysis techniques (Miles et al., 2014) to sorting out related data, presenting data, and drawing conclusions.

## **RESULT AND DISCUSSION**

### **Reframing Risk Management as Risk Governance**

Muhammadiyah has highest deliberation forum in the organization which conducted in the organization where the members cast their votes to select 13 members of the PP Muhammadiyah for the next period, which is held every five years, it is called Mukatamar (National Congress of Muhammadiyah) (Afandi, 2022a; IPM, 2023). Additionally, Mukatamar also discuss important issues, share knowledge and best practices, strengthen networks, and make important decisions/recommendations (Aditya, 2022; Megasari, 2022).

Muktamar (National Congress) is attended by members, participants, supporters and visitors (Muktamar48.id, 2020). Members of Muktamar consist of Muhammadiyah Central Board (Pimpinan Pusat/PP), Heads of Muhammadiyah Provincial Board (Pimpinan Wilayah Muhammadiyah/PWM), and Heads of Muhammadiyah District Board. Those members are participants of Muktamar who have the right to speak and right to vote. Whereas delegates from units (councils and agencies) within Muhammadiyah Central Board are also member of Muktamar who have the right to speak but do not have the right to vote. Along with Muktamar Muhammadiyah there is always Muktamar Aisiyah, the women wing organization which has similar structure to Muhammadiyah were sending its representatives from all provinces in Indonesia and selected district member. Meanwhile, supporters are people who voluntarily attend the Muktamar Muhammadiyah to show their support and enthusiasm (Universitas Muhammadiyah Gresik, 2022). They are not official members or delegates of the congress, thus, they are not allowed to join the National Congress, but they are allowed to attend supporting events of congress like exhibition, book discussion, conferences, seminars and visiting tourist destination places nearby the congress venue. (Muktamar48.id, 2022).

The latest Muktamar Muhammadiyah, the 48th was held in Surakarta (Solo), Central Java, from November 18-20, 2022. It took place in 3 (three) main locations including Manahan Stadium, De Tjolomadoe, and Edutorium UMY. Here is the detail of agenda and the venue that took place for the 48th Mukatamar Muhammadiyah.

**Table 2. Agenda Schedule of the 48<sup>th</sup> Muhammadiyah National Congress**

<b>Date</b>	<b>Agenda</b>	<b>Venue</b>	<b>Description</b>
November 17-21, 2022 (only for supporting event)	Bazzar Techonology and Inovation Expo	De Tjolomadoe	Estimated 100.000s per day
November 18, 2022	Tanwir (provincial board representative) Muhammadiyah	Dzajman Al Kindi Auditorium, Universitas Muhammadiyah Surakarta (UMS)	203 of Muhammadiyah provincial board representative (The Committee of Muktamar, 2022b)
	Tanwir Aisyiyah	Siti Walidah Main Building, UMS	165 of Aisyiyah provincial board representative (The Committee of Muktamar, 2022b)
	Welcoming Night	Edutorium Hall, UMS	8.000 people consist of Members, Participants, and invited Supporters
November 19, 2022	Muktamar Opening Ceremony	Manahan Stadium (inside and outside)	More than 2-3 million people coming to opening venue (Members, Participants, Supporters, visitors) (Oktaviani & Sasongko, 2022)
	Muhammadiyah Assembly	Edutorium Hall, UMS	2.719 of Muhammadiyah members and participants (Afandi, 2022b))
	Aisyiyah Assembly	Sport Centre Building, UMS	1.930 of Aisyiyah members and participants (Afandi, 2022b))
November 20, 2022	Pleno (general meeting) II-VI	Edutorium Hall, UMS	4649 people consist of 2.719 of Muhammadiyah members and participants as well as 1.930 of Aisyiyah members and participants
	Closing		6000s participants

**Source: Data Processed by Authors (2023)**

The National Congress had been planned to be held in July 2020. But it was postponed three times due to the outbreak of the COVID-19 pandemic (Suara Muhammadiyah, 2020) and decided to be conducted in November 2022. These postponements were taken by Muhammadiyah to prepare the mitigation strategy for having mass gather according to health protocol as the government was not declared the end of Covid pandemic. The latest postponement was decided by the Central Board of Muhammadiyah to conduct the hybrid national congress allowing a meeting that combines in-person and online participants. This event was held for five days and conducted in both indoor and outdoor venues. Indoor activities were designated specifically for members and participants, while activities for supporters were conducted only in open areas to avoid and to minimize the risks.

Based on the data in table 2, the venue was divided into several areas, including indoor spaces for the main event and outdoor spaces for supporting events. The main event is attended exclusively by members, participants and delegates, whereas the supporting events were opened to the public, particularly supporters and general visitors. This led to overcrowding in the area due to an excessive and uncontrolled number of attendees particularly at the open events. This could increase the risk of transmission; therefore, a mitigation strategy had been developed for the conference as a precautionary measure. Through a comprehensive mitigation strategy, Muhammadiyah tried to ensure implementing tight health protocols to prevent the spread of COVID-19. This strategy will be assessed using the mass gathering mitigation concept by (WHO, 2023b) and (Alahmari et al., 2024), which is divided into risk evaluation, risk mitigation, and risk communication, as discussed below.

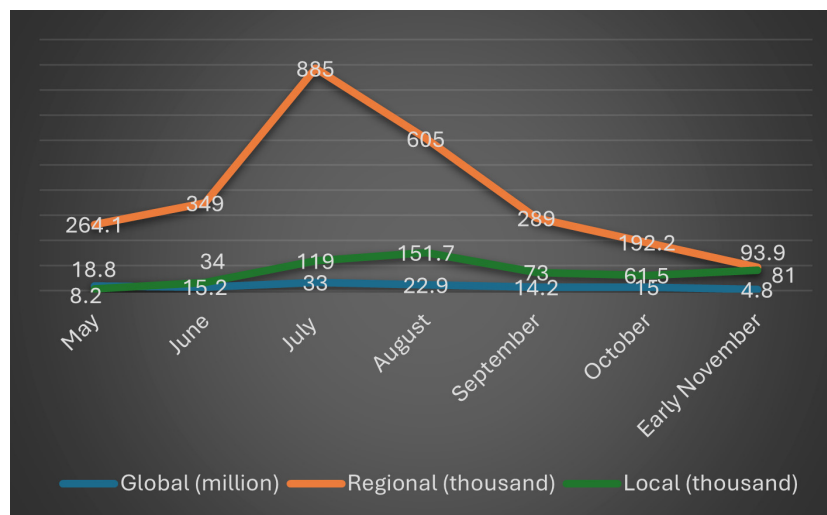
The findings demonstrate that while Muhammadiyah adopted a structured risk management approach aligned with World Health Organization (WHO) guidelines, its implementation reflects a broader process of risk governance, involving multiple actors, institutional arrangements, and decision-making dynamics under uncertainty. This supports existing scholarship that argues risk management in complex settings cannot be reduced to technical procedures alone but must be understood as a governance process shaped by institutional capacity and coordination mechanisms (Renn, 2008; Boin et al., 2016). In this study, Muhammadiyah functioned as a non-state governance actor, coordinating internal units and external stakeholders, including government agencies and health institutions. However, the findings also reveal that the transformation from risk management to effective risk governance remains incomplete. While procedural compliance with guidelines was evident, the lack of consistent enforcement and integration across governance levels suggests that institutionalization of risk governance practices remains limited. This aligns with previous studies indicating that governance effectiveness depends on the integration of planning, coordination, and enforcement capacities (Ansell et al., 2021).

## Anticipatory Capacity and the Limits of Risk Evaluation

This section will discuss how Muhammadiyah carried out mitigation stage including identifying and quantifying the baseline of COVID-19 transmission nationally ((WHO, 2023b) and its pattern (Alahmari et al., 2024b) at the current condition. The context in which the planned event occurred needed to be considered in the risk assessment ((WHO, 2023b). This supported by precautionary measures in transmission of SARS-CoV-2 and strain on health service capacity by 1). Analysing the prevailing epidemiological situation, including the transmission levels of infectious diseases at global, regional, and local levels; and 2). Evaluating the potential risks. Thus, Muhammadiyah emphasizes risk evaluation measures to develop mitigation strategies and prevent transmission during the national congress as follow.

### a. Analysing the Prevailing Epidemiological Situation

The transmission levels of the COVID-19 Pandemic at global, regional, and local scales became a concern when analysing the feasibility of conducting a national mass gathering in November 2022. This concern arises due to the potential risks associated with crowds' places, such as close contact, respiratory fluid exposure, airborne transmission, indoor setting, asymptomatic spread, etc. Any situation in which people are near one another for long periods of time increases the risk of transmission. Therefore, this part shows on how Muhammadiyah identified and quantified the baseline of COVID-19 Transmission at global, regional, and local scales during May until early November 2022 as follows.



**Figure 2. The Transmission Levels of the COVID-19 Pandemic at Global, Regional, & Local Scales**  
Source: Data Processed by Authors based on (WHO, 2025) & (Kementerian Kesehatan, 2025)

Thus, started in the same month, COVID-19 transmission at the global and regional levels increased in June-July and decreased afterward from in August- early November 2022. Meanwhile, Indonesia experienced high transmission in June-August and getting decreased in September-October. In early November, Indonesia faced the spike transmission in 2022 caused by subvariant XBB and XBB1 (Rokom, 2022b). This condition required the Indonesian government to implement a strategic plan which are accelerating whole genome sequencing to determine the proportion of COVID-19 variants and encouraging local governments to enhance testing and tracing through PCR.

Contrary to these conditions, on June 30, 2022, Muhammadiyah decided to hold a National Congress in Surakarta, on November 17-21, 2022, (Muhammadiyah, 2022b). The high case transmission during July-August becomes a third wave of COVID-19 Pandemic was no longer a reason for Muhammadiyah to postpone the congress again as the second vaccination had been nationally conducted. In this situation, Muhammadiyah developed mitigation strategy (developed by MCCC and National Committee of the Congress) considering the latest situation and follow the government policies to prevent the surge of COVID-19 cases. It was also referring to WHO's recommendation that there is mass gathering protocol that must be followed by the committee and attendees.

The study finds that Muhammadiyah conducted extensive risk evaluation through epidemiological monitoring and risk identification processes. This is consistent with global literature emphasizing the importance of early risk assessment and situational awareness in managing mass gatherings (Ebrahim et al., 2020; WHO, 2023a). However, the findings reveal a critical limitation: risk evaluation remained largely descriptive rather than predictive, and was not fully translated into adaptive decision-making. Despite evidence of rising infection trends and projections of a new COVID-19 wave, the decision to proceed with the Congress suggests a risk-tolerant orientation, influenced by vaccination coverage and policy relaxation. This finding resonates with research on crisis decision-making, which highlights the tension between risk awareness and political or organizational pressures to proceed with planned activities (Boin et al., 2016). It also reflects broader patterns observed in pandemic governance, where transitions toward "normalization" often lead to premature relaxation of precautionary measures, despite ongoing risks (Hale et al., 2021). Thus, the study contributes to the literature by demonstrating that anticipatory capacity is not solely determined by the availability of data but also by how such data are interpreted, prioritized, and integrated into governance decisions.

## **b. Evaluating the Potential Risk**

Based on that condition, Muhammadiyah analysed and identified the potential risk according to the trend of COVID-19, especially in Indonesia level by adapting government policies to the prevailing situation as proactive measure to conduct the national congress in November 2022. Here the risk identification potentially appeared in conducting the national congress.

**Table 3. Risk Identification in Mitigating COVID-19 Pandemic during Muhammadiyah National Congress**

<b>Risk</b>	<b>Description</b>
Age in 31-45, 19-30, and 46-59 years old are age group with highest risk to infected (Annur, 2022)	Participants and supporter in various age groups
Increasing of transmission cases (Ministry of Health of The Republic Indonesia, 2021a)	Participants and supporters who have been vaccinated 1 and 2
Infections leading to Intensive Care Unit (ICU) admissions or deaths (Chatterjee et al., 2023)	Participants and supporters with comorbid disease
Increasing cases with serious consequences and death (Ministry of Health of The Republic Indonesia, 2021b)	Participants and supporters who had not been vaccinated 1 and 2
Close and contact to other people that can cause virus transmission (Ainun et al., 2020)	Participants and supporters who use both private and public vehicles Participants and supporters are in crowded place

**Source: Data Processed by Authors (2023)**

Thus, the risk identification had been an initial measure in anticipating an increase in transmission cases and the emergence of serious/death consequences, considering that the situation was still grappling with the transition to the new normal amid the ongoing struggle against COVID-19 (Nugraheny & Rastika, 2021). Therefore, carrying out the risk inventory and analysing the causes of the events that generate them was a key to understanding the sources of risk. It carried out to recognize and understand the potential risks associated with the virus by having occupational settings and policy interventions (Glover et al., 2020). In addition, the finding of risk identification emphasizes the importance of comprehensive strategies in mitigating the impact of COVID-19 during national congress.

The risks that have been identified, was become the basis for mapping the risks mitigation of COVID-19 at the Muhammadiyah National Mass Gathering. Risk mapping is a process of analysing the hazard, vulnerability and capacity through present the information by providing data and supporting long-term hazard mitigation planning ((FEMA, 2023). Thus, the act of Muhammadiyah in mapping the risk with these activities to determine the risk in high (red), medium (yellow), or low (green). The people gathered in Muhammadiyah national congress were divided into two big division; first are the participants and second are the supporters. Then, the risk mapping was also divided into two; participants and supporters that were focused in the opening ceremony, and the participants who stayed for the whole four days in the meeting hall. Thus, mapping the risk has a result study of the recommendation as a basis in planning the disaster management (BNPB, 2022b).

**Table 4. Capacity, Vulnerability, and Hazard during National Congress of Muhammadiyah for Participant and Supporters**

Category	Description	Description
<b>Hazard</b>	COVID-19 transmission was slowing down in June, 2022 with 1000-1100 cases per day (Kementerian Kesehatan, 2025);	<b>Low</b>
	Nationally, COVID-19 cases reached 3000-5000 per day in November 2022 (Martino & Setuningsih, 2022);	<b>High</b>
	There is an increase in transmission around 10-21 cases per day since October 2022 in Surakarta (Anugrahanto, 2022a);	<b>High</b>
<b>Capacity</b>	Providing the sanitary kit such as 6700 boxes mask, 2550 bottles hand sanitizer, 20 items thermometer automatic+tripod, 5 items thermogenic, 8 items heap filter portable space, 100 items hazmat clothes, 30 boxes handscoon, 600 items face shield, 5000 items antigen, 100 items PCR, 30 items hand soap, and others (The Committee of Mukhtar, 2022a);	<b>High</b>
	Meeting hall was only used with maximum 50% of total capacity (The Committee of Mukhtar, 2022a). Here is the detail of maximum capacity of each meeting hall that used for national congress activities:	
	<ul style="list-style-type: none"> <li>- The maximum capacity of Edutorium USM is 14.000;</li> <li>- The maximum capacity of Dzajman Al Kindi Auditorium is 8.000-10.000;</li> <li>- The maximum capacity of Siti Walidah Main Building is 4.000-5.000;</li> <li>- The maximum capacity of Sport Centre Building is 5.000;</li> <li>- Each dome has maximum capacity 1.500</li> </ul>	
	Meeting dome/venue was only used with maximum 50% of total capacity (The Committee of Mukhtar, 2022a)	
	Providing meeting venue with maximum 50% of total capacity (The Committee of Mukhtar, 2022a). Here is the detail of maximum capacity of each meeting venue that becoming the supporter's destination during national congress:	<b>Low</b>
	<ul style="list-style-type: none"> <li>- Manahan Stadium with maximum capacity is 20.000</li> <li>- De Tjolomadoe (not found the maximum capacity)</li> </ul>	
<b>Vulnerability</b>	De Tjolomadoe (not found the maximum capacity)	<b>High</b>
	2-3 million participants were required to be 2 times vaccinated as well as booster (Televisi Muhammadiyah, 2022)	<b>Low</b>
	2-3 million participants coming from various age group and some of them having comorbidities (Pribadi & Sukhrani, 2022)	<b>High</b>
	Participants were in crowded place while there is supporters coming from various region and the Local society participated the national congress by doing activities outside home (Muhammadiyah, 2022a);	<b>High</b>

**Source: Data Processed by Authors (2023)**

Thus, there were potential hazard, capacity, and vulnerability in conducting the national congress of Muhammadiyah. Based on the Indonesian Disaster Risk Index (Indeks Risiko Bencana Indonesia/IRBI) that risk is calculated by multiplying hazard with vulnerability and dividing with capacity (BNPB, 2022a). Based on these calculations, the potential risk of this national congress is at a medium level (yellow) because Muhammadiyah's capacity in organizing the congress was high, as measures were implemented to prevent a surge in COVID-19 transmission. Even though, the hazard at that time was high, as the trend of COVID-19 cases was low when the decision to hold the face-to-face national congress was made but high when it conducted. Meanwhile, vulnerability was generally low because participants and supporters had received booster vaccinations. However, activities that exposed them to crowded places increased their level of vulnerability.

In the same time, Surakarta is described in In a Risk document with the red colour both in hazard and vulnerability (NDMA, 2021)). It means that the potential risk in Surakarta is high level. But the Local Government has anticipatory actions in welcoming the participants and supporters of Muhammadiyah national congress such as providing PCR test to rapidly checked the suspect and optimizing the COVID-19 vaccination by having 20.000 doses (Anugrahanto, 2022b; Pratama & Suharsih, 2022).

In addition, the medium risk also supported by the level of compliance of Indonesian people with COVID-19 health protocol was also well-improved. It is described by compliance score in wearing mask is 7.88 of 10, keeping the distance is 7.75 of 10, and washing hands is 7.86 of 10 in September 2021 (Imandiar, 2021). However, Indonesian Government also ensured that continue to educate the people to comply with health protocols to lowering the risk of COVID-19 (Ministry of Health of The Republic Indonesia, 2022). Therefore, it can suppress the high hazards and vulnerabilities, resulting in a medium risk. Additionally, transmission of Omicron XBB variant is not as fast as Omicron and not as dangerous as Delta variant which causes many death cases (Rokom, 2022a).

Thus, the baseline transmission was identified and quantified by Muhammadiyah considering the essential actions in adjusting COVID-19 transmission. Following WHO's recommendation, Muhammadiyah applied a risk-based approach to ensure that events are adjusted accordingly.

The risk evaluation efforts implemented by Muhammadiyah align with the prevailing situation and policies during the COVID-19 pandemic. It was because, at the current situation, Indonesia required its citizens to be vaccinated based on the government policy "the Ministry of Health Regulation Number 23 Tahun 2021 concerning the Third Amendment to Minister of Health Regulation Number 10 of 2021 on the Implementation of Vaccinations in the Context of Overcoming the 2019 Corona Virus Disease (COVID-19) Pandemic" (Firdaus, 2022; Ministry of Health Regulation Number 23 Tahun 2021 Concerning the Third Amendment to

Minister of Health Regulation Number 10 of 2021 Concerning Implementation of Vaccinations in the Context of Overcoming the 2019 Corona Virus Disease (COVID-19) Pandemic, 2021). In November 2022, Indonesia has reached 171.989.257 people with 2 (two) dose of vaccines or 73.29 percent of population (Pribadi & Sukhrani, 2022). This reinforces Muhammadiyah's perspective that Indonesia society was prepared to coexist with COVID-19 and this also aligned with new normal policy declared by Ministry of Health Decree Number HK.01.07/MENKES/328/2020 concerning COVID-19 Prevention and Control Guideline as a regulation to implement New Normal Policy (Fajar, 2020) which strengthened Muhammadiyah analysis in risk evaluation.

The findings indicate that Muhammadiyah demonstrated strong adaptive capacity at the planning level, including the development of mitigation strategies, infrastructure provision, and multi-stakeholder training exercises. These efforts align with global best practices emphasizing preparedness, simulation, and capacity-building in mass gathering management (Shimizu et al., 2022; Glaria et al., 2023).

However, a significant gap emerges between planned mitigation and actual implementation, particularly in high-density settings such as opening and closing ceremonies. This discrepancy reflects what has been identified in the literature as the "implementation gap," where formally designed policies fail to translate into effective practice (Pressman & Wildavsky, 1984).

The observed challenges—such as inconsistent mask enforcement and overcrowding—can be attributed to several governance-related factors, including:

- limited enforcement mechanisms in informal or open spaces
- coordination challenges across multiple organizing units
- competing priorities between symbolic event success and risk control

These findings are consistent with studies on mass gatherings that highlight the difficulty of maintaining compliance in large, heterogeneous crowds, particularly when social and cultural dynamics are involved (Ahmed et al., 2022; Yousefian et al., 2022). Importantly, this study extends existing literature by showing that adaptive capacity must be understood not only in terms of technical preparedness, but also in relation to institutional enforcement and behavioral governance.

## **Risk Mitigation**

In this section, it will be discussed on how Muhammadiyah mitigated a risk by enhancing venue facilities, enforcing mask use, and regulating the number and flow of participant as well as improving the capacity of event staff. Concerning the potential risk that might be occur in conducting the national congress, Muhammadiyah had been develop the strategies

by enhancing venue facilities, enforcing mask use, and regulating the number and flow of participant for mass gathering mitigation during the COVID-19 pandemic involves implementing a range of safety measures to protect attendees and staff. These measures reflect Muhammadiyah's commitment to mitigating the spread of COVID-19 in conducting the national congress it can be seen below.

**a. Enhancing Venue Facilities and Enforcing Mask Use Evaluating the Potential Risk**

Enhancing venue facilities consists of several categories such as ventilation, hygiene, and spacing. Ventilation involves ensuring proper airflow to mitigate airborne transmission (Murakami et al., 2021); Hygiene includes providing handwashing facilities with soap and water or hand sanitizer dispensers throughout the venue (WHO, 2021); Spacing refers to securing adequate distance between individuals by using floor markers or partitions to prevent crowding in queues (JCMA, 2021), and Medical Resources refers to ensure availability of isolation facilities (clinic/medical station) (Li et al., 2024). Additionally, enforcing mask use measures by 2 (two) categories including mandatory mask wearing is required to all attendees and organize a monitoring system within the venue to ensure masks are worn (JCMA, 2021). Based on these categories, following is how Muhammadiyah developed and implemented strategies as a precautionary measure for conducting the national congress.

**Table 5. Enhancing Venue Facilities and Enforcing Mask Use that designed by Muhammadiyah to Conduct National Mass Gathering**

<b>Category</b>	<b>During Congress Event</b>	<b>Description</b>
Ventilation	Always maintain indoor air quality by optimizing air circulation and sunlight exposure, and by using a portable HEPA filter	4 indoor venues
Hygiene	Implement through and frequent cleaning and sanitation measures Provide adequate and easily accessible hand-washing facilities with soap Provide hand sanitizer in meeting/civility areas such as entrances, lobbies, reception/registration desks, elevator doors and other public areas	All meeting venues
Spacing	Use "No Sitting" stickers or signs to ensure 1.5 meters between attendees is maintained The lift is set to accommodate a maximum of 4 people, and a standing position sticker was attached	All meeting venues (as well as dome where participant stayed at)

Medical Resources	Ensure availability of isolation facilities	Dome for participants only
	Provide a special space as a health service post	All meeting venues
	Provide temperature checking tools at the entrance for all parties involved	
	Prepare health plans and procedures, including exposure mitigation and emergency evacuation measures	
Mandatory masking wearing	Strictly always enforce mask-wearing other than during eating or drinking	All meeting venues
	Check that masks are worn upon entry, and provide masks where necessary	
Monitoring	Ensure masks are worn within the venue	All meeting venues
	Establish a healthcare monitoring team to oversee compliance with physical distancing and mask-wearing rules, as well as to provide information to participants	

**Source: Data Processed by Authors (2023)**

Thus, Muhammadiyah designed and implemented several procedures in enhancing venue facilities and enforcing mask use to reduce transmission during mass gatherings. However, these procedures were not well-implemented during the opening and closing activities, as evidenced by several live recordings in Youtube (link attached) from the Presidential Secretariat, Cabinet Secretariat, and Vice President of the Republic of Indonesia (link attached). The opening activity was the most crowded over all national congress activities, yet physical distancing of 1.5 meters between attendees was not enforced and the mandatory use of masks was not consistently abided by participants and supporters in the opening and closing ceremony venues. Furthermore, the event staff and the Master of Ceremony (MC) did not remind the attendees to wear masks, even when the required physical distancing of 1.5 meters was not maintained. In that case, it could be stated that the monitoring was not well implemented.

#### **b. Improving the Capacity of Event Staff**

This part will discuss the training/exercises carried out by Muhammadiyah to prepare the national congress during COVID-19 Pandemic. There are three exercises carried out by Muhammadiyah, namely pre-rehearsal, rehearsal, and drills. These activities were conducted to ensure coordination, communication, and evacuation by involving people to prevent the disaster risk<sup>1</sup> (Dinas Ketahanan Pangan Provinsi Jawa Tengah, 2017).

**Table 6. Activities for Training/Exercises**

<b>Activity</b>	<b>Type of Exercises</b>	<b>Who is involved</b>	<b>Time</b>	<b>Place</b>
Pre-Rehearsal	Tabletop Exercise (TTX)	20 participants from The National and Local Committee (the team was part of 82 Muhammadiyah Hospitals who become COVID-19 Referee Hospitals) (Regional Board of Muhammadiyah for Central Java Province, 2022a)	September 29, 2022	Park Block A & B Manahan Stadium (Syifa, 2022)
Rehearsal	TTX	50 participants from The National and Local Committee (the team was part of 82 Muhammadiyah Hospitals who become COVID-19 Referee Hospitals) (Regional Board of Muhammadiyah for Central Java Province, 2022b)	September 30, 2022	
Gladi Posko	Command Post Exercise (CPX)	Health personnels from 30 Muhammadiyah/Aisyiyah Hospitas including LazisMu ambulances, Muhammadiyah Disaster Management Center (MDMC), and volunteers from Muhammadiyah/Aisyiyah Universities (Universitas Muhammadiyah Klaten, 2022)	November 14, 2022	Manahan Stadium
Drills Simulation	CPX	1.296 participants from The National and Local Committee, Central Board of Muhammadiyah, Regional Board of Muhammadiyah for Central Java Province, Talents, Local Government and its apparatus (including Indonesian Military ( <i>Tentara Nasional Indonesia/TNI</i> ) and Police of Republic Indonesia ( <i>Polisi Republik Indonesia/POLRI</i> ), and other civil organisations as well as 72 ambulances (Regional Board of Muhammadiyah for Central Java Province, 2022b)	October 1, 2022	Edutorium KH Ahmad Dahlan Universitas Muhammadiyah Surakarta (UMS) and Park A & B Manahan Stadium
Assembly and Health Screening Simulations	Full-Scale Exercises (FSE)	The National and Local Committee as well as participants (Ardianto, 2022) which divided into: <ul style="list-style-type: none"> <li>- 50 people as National Committee and 15 persons Assistant Team;</li> <li>- 30-50 people as Regional Committee.</li> <li>- 150-200 as Local Committee; and</li> <li>- 500 Volunteers.</li> </ul>	October 29, 2022	Edutorium KH Ahmad Dahlan UMS

Emergency and Evacuation Simulation	Field Training Exercise (FTX)	The National and Local Committee, participants, health personnel, and volunteers (Bram, 2022)	November 16, 2022	Manahan Stadium
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**Source: Data Processed by Authors (2023)**

The training mentioned above were part of Muhammadiyah strategy to adapt health protocols and to mitigate the COVID-19 pandemic. In addition, these exercises aimed to improve understanding of threats and risks through information and communication systems including early warning (NDMA, 2020). Another objective were to increase preparedness and emergency readiness to respond COVID-19 that involve multi-stakeholders in anticipating the impact of the worst-case scenario (Srisirojanakorn et al., 2022).

It can be stated that Muhammadiyah has implemented risk mitigation through various activities, not only improving venue facilities, and providing hygiene kits for Covid, but also conducting training to ensure the capacity of staff or committee to anticipate the worst-case situation. Although there remained gap such as the failure to maintain a 1.5 meters distance between attendees, and the presence of many visitors not wearing masks in crowded areas and the use of enclosed spaces exceeding 50% of their maximum capacity, Consequently, the execution of this risk mitigation did not proceed as effectively as planned

### **Risk Communication**

This section will discuss on how Muhammadiyah developed mitigation strategy through risk communication which consist of proactive dissemination of information regarding the precautionary measures and decision-making process in establish the rule and regulation for all involved in the national congress.

#### **a. Proactive Dissemination of Information Regarding the Precautionary Measure**

Transparent information as an anticipatory action can be achieved by disseminating guidance on the recommended actions and protocols that prospective attendees must follow. This strategy aimed to ensure that attendees were well-informed about the national congress during COVID-19 Pandemic, and it was precautionary measures as it is stated by WHO that authorities to develop effective risk communication in clarity and consistency (WHO, 2021). Therefore, Muhammadiyah had compiled the regulation (Standard Operational Procedure/ SOP) that had to be used for COVID-19 Pandemic mitigation during the event. This regulation was binding all people who will join in national congress including the members, committee, participants, supporters and visitors. The dissemination information was divided into two parts which was pre-event and during the event. Following this, public information and awareness were shared by Muhammadiyah to the participants and supporters that can be seen below

**Table 7. Information and Awareness Carried Out by Muhammadiyah**

Implementation/ description	Information	Channel
Pre-Congress	Disseminating the SOP including a required information in the registration form as follows: <ul style="list-style-type: none"> <li>- The age, comorbidities and having special medicine, vaccines, and PCR/antigen</li> <li>- Using public or private transportation</li> <li>- Where will stay during national congress</li> <li>- Informing the hospitals that can access by participants and supporters in Java area</li> </ul>	<a href="#">Goolge form</a> that dessionated in video content on intagram ( <a href="#">@lensamu</a> ), poster on twitter ( <a href="#">@Muhammadiyah</a> ), website ( <a href="#">muhammadiyah.or.id</a> ) and live socialization on youtube ( <a href="#">Muhammadiyah Channel</a> & <a href="#">tvMu Channel</a> ) (link attached).
	Informing the meeting point and clear signage and designated entry and exit points at the venue of national congress	Teleconference via Zoom Cloud Meeting live at youtube ( <a href="#">Muhammadiyah Channel</a> & <a href="#">tvMu Channel</a> )
	Informing health protocol during the meeting: <ul style="list-style-type: none"> <li>- Wearing mask and bring a hand sanitizer.</li> <li>- A chair/table or other partitions with special sign is not allowed to use.</li> <li>- Participants are not allowed to interact while eating and drinking during the event.</li> <li>- Participants are not allowed to stand during the meeting to maximise social distancing.</li> <li>- Carrying out to disinfecting process all of equipment in meeting venue after has been used.</li> <li>- Providing health care monitoring team to maintaining health protocol in venue area as well as 3M KN95 Masks and hand sanitizer to each participant.</li> <li>- Wearing gloves and masks when cleaning the meeting venue.</li> </ul>	Teleconference via Zoom Cloud Meeting live at youtube ( <a href="#">Muhammadiyah Channel</a> & <a href="#">tvMu Channel</a> ).
	Informing the health facilities nearby the Muktamar venue	
	Informing the standard of protocols by Muhammadiyah Covid Command Centre	

During congress (upon arrival)	Informing all those involved on the activity were taken the body temperature and ensure has no symptoms	- There is committee who direct the participants/supporters
(when the participants and supporters were present at the meeting hall)	<ul style="list-style-type: none"> <li>- Informing and ensuring the participants and supporters were occupied seats arranged by the committee while applying the social distancing.</li> <li>- Participants and supporters were not allowed to communicate during meals (especially when the mask took off)</li> </ul>	<ul style="list-style-type: none"> <li>- LED video, Banner, Poster, and sticker (as a sign) in every strategic area of meeting venue</li> </ul>
Post-congress	<ul style="list-style-type: none"> <li>- Informing the exit paths for all participants to prevent the crowd</li> <li>- Disinfect table and chairs the equipment that has been used</li> <li>- Ensuring the participants carried out the health test/ examination are the health post</li> </ul>	

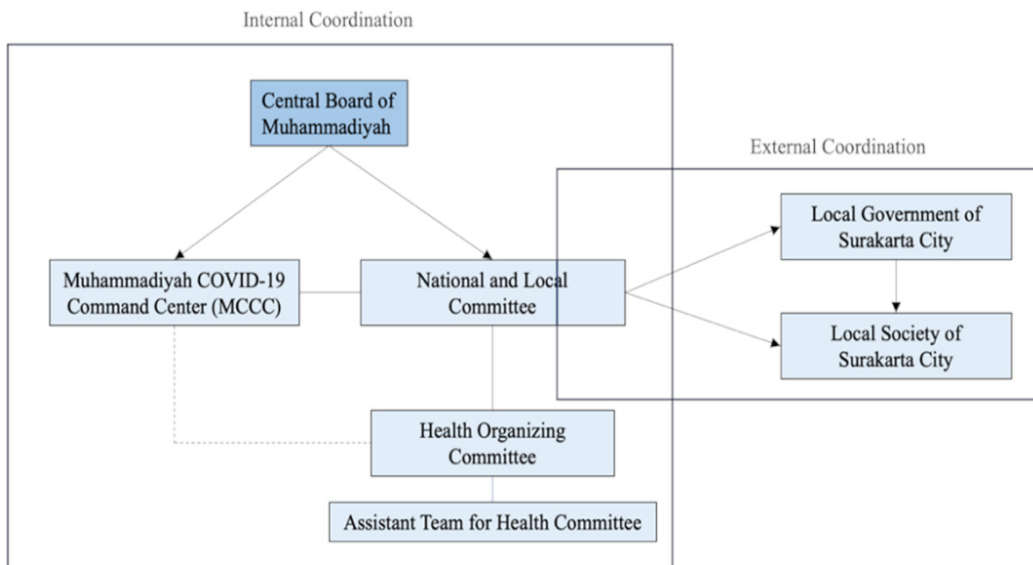
**Source: Data Processed by Authors (2023)**

The above table, Muhammadiyah disseminating these information's through various channels including visual displays, social media and website announcements, COVID-19 helplines, and other relevant platforms. Those channels and platform had the ability to engage with all members and supporters of Muhammadiyah. They were allowed to have a conversation virtually regarding the COVID-19 Pandemic situation and its regulation, including the national health policies on COVID-19 and Muhammadiyah Covid Command Center guidelines.

Although the risk had been communicated, there was found in the video recording showing some participants and supporters not wearing masks properly. It is showed in the Youtube Kompas TV (indoor acitivity area) and Tribunnews (outdoor activity area that involved community participation) (link attached) particularly during the opening activity, at the exebition and during closing ceremony (in Manahan Stadium and De Tjolomadoe).

**b. Decision-Making Process to Establish Rules and Regulation**

The one of risk communication indicators is coordination by establishing health sector coordination as part of control and communication protocols (Lewis et al., 2025). It aims to encourage informed decision-making in protective measures and foster community support for action that mitigate the impact of the mass gathering during COVID-19 Pandemic (Ihekweazu et al., 2022). Therefore, in this part it will be discussed how Muhammadiyah coordinated and created rules and regulation.



**Figure 3. Coordination Flow for COVID-19 Pandemic Mitigation in Organizing Muhammadiyah Congress**  
 Source: Data Processed by the Authors

There are several activities carried out by Muhammadiyah in coordination that can be seen below.

**Table 9. Coordination Activities Carried Out for National Congress**

Organization Stakeholders	Activity of Coordination	Type of Coordination
Central Board of Muhammadiyah	Deciding organization policy based on recommendation that provided by MCCC Carrying out internal discussion regarding progress repost of national congress	Weekly meeting with councils/ units, MCCC, congress committee, and other resource persons
MCCC	Appointing 2 doctors of MCCC to review the SOP and assess the health facilities in Muhammadiyah national congress Delivering data and information accurately as a recommendation to the Central Board of Muhammadiyah as well as the Committee of National Congress	Internal discussion
	Carrying out discussions with experts and governments refer to various sources to be used as a reference for specific recommendations	Focus Group Discussion (FGD)

National And Local Committees	Ensuring all members in committee are well-informed regarding the Central Board of Muhammadiyah decision	Monthly Meeting
	Representing Central Board to communicate with the Local Government of Surakarta City	Roundtable Discussion
	Communicating with local society 6 (six) months before the national congress was conducted. It was involved the Village Head and the staff, and Local Figures where the village is around the national congress area.	FGD
Health Organizing Committee	Disseminating the information to participants, supporters, and local community. It was conducted 6 (six) months before the national congress and once in a month for each attendee's category.	Socialization in Virtual and Face-to-Face
A Team Assistant for the Health Committee	Supporting the Health Organizing Committee to create the SOP and other elements related to the health protocol	Internal Discussion & Supervision

**Source: Data Processed by Authors (2023)**

The internal coordination involved councils/units and individuals within Muhammadiyah (the Central Board of Muhammadiyah). MCCC, National and Local Committees, Health Organizing Committee, and Assistant Team. They were able and willing to communicate with one another, to contribute action, and to accomplish a common purpose. Each unit is interdependent to coordinate because they understand their authority and what can take place at different levels (Osifo, 2012). These non bureaucratic mechanism as characterized in Non Government Organization (NGO) and a good participation and engagement lead the Central Board of Muhammadiyah in making more effective and efficient decision.

Another coordination was the engagement with external parties from various sectors including public, private and government entities (Ratzen et al., 2020). Engaging with the government is what every organization must do in conducting an event or program. It is considering the government as policy maker who actually well-known the situation based on data that they collected (Thorper, 2020). It is conveyed by Sofriyanto that "coordinating with various stakeholders including the government of Solo and Central Java as well as with the universities and local society because one of the indicators for disaster risk reduction is collaboration with government" (June 7, 2023). And it is confirmed by Arif as well on June 6, 2023: "We also collaborate with several stakeholders including the COVID-19 Task Force, central government, and local government. Because we follow the regulation of the local (Solo) and central government, we want to know their perception to organize our event by fully offline." Engaging with various stakeholders is one of the risk communication strategies that aims to enhance compliance with precautionary measures (WHO, 2021) and to promote community engagement and support for recommended action which is essential for controlling the spread of infection and reducing the impact of outbreaks during mass gathering (Lewis et al., 2025).

Risk communication in this study was characterized by extensive dissemination of information through multiple channels and strong coordination with stakeholders. This reflects key principles identified in global health communication literature, particularly the importance of clarity, consistency, and multi-channel engagement (WHO, 2021; Ratzan et al., 2020). However, the findings indicate that communication strategies were predominantly top-down and informational, with limited emphasis on participatory engagement or behavioral feedback mechanisms. As a result, compliance with health protocols varied significantly across participants and event spaces. This aligns with previous research suggesting that effective risk communication requires more than information dissemination; it must involve trust-building, community engagement, and adaptive communication strategies (Ihekweazu et al., 2022). In the context of religious mass gatherings, compliance is particularly influenced by social norms, collective identity, and perceived legitimacy of authority (Ahmed et al., 2022). The findings therefore highlight a critical limitation in collaborative capacity: while Muhammadiyah successfully mobilized its network for communication, it did not fully leverage this network to shape behavior through interactive and participatory mechanisms.

### **Non-State Actors and Mass Gathering Governance**

A key contribution of this study lies in its focus on Muhammadiyah as a non-state governance actor. Existing literature has primarily examined the role of governments in managing pandemic risks, with limited attention to civil society organizations.

The findings demonstrate that non-state actors can play a significant role in organizing and governing large-scale events, particularly through:

- mobilizing institutional networks
- coordinating multi-level stakeholders
- implementing mitigation strategies

This supports emerging scholarship on collaborative governance and the role of civil society in crisis management (Ansell & Gash, 2008; Emerson et al., 2012). However, the study also reveals that non-state actors face limitations in:

- enforcing compliance
- managing informal or unregulated spaces
- integrating governance mechanisms across diverse participant groups

Thus, while non-state actors can complement state capacity, their effectiveness depends on the institutionalization of governance practices and coordination with formal authorities.

## CONCLUSION AND RECOMMENDATION

This study examined the governance of a large-scale mass gathering organized by Muhammadiyah during the COVID-19 pandemic through a risk governance framework encompassing risk evaluation, risk mitigation, and risk communication. The findings indicate that while Muhammadiyah successfully implemented a range of mitigation strategies aligned with international guidelines, the effectiveness of these measures was characterized by uneven governance capacity across analytical dimensions. First, in terms of risk evaluation, the organization demonstrated a moderate level of anticipatory capacity through epidemiological monitoring and risk identification processes. However, this evaluation remained largely descriptive and was not fully translated into predictive and adaptive decision-making. The decision to proceed with the Congress despite rising infection trends suggests that risk evaluation was influenced not only by data but also by institutional considerations and policy relaxation dynamics. This highlights a limitation in the integration between risk assessment and strategic decision-making.

Second, regarding risk mitigation, Muhammadiyah exhibited strong adaptive capacity at the planning level, including the enhancement of venue infrastructure, enforcement of health protocols, and provision of healthcare facilities and training. Nevertheless, a significant gap emerged between planned mitigation and actual implementation, particularly in high-density and informal spaces. This discrepancy reflects broader challenges in governance, including limited enforcement mechanisms, coordination constraints, and the prioritization of symbolic event functions over strict risk control. Third, in terms of risk communication, the organization demonstrated considerable collaborative capacity through multi-channel information dissemination and stakeholder coordination. However, communication strategies were predominantly top-down and informational, with limited emphasis on participatory engagement or behavioral adaptation. As a result, compliance with health protocols varied across participants, indicating a gap between communication reach and behavioral effectiveness. Taken together, these findings suggest that Muhammadiyah's approach represents a form of partial risk governance, where procedural and technical measures are present but not fully institutionalized into a coherent and integrated governance system. This study contributes to the literature by extending the concept of risk management into risk governance, highlighting the importance of aligning anticipatory, adaptive, and collaborative capacities in managing large-scale events under conditions of uncertainty. Furthermore, it demonstrates that non-state actors can play a significant governance role in crisis contexts, although their effectiveness is constrained by limitations in enforcement authority, coordination, and institutional integration.

This study is limited by its focus on a single case and the use of a qualitative approach, which may constrain the generalizability of its findings. Future research is therefore encouraged to extend this analysis through comparative studies across different countries

or types of mass gatherings in order to capture variations in governance contexts and practices. In addition, the application of quantitative or mixed-method approaches would be valuable to systematically examine the relationship between mitigation strategies and compliance outcomes, thereby strengthening empirical validation. Further investigation is also needed to explore the role of non-state actors within hybrid governance systems, particularly in crisis contexts, to better understand how institutional interactions between state and non-state actors shape the effectiveness of risk governance.

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