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The Rationale for Collaborative Approach with Military Involvement to Strengthen Urban Disaster Management Strategy: A Case Study of Malaysia

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Abstract

This article discusses the rationale for a collaborative approach involving military involvement to strengthen Malaysia's urban disaster management strategy. The article highlights the limitations of the existing approach in effectively responding to urban disasters through analysis of available resources. This research found that a collaborative approach with military involvement can offer several advantages, including improved communication and coordination, increased resources and expertise, and enhanced capacity building. However, a few challenges and concerns must be addressed, especially regarding civil liberties. This study underscores the importance of managing and integrating the military's involvement with civilian authorities transparently and responsibly and reviewing the policies governing civil-military coordination in the country's disaster legislation. The article provides a case study of the implementation of this approach during the 2021 floods in Malaysia to discourse on the lesson learnt from the catastrophic event. Overall, the article concludes that a collaborative approach involving military involvement is essential for improving Malaysia's urban disaster management strategy and ensuring effective disaster response and recovery. Ultimately, this research aims to inspire further research and discussion on this topic and contribute to developing more effective disaster management strategies.

Keyword: Civil-military Coordination, Urban Disaster Management, Military, Urban Disaster, Case Study

Introduction

Disasters undermine societal well-being, causing loss of lives and damaging social and economic infrastructures (The International Federation of Red Cross and Red Crescent Societies, n.d.). The International Federation of Red Cross and Red Crescent Societies (IFRC) described disasters as events that significantly disrupt a community and are beyond its ability to handle using its resources. These events can be triggered by natural, human-made, and technological hazards, as well as other factors that affect how exposed and vulnerable a community is (IFRC, n.d.).

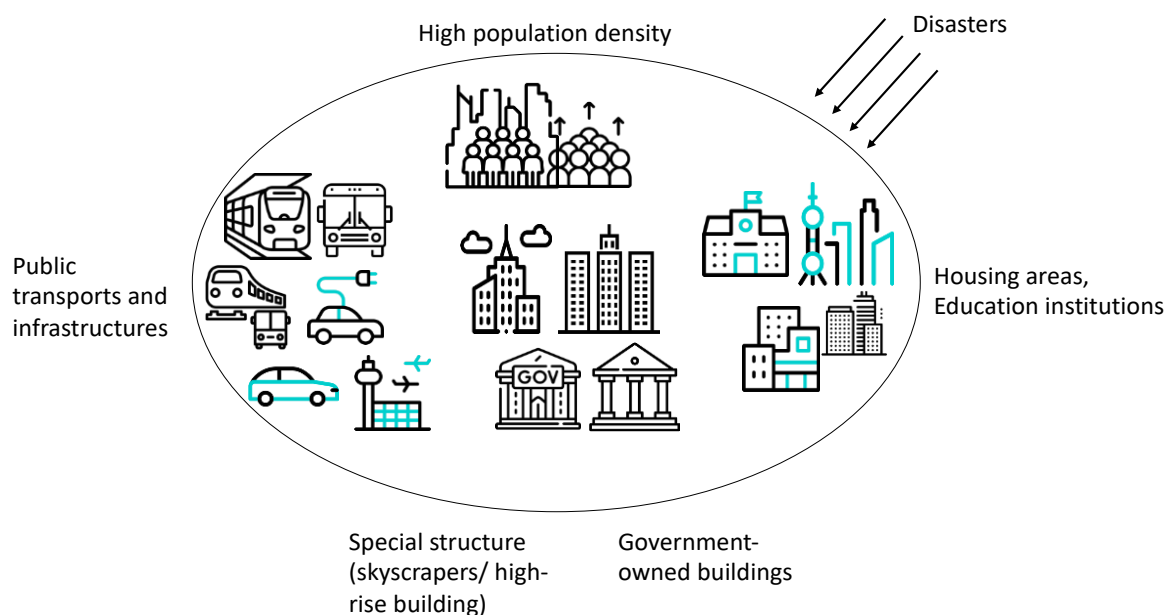


Figure 1 - Problem statement summary (Explanation and figure by author)

Urban areas are where people primarily settle, characterised by high levels of human activity and dense infrastructure. They experience significant changes in population, land use, and industrial production over time (Li et al., 2022). Due to the high population density and complex infrastructure, urban areas can be susceptible to natural disasters such as floods, earthquakes, and droughts.

It is essential to have effective disaster management plans to minimise the impact of these disasters, which is especially true for CIMIC, which is critical because the military has access to unique resources and expertise such as logistics and engineering capabilities. However, coordinating between civilian and military actors can be complicated. CIMIC aims to ensure effective and efficient coordination among all parties involved in disaster response, with clear lines of communication and mutual understanding.

As Malaysia's capital city, Kuala Lumpur is susceptible to various urban disasters such as floods, fires, and earthquakes. With a population of over 8.42 million people (World Population Review, 2022) and being a vital centre for trade, commerce, and transportation, effective disaster management in Kuala Lumpur is crucial. The impact of disasters can be devastating, affecting people's lives and causing extensive damage to infrastructure and the economy. Recent high-profile urban disasters in Malaysia have emphasised the need for more effective disaster management strategies. To address this issue, the city has implemented disaster risk reduction measures such as building codes, evacuation plans, and emergency response training programs.

Governments worldwide have also recognised the importance of urban disaster management systems to minimise the impact of these events. Due to the increasing population and infrastructure complexity of urban areas, they are more vulnerable to disasters such as floods, hurricanes, and earthquakes, which can significantly impact communities.

Organisations such as United Nations Office for Disaster Risk Reduction (UNDRR), the International Federation of Red Cross and Red Crescent Societies (IFRC), and the World Health Organization (WHO) recognise the significance of effective urban disaster management due to the growing number of urban disasters worldwide and their significant impact on

communities. It is crucial to have efficient disaster management strategies in place for urban areas to provide necessary aid to affected communities, especially in densely populated regions, and to mitigate the adverse effects of disasters as much as possible. By exploring the potential benefits of a collaborative approach involving military support, this study aims to address this need and encourage policy-makers and stakeholders to consider new approaches to enhance disaster management efforts in Malaysia.

Minimising harm and facilitating recovery are fundamental goals of effective disaster management. Through its findings, this study underscores the importance of implementing effective disaster management strategies to mitigate the severe impact of urban disasters on communities.

This study aims to contribute to the academic discourse on CIMIC in urban disaster management and provide policymakers and practitioners with valuable insights. By comprehensively analysing relevant literature and case studies, the study investigates the military's role in Malaysia's urban disaster management system, examining its strengths and limitations. The study aims to improve the outcomes of urban disaster management by providing insights into the most effective ways to utilise military resources during crises. To achieve this objective, the research has posed several questions, including:

1. What is the current state of Malaysia's urban disaster management strategy?
2. How has civil-military coordination been incorporated into Malaysia's urban disaster management strategy?
3. What are the benefits and drawbacks of involving the military in disaster management in urban areas, and how can they be mitigated?
4. What lessons can be learned from past urban disasters in Malaysia, and how can they inform future disaster management strategies?

This research aims to contribute to developing more robust disaster management strategies that can effectively protect vulnerable areas and populations in urban settings. To accomplish this goal, the study will address the questions mentioned earlier and explore the rationale for adopting a collaborative approach, including military involvement. This research aims to provide valuable insights that can enhance the country's disaster preparedness and response capabilities.

Methodology

The research will involve reviewing relevant literature and analysing secondary data. The initial step of the study will involve exploring the concept and current comprehension of civil-military coordination, which plays a critical role in disaster management. The 2021 flood that occurred in Kuala Lumpur will serve as a case study to examine the present civil-military coordination practices in Malaysia's urban disaster management system. The case study will illustrate how enhancing coordination is crucial to strengthen the disaster management system of the country. The research will involve a qualitative analysis of data and information obtained from various sources such as government reports, academic articles, journals, news reports, online databases, and books. The methodology of this research will include a literature review, a case study, and a qualitative data analysis. The study's conclusions will be based on the analysed data and information.

Literature Review

Urban Disaster Management

Urban disaster management is a critical and complex challenge that cities worldwide face. The increasing concentration of populations, infrastructure, and economic activities in cities due to urbanisation has made them more vulnerable to natural and man-made disasters. Addressing this challenge requires a multi-disciplinary and integrated approach involving various actors such as government agencies, non-governmental organisations, communities, and the private sector. Urban disaster management involves planning, organising, and implementing measures to mitigate the impacts of disasters on urban populations, including risk assessment, emergency response and evacuation planning, recovery and reconstruction efforts, and disaster risk reduction measures. It aims to minimise loss of life and property and ensure a swift and effective response to disaster events, which requires collaboration and coordination between different entities. These papers offer valuable insights into Malaysia's current state of urban disaster management strategy.

Shafiai (2016) found that there are issues with the relief system provided by the government to victims of floods in Malaysia, suggesting that the current state of the strategy is not effective. The main findings show that the study, the flood management relief system in Malaysia is mainly based on an official strategy that is derived from the National Security Council's (MKN) Directive No. 20. However, the research shows that the policy implementation's efficiency at different levels during and after natural disasters, which impact flood victims, is deficient. Moreover, the disaster relief system in Malaysia has faced criticism.

Khalid & Shafiai (2015) found that the delivery system for flood relief in Malaysia is predominantly technology-centred and that the National Security Council is responsible for controlling the national disaster management system. The main findings of the research indicate that the management of the national disaster management system in Malaysia is the responsibility of the National Security Council (MKN). Furthermore, the flood delivery system in Malaysia mainly utilises an official strategy that prioritises a technology-centred approach. Additionally, the delivery systems employed in other countries can serve as a benchmark for comparison with the system utilised in Malaysia.

Roosli & O'Keefe (2013a) found that the current state of disaster planning in Malaysia is in the process of transformation from a natural event to a social phenomenon. Roosli & O'Keefe (2013a) also found that Malaysia follows any direction from the international arena to national situation and has a developed country approach in disaster management policy but with the implementation capacity of a developing country. The research's primary results reveal that disaster planning has shifted from a view of a natural occurrence to a social occurrence, focusing more on internal factors than external ones. Moreover, it is the government's responsibility to ensure that the organisations responsible for recovery and those responsible for disaster management work closely together. Additionally, utilising learning can help develop a plan that involves raising awareness and building capacity to improve the enforcement of existing legislation. According to Kim et al (2011) urban disaster management refers to the ability of physical and social urban components to adjust and recover from disasters, leading to better living conditions. This definition is consistent with Tingsanchali (2012), who explains the concepts, policies, plans, and operations of integrated urban flood disaster and risk management.

Together, these articles suggest that urban disaster management involves the capacity of physical and social urban elements to adapt and recover from disasters, resulting in improved

living conditions. Consequently, urban disaster management is a complex and all-encompassing system that requires a thoroughly planned approach, efficient communication, active participation, and advanced technology.

Civil-military Coordination

The civil-military coordination concept is appropriate and meaningful at the operational and tactical levels from a humanitarian and military perspective (Cedric de Coning, 2007). According to Lugova et al (2020), optimising multi-sectoral approach, interoperability and coordination of civil-military capabilities to address health-related impacts of disasters is important in the dense and complex urban setting of Kuala Lumpur metropolitan area. The research believes that creating efficient partnerships with the military is vital to improve the response to public health implications of disasters and emergencies. The research concludes that with the complex and densely populated urban environment of Kuala Lumpur, it is essential to optimise the multi-sectoral approach, interoperability, and coordination of civil-military capabilities. Additionally, the study suggests that proactive approaches to public health and disasters should be adopted rather than reactive ones. Lugova's findings is supported with the findings from Puckett (2021); Nugroho et al (2016) in which they all found that civil-military coordination is important for disaster preparedness, response, and management. Tatham & Rietjens (2016) found that civil-military coordination is important for an effective logistic response to disasters.

To sum up, these articles suggest that an effective disaster management strategy necessitates civil-military coordination. The outcomes of these articles indicate that Malaysia's urban disaster management strategy should include civil-military coordination. Moreover, these articles underline the unique skills, abilities, and resources of the military that can be employed for disaster response to ensure a well-organized and effective response in challenging situations or disasters.

Benefits and Drawbacks of CIMIC in Urban Disaster Management

These papers suggest both benefits and drawbacks of involving the military in disaster management in urban areas. Lugova et al (2020) found that civil-military coordination is important for an effective public health response to disasters in urban settings. This suggests that civil-military coordination can be beneficial for disaster management. However, Vautravers (2010) found that fighting in cities is costly, slow, and often inconclusive. This article addresses the difficulties associated with military operations in urban environments, in which the author suggests that the military's involvement in disaster management can be costly and ineffective. The paper's findings show that fighting in cities is a costly, slow, and often inconclusive process. Due to urban expansion, cities have become the primary military and humanitarian operations locations. The research also finds that military operations in urban areas require heavy firepower and troop protection techniques and need full public trust and support. According to Davenport (2007) military governments tend to reduce restrictions on civil liberties. Thus, it can be inferred that the involvement in disaster management could also pose a threat to civil liberties. Kapucu (2016) found that the military has become involved in disaster response operations due to its available resources and expertise. According to the author, the military has become one of the main partners of federal, state, and local agencies in disaster response operations. The author discusses the role of the military in responding to natural and man-made disasters and explores the historical involvement of military in disaster management (Kapucu, 2016). This paper's

findings indicates that the military has become a crucial partner in disaster response operations, providing resources, logistical capacity, and operational services. Historically, the military has focused on responding to domestic disasters and has recently become more involved in responding to large-scale terrorist attacks. The military's role is vital in both natural and man-made disasters. Lastly, Ibrahim et al (2018) paper suggest that the military and civil agencies play an effective role to ensure the effectiveness of managing the disaster response in that area. This paper examines the relationship between the military and civil agencies during disaster response and recovery (Ibrahim et al., 2018). The paper found that there are problems such as disagreement between the military and civil agency that weakened their professional relationship. The paper's main findings are summarised as follow:

- a) The Malaysian Armed Forces (MAF) and civil agencies play an effective role to ensure the effectiveness of managing the disaster response in that area.
- b) There are problems such as disagreement between the military and civil agency that weakened their professional relationship.
- c) It is important for the military and civil agency to have a good relationship in order to work together in managing the disaster.

These papers reveal that involving the military in urban disaster management can have positive and negative impacts. Therefore, policymakers must consider the benefits and drawbacks before implementing a coordination system, which is crucial to ensure that the system effectively prevents casualties and damage to people and the country as a whole.

Lessons Learnt from Past Urban Disasters in Malaysia

These papers suggest that Malaysia's current disaster management strategy is ineffective, and that coordination is essential for effective disaster management. Chan (2015) found that Malaysia's disaster management is traditionally based almost entirely on a government-centric top-down approach, which is less than effective. The author believes that Malaysia's disaster management approach is traditionally centred on a government-centric, top-down approach which has proven to be largely ineffective in addressing flooding. The research suggests that there is a need for greater stakeholder participation, especially from non-governmental organizations, throughout the disaster cycle. Additionally, the research recommends that disaster management mechanisms adopt more non-structural measures, leverage state-of-the-art technology, and prioritize international cooperation with other countries. The author suggests that what Malaysia can learn from past urban disasters in Malaysia is the need for greater stakeholder participation, capacity building for NGOs and local communities, and the adoption of more non-structural measures. Roosli & O'Keefe (2013b) argues that there is still scope for improvement in planning and training for disaster management in Malaysia. It recommends that ideas and recommendations move upwards and downwards due to the technical design of rules and regulations. The author found that it is essential to ensure close liaison between the bodies responsible for recovery and that concerned with disaster management. The main findings of this research suggest that actors in public service sectors in Malaysia possess a negative attitude towards the implementation of disaster planning due to a lack of familiarity with the Standard Operational Procedure for handling land disaster management. The research indicates that there is potential for improvement in disaster management in Malaysia through promoting a professional culture and implementing innovative solutions to address longstanding issues. The research also suggests that social learning can improve disaster management in Malaysia by providing

training and education to actors and disaster victims. Taib (2017) found that the severe flood in 2014 had a substantial negative impact on the economy and society in several states, especially in Kelantan, Malaysia. This paper reviews flood disasters, including their types, impacts, and management.

In general, these findings propose that past urban disasters in Malaysia can provide valuable lessons to guide future disaster management strategies. In particular, Malaysia's disaster management strategy should be more efficient and well-coordinated.

Malaysia's 2021 Flood: Case Study of Military's Involvement during Urban Disaster Management

In 2021, Malaysia experienced heavy rainfall that caused flooding in several states, including Kedah, Malacca, Negeri Sembilan, Selangor and Kuala Lumpur (Latiff & Lee, 2021; ReliefWeb, 2021). The floods destroyed local village, livestock and vegetable farms and displaced more than 11,000 people from their homes (Latiff & Lee, 2021; ReliefWeb, 2021). Local authorities confirmed six deaths. In the Kuala Muda district, most areas were covered with muddy water, tree trunks and large rocks from the side of the river. Despite mud covering houses, flood victims did not report heavy damage. People did, however, report damage to several home appliances and furniture (ReliefWeb, 2021). The downpour that started on Friday morning and continued into Saturday hit worst in the western state of Selangor - Malaysia's wealthiest and most populous region surrounding the capital Kuala Lumpur. Dozens of highways and roads were closed due to flooding (Latiff et al., 2021). On December 30th 2021, news report from Bernama (2021) reported that natural disasters, including major floods, had hit several states claiming almost 50 lives, with another five missing (Bernama, 2021).

The 2021 flood displaced 21,000 volunteers from seven states (Latiff et al., 2021). More than 66,000 police, army and fire department personnel were deployed to help rescue people from vehicles stuck in flood waters or inundated streets outside their homes (Latiff et al., 2021). According to (Augustin, 2021), as widespread flooding hit the five states in 2021, the Armed Forces sprang into action, helping evacuate flood victims to relief centres without waiting for directive from the responsible agency, National Disaster Management Agency (NADMA).

According to news reports, NADMA was initially hesitant about getting the Armed Forces involved in relief efforts. Reports also reported that the Armed Forces headed to areas struck by the floods without waiting for official decisions and instructions to help the victims affected by the flood. The situation clearly shows a gap in coordination, command, control, and communication in disaster management, resulting in a delayed decision-making process and causing casualties and considerable damage.

The floods revealed that Malaysia's capacity to deal with large-scale disasters is inadequate, as state and federal agencies struggled with ineffective handling and coordination (Zahari et al., 2022). The tragedy raised several disturbing questions, including whether standard disaster protocols had been adhered to (Kamaludin, 2021; Lee, 2021). This also indicates that Malaysia has failed to draw lessons from previous disasters, such as the 2014 monsoon flood that affected over half a million people across various states and resulted in severe damage to infrastructure.

In conclusion, this research believes that a comprehensive disaster management law and carefully planned strategy that includes the military in urban disaster management could save thousands of lives and lessen many economic damages caused by the disaster in a shorter time and effectively.

Findings

According to the available information, CIMIC implementation in urban disaster management in Kuala Lumpur is still a work in progress. To assess its current state and effectiveness, this research suggests analysing the implementation of CIMIC in the country's disaster law.

Incorporating civil-military coordination in Malaysia's disaster law in Kuala Lumpur involves several crucial steps, including joint planning, role identification, information sharing, and joint exercises and training. However, like any complex system, there is always room for improvement, and stakeholders continue to work towards enhancing their coordination mechanisms to respond effectively to any disaster situation. Challenges such as limited experience dealing with complex urban disasters, resource constraints, and organisational cultural differences have contributed to this gap. Establishing clear communication lines and building trust between civilian and military actors is essential, which can improve coordination during urban disasters to address these issues.

In conclusion, the current state of CIMIC during urban disaster management in Kuala Lumpur is likely to be a work in progress, as there are ongoing efforts to improve coordination between civilian and military actors. However, there is still room for improvement, and further research is needed better to understand the current state of CIMIC in Kuala Lumpur and identify improvement areas.

Civil-Military Coordination

The coordination between civilian and military actors in disaster management is a subject that has attracted significant interest and discussion from scholars, policymakers, and military experts in recent years. Although using military resources in disaster management is not new, the potential advantages of such an approach are still being explored. This research hopes to shed light on the potential benefits of a collaborative approach incorporating military involvement through a case study in Malaysia.

There are differing viewpoints on the matter, with some asserting that civil-military coordination is necessary for an effective response to disasters and ensuring security. However, others warn that it may lead to the militarization of society and pose a risk to civil liberties. Thus, it is worth noting that civil-military coordination is a nuanced and intricate matter, and an individual's viewpoint may be influenced by their political, cultural, and ideological beliefs as well as their perception of the particular circumstance.

The literature reviewed in this study emphasises the importance of practical cooperation between civilian and military personnel in disaster response efforts. Clear communication, coordination, mutual understanding, and trust are essential for successful group collaboration. The literature suggests that efficient coordination can lead to improved resource allocation, better risk assessments, and increased safety for responders and communities affected by disasters. Despite these benefits, the review also highlights the challenges of civil-military coordination in urban disaster situations, including establishing clear communication and coordination mechanisms, ensuring coherence between military and civilian command systems, and fostering trust between organisations.

Overall, the research findings support previous studies that emphasise the importance of a strong relationship between military and civilian organisations in disaster management. However, the study also acknowledges the challenges of CIMIC and suggests that further research is needed to improve coordination efforts in the future.

Overcoming Hurdles to Achieve Effective CIMIC During Urban Disaster Management

Successful management of urban disasters depends on effective collaboration between civilians and military personnel, but there are various challenges and obstacles that can hinder the coordination process. These challenges underscore the significance of adequate planning and preparation for Civil-Military Coordination (CIMIC) in urban disaster situations. Creating unambiguous protocols and procedures for coordination and building strong relationships between civilian and military stakeholders can mitigate these obstacles and ensure CIMIC is effective during urban disaster management. Despite the potential benefits of implementing these concepts, there are still apprehensions regarding the challenges that may arise. One of these challenges is related to civil liberties, which can be compromised due to limitations on movement, curfews, and searches by military personnel, resulting in a loss of confidence and anxiety among citizens.

For instance, excessive utilisation of force by military personnel, who are trained for combat, can lead to physical harm and destruction of property, hindering the community's ability to recover. The participation of the military in disaster management can cause disagreements with civilian authorities regarding disaster management strategies, goals, and preferences, which can create coordination difficulties. Additionally, differences in working culture and communication barriers between military and civilian actors can also impact coordination efforts during disaster management. Incorporating military personnel into disaster management can be an expensive undertaking that demands extra training and resources to operate efficiently within the urban disaster management structure.

Coordination between civilian and military actors in Kuala Lumpur is complicated due to several unique challenges, which are similar to those faced by other urban areas. The urban environment in Kuala Lumpur is complex, characterized by high population density, numerous informal settlements, limited public transportation, and large-scale infrastructure. These factors can pose challenges for logistics and resource allocation during disaster management. In addition to that, the city of Kuala Lumpur may have limited experience in coordinating the efforts of civilian and military actors, which can lead to a lack of understanding about each other's capabilities and limitations. This lack of understanding can make effective coordination challenging, despite the frequent occurrence of natural disasters in the area. Therefore, it is essential to ensure transparent and accountable management and integration of the military's participation with civilian authorities to overcome these challenges.

Thorough planning and preparation are crucial for effective CIMIC during urban disaster management in Kuala Lumpur. Both civilian and military actors need to be committed to working together towards a shared goal. It is important to take into account the challenges and concerns related to the military's involvement in urban disaster management, and careful consideration should be given before deciding on the level of military involvement.

Practical Strategies for Policymakers to Address Challenges

This study emphasises the importance of including the military in urban disaster management and provides insights for policymakers in Kuala Lumpur to overcome obstacles and effectively collaborate between civilian and military entities during crises. The study also identifies best practices for coordinating these actors in disaster response efforts, which could assist practitioners in Kuala Lumpur in improving their disaster management strategies.

The study suggests that close collaboration between civilian and military organisations is necessary for successful disaster management. Policymakers should prioritise joint disaster management training to improve stakeholder coordination and synergy. Adequate financial,

technological, and human resources should also be allocated to involve the military in disaster management, enhancing overall preparedness and response capabilities.

Establishing a distinct command and control system, ensuring effective communication, and coordination are also critical factors in ensuring an efficient decision-making process among all involved stakeholders during disaster management. Furthermore, the national law on disaster management should explicitly define this system to prevent any conflicts between civilian and military authorities and ensure all parties are aligned towards the same goals. Adopting these suggestions would improve CIMIC in managing urban disasters in Kuala Lumpur, leading to a more streamlined and effective disaster management system.

Conclusion

In urban areas, managing disasters effectively is crucial due to high population density and intricate infrastructure. CIMIC is crucial in urban disaster management as it ensures that different actors collaborate effectively. This coordination enables the efficient allocation of resources and the implementation of the most effective response strategies.

The case study reveals an immediate requirement for more effective civil-military collaboration in managing urban disasters in Kuala Lumpur. The literature analysed in this study has demonstrated that civil-military coordination improves the overall response to urban disasters by integrating and harmonizing the efforts of military and civilian organizations towards a shared objective. This coordination enhances response efforts, resulting in better resource management, efficient allocation of resources, and improved disaster response and recovery operations. The findings from the literature also shows that collaboration can also aid in expediting the decision-making process, minimizing disarray and procrastination in the response attempt, and guaranteeing heightened safety for all individuals influenced by the catastrophe, including first responders and military personnel engaged in the response effort. Furthermore, it adds to feasible recovery efforts in the long run, improving societies' strength and readiness for possible future risks and disasters. The cooperation between civilian and military entities is crucial to competently handling urban disasters, enhancing response endeavours, boosting safety measures, and supporting long-term recuperation.

As mentioned earlier in this research, although using military resources in disaster management is not new, the potential benefits of the approach are still being explored. This research hopes to shed light on the potential benefits of a collaborative approach incorporating military involvement through a case study in Malaysia. This study suggests that by promoting teamwork and rapport among military and civilian groups, civil-military coordination can improve the comprehensive efficiency of managing urban disasters in Kuala Lumpur.

Suggestions for Future Research

Although this investigation presents valuable understanding regarding the reasons for the military's participation in Malaysia's urban disaster management mechanism, several aspects warrant further examination. The study has pinpointed areas that necessitate additional exploration to enhance our understanding of the military's contribution to urban disaster management, which could guide future research endeavours. For instance, the strategies that could or ought to be implemented to enhance the comprehensive effectiveness of civil-military cooperation (CIMIC). The study suggests that investigating how civil-military coordination (CIMIC) operates in various urban settings in Malaysia or other cities worldwide

could be advantageous. By comparing different disaster management systems, we could gain insight into military involvement's unique challenges and benefits, depending on different environments and legal frameworks. Further research could also enrich the study of CIMIC in urban disaster management since different researchers may uncover diverse findings, resources, and perspectives. There is considerable scope for advancement in this area of research. Therefore, more studies considering these variables will be necessary to deepen our general comprehension of CIMIC in disaster management and offer more practical suggestions for future disaster response endeavours.

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