Disaster Prevention Strategy at Gelora Bung Karno Main Stadium from the Perspective of the Police Role

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Abstract

Disaster risk is formed by the interaction of hazards with a vulnerable community. Risks arising from intentional hazards are generally more predictable than those from natural and technological causes. Therefore, when a hazard is predictable, a disaster can be prevented. On October 1, 2022, a major disaster occurred at Kanjuruhan Stadium, Malang Regency, East Java, Indonesia, following a Liga 1 Indonesia professional football match between Arema FC and Persebaya, resulting in 712 casualties, including 132 fatalities, 96 serious injuries, and 484 minor injuries. Strengthening the police's role in disaster prevention at stadiums is essential to minimize the likelihood of similar incidents in the future. This study aims to formulate a disaster prevention strategy from the police role perspective from the case study of the 2024-2025 Liga 1 football match between Persija Jakarta and Dewa United at the Gelora Bung Karno Main Stadium (SUGBK) on September 16, 2024. A qualitative approach was applied through interviews and literature review, analyzed using qualitative SWOT analysis and descriptive analysis. The findings show that Polda Metro Jaya conducted a risk assessment in accordance with existing regulations. The study concludes that the risk assessment performed by the Directorate of Vital Object Protection of Polda Metro Jaya for SUGBK was rated good, ensuring the match could proceed safely. Furthermore, the police play an important role in the disaster prevention strategy at SUGBK. However, current regulation only provides guidelines for risk assessment in sports competitions, and do not yet comprehensively address other mass gatherings such as entertainment or religious events.

INTRODUCTION

According to Aristotle (384–322 BC), human beings are social creatures who, within the context of community life, require the presence of others to attain happiness as the ultimate goal of human existence (Gottlieb, 2022). Within society, among these groups is the police, whose function is to maintain order and interact with both individuals and other social institutions (Palmiotto & Unnithan, 2011).

Life in society, however, inevitably involves the possibility of undesirable events such as disasters. An event can be classified as a disaster when humans are adversely affected by a hazardous phenomenon (Degg & Homan, 2005). Disasters can be differentiated based on their triggering hazards: natural hazards such as volcanic eruptions and earthquakes; technological hazards such as system failures and transport accidents; and intentional hazards, which arise from deliberate human decisions to engage in antisocial behavior, including terrorism, war, and riots (Coppola, 2015).

Although disasters are commonly associated with natural phenomena, the deadliest events in recorded history, such as wars and influenza pandemics, were not triggered by natural hazards (Coppola & Maloney, 2017). Human-induced or man-made disasters have also occurred in stadiums. Stadiums represent important venues for communities worldwide, serving not only sporting events but also religious, cultural, and other large-scale gatherings. However, inadequate safety planning has historically resulted in stadium disasters involving fires, structural failures, crowd unrest, stampedes, security lapses, and other incidents (Tin et al., 2023).

Several major stadium disasters are documented in history, as summarized in Figure 1. In 1964, the world's deadliest stadium disaster occurred at the Estadio Nacional in Lima, Peru, claiming 320 lives (Darby et al., 2005). Similar tragedies occurred in Europe, most notably the Hillsborough Stadium disaster in England, which caused 96 deaths, and in Africa at the Accra Sports Stadium in Ghana, where 126 spectators were killed.
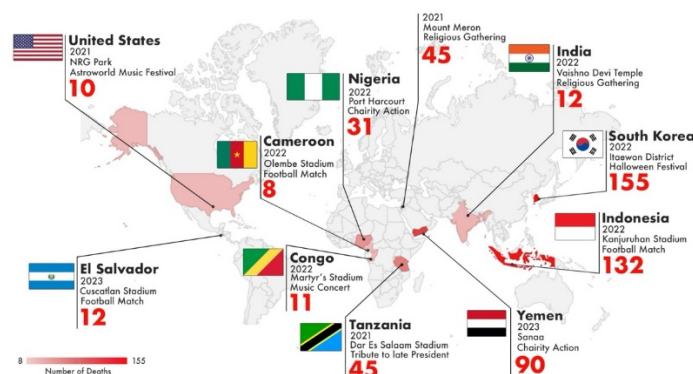

Figure 1: Distribution of Death Toll due to crowd-related disasters (Fajar, 2024)

Indonesia has experienced a similar catastrophe. On 1 October 2022, a disaster unfolded at Kanjuruhan Stadium, Malang, following an Indonesian Liga 1 football match between Persebaya Surabaya and Arema FC during the eleventh week of the 2022–2023 season. The tragedy resulted in 712 victims, including 132 fatalities, 96 serious injuries, and 484 minor or moderate injuries (TGIPF, 2022). Football is the most popular sport globally, and Indonesia has one of the largest fan bases (AC Nielsen, 2022). The intense fan culture surrounding Indonesian football clubs increases the likelihood of stadium-related disasters.

The Kanjuruhan disaster serves as a stark reminder that Indonesia must undertake comprehensive reforms in disaster management for all football events. Disaster management is inherently multidisciplinary and requires effective collaboration among multiple agencies and fields of expertise (Sarı & Özer, 2024). In Indonesia, coordination among institutions such as the Ministry of Youth and Sports (Kemenpora), the Football Association of Indonesia (PSSI), and the Indonesian National Police (Polri) is essential to prevent similar events in the future.

Stadium disasters continue to occur globally, as exemplified by the 2023 incident at the Cuscatlán Stadium in San Salvador, El Salvador (García et al., 2024). This reinforces the urgency of disaster prevention not only in Indonesia but worldwide. Disaster prevention is a core component of disaster management (Carter, 2008), and state institutions, including the police, play a crucial role. Globally, police institutions are tasked with maintaining public order and safeguarding a nation's social system (Palmiotto & Unnithan, 2011). Sociologists analyze the police role from three major perspectives: functionalism, which emphasizes the police contribution to maintaining social order; conflict theory, which suggests the police represent the

interests of societal elites; and interactionism, which focuses on the meanings and interactions produced in police public encounters. A society's system of social control is deeply shaped by its cultural characteristics.

Although the police are widely recognized for their law enforcement function, their responsibilities extend beyond that role. The Indonesian National Police Act (Law No. 2/2002), Article 5(1), defines Polri as a state instrument tasked with maintaining public order and security, enforcing the law, and providing protection, guidance, and services to ensure domestic stability. The police mandate is further supported by the authority granted through legal instruments. However, the Surabaya District Court Decision No. 13/Pid.B/2023/PN Sby indicates that the use of tear gas by police at Kanjuruhan triggered panic among spectators densely packed toward the stadium exits, causing many to fall, be trampled, or suffocate, ultimately resulting in numerous deaths and injuries. In this context, the police failed to fulfill their statutory role as protectors during the event. According to Law No. 2/2002, Article 14(1)(i), Polri is responsible for protecting life, property, communities, and the environment from threats to order and disasters.

To fulfill its role in ensuring safety during sporting events, the Chief of the Indonesian National Police enacted Police Regulation No. 10/2022 on security arrangements for sports competitions. The regulation requires risk assessments to be conducted before event permits are issued. Risk assessment is a critical measure for preventing violence and crowd disorder (Pearson & Stott, 2022). However, the current regulatory framework has not yet provided specific guidance for securing non-sporting crowd events. In this context, the police play a significant role in preventing stadium disasters, thereby reducing the likelihood of recurrence. For this study, the author selected Indonesia's largest and most historically significant venue, frequently used for sporting, religious, political, and cultural mass gatherings. The chosen research site is the SUGBK in Jakarta, which spans 271 hectares and has a seating capacity of 78,000 spectators. This research focuses on the development of disaster prevention strategies for stadium environments before the Indonesian Liga 1 professional football match between Persija Jakarta and Dewa United at SUGBK on 16 September 2024.

DISCUSSION

The development of a disaster prevention strategy for the SUGBK must be understood within the broader theoretical debate on organizational strategy and its applicability to complex, multi-actor safety environments. Classical strategic theory, as articulated by Chandler (1962), emphasizes the primacy of long-term goals, hierarchical structures, and resource allocation. Chandler's findings, derived largely from stable corporate environments, suggest that organizational structure must follow strategy, and that changes in strategic direction typically necessitate corresponding structural adjustments (Robbins, 2017). Although this perspective provides a useful foundation for understanding institutional alignment, its applicability to disaster management, particularly in dynamic mass-gathering environments, appears limited.

In contrast, the strategic framework proposed by Von Neumann and Morgenstern (1944) offers a more flexible and analytically grounded approach. Their conceptualization of strategy as a set of interdependent decisions made in response to specific situations highlights the need for rationality, situational awareness, and responsiveness. Strategy, in this view, is shaped not only by internal organizational attributes but also by the anticipated actions of external actors and changing environmental conditions (Longino, 2011). This perspective aligns more closely with the realities of stadium disaster prevention, where uncertainty, rapid escalation, and multi-stakeholder coordination are inherent characteristics.

To operationalize this strategic orientation, the present study applied SWOT analysis to integrate internal capacities and external pressures affecting police led disaster prevention efforts. This analytical framework enabled the identification of strategic positions (S–O, S–T, W–O, and W–T) that align police strengths with opportunities, mitigate vulnerabilities, and respond to emerging threats (Wulandari, 2018). Importantly, the SWOT derived strategies illustrate that disaster prevention in stadium settings cannot rely solely on structural authority; instead, it requires negotiated coordination, adaptive policing models, and analytical tools that anticipate interactions within a complex socio-technical system.

Overall, the findings emphasize that the police role in stadium disaster prevention must transcend traditional hierarchical paradigms and instead adopt adaptive, interaction-based strategic thinking. This shift is necessary not only to address the multifactorial nature of stadium risks but also to support proactive, collaborative, and analytically informed decision-making. In highly dynamic environments such as mass sporting events, the

Von Neumann perspective provides a more relevant theoretical foundation for developing effective police strategies, ensuring that preventive actions are both situationally responsive and grounded in an understanding of interdependent risk mechanisms.

The Police Role

The findings of this study highlight the centrality of police roles within the broader framework of social control and public safety, reinforcing the notion that roles are socially constructed expectations embedded within normative systems (Jabber et al., 2023). An effective social system, as Parsons (1991) argues, depends on the clarity and stability of role distributions. In the context of stadium disaster prevention, role clarity becomes even more consequential because the interactions among police, spectators, organizers, and emergency actors occur under conditions of heightened risk and dynamic crowd behavior.

The traditional sociological perspectives on policing, functionalism, conflict theory, and interactionism offer valuable interpretive lenses for understanding these roles. From a functionalist perspective, the police contribute to societal integration by maintaining order and facilitating the smooth functioning of social relations. In mass-gathering environments such as stadiums, this function is expressed through crowd management, hazard mitigation, and the provision of reassurance to the public. Conversely, conflict theory draws attention to potential disparities in how police authority is exercised, stressing that institutional power may reproduce inequalities, especially when crowd-control tactics disproportionately affect specific groups or escalate tensions. Interactionist approaches emphasize that police legitimacy is not merely derived from formal authority but emerges through everyday interactions how officers communicate, interpret situations, and engage with spectators. These theoretical perspectives collectively illustrate that police performance is influenced not only by legal mandates but also by cultural expectations, situational dynamics, and public perceptions.

In Indonesia, the legal foundation underpinning police authority is explicitly articulated in Law No. 2 of 2002, which mandates the police to maintain public order, enforce the law, and provide protection and services to ensure internal security. This regulatory framework positions the police as key actors in the state's social protection mandate, aligning with national social policy that encompasses both welfare and security components (Arief, 2001). However, the study's findings suggest that legal authority alone is insufficient to guarantee effective performance in high-risk environments. Public expectations, particularly the demand that police prioritize safety and adopt a guardian-oriented posture, play a significant role in shaping perceptions of legitimacy (Cross & Fine, 2024). In stadium settings, where emotional intensity and crowd density elevate the potential for rapid escalation, legitimacy becomes a crucial determinant of whether police actions are accepted, resisted, or misunderstood by spectators.

The discussion also reveals that the police role must be interpreted not as a static institutional function but as an adaptive practice shaped by situational contingencies. Effective crowd safety requires the police to navigate between these sociological perspectives: fulfilling their functional role in maintaining order, avoiding the pitfalls of coercive practices highlighted by conflict theorists, and fostering positive micro-interactions that strengthen trust and compliance. Such adaptive role performance is particularly important in contexts where previous incidents, such as stadium disasters, have heightened sensitivity to police actions and intensified public scrutiny.

Overall, the study underscores that the police role in stadium disaster prevention is multidimensional, grounded in legal authority yet deeply influenced by social expectations and interactional dynamics. Enhancing the effectiveness of this role requires greater emphasis on communication, legitimacy-building, and role clarity across agencies. These insights contribute to the broader discourse on policing in mass-gathering contexts and highlight the need for policy frameworks that integrate sociological understanding with operational practice.

Qualitative SWOT Analysis as a Disaster Prevention Strategy

This study highlights the increasingly central role of policing in contemporary crowd disaster prevention, particularly within large-scale sporting events such as those held at the SUGBK. The findings demonstrate that technological advancements have reshaped the landscape of crowd monitoring, as illustrated in cases such as Saudi Arabia's use of density monitoring systems during the Hajj (AlQahtany & Abubakar, 2020). Real-

time data analytics, capable of identifying early indicators of hazardous crowd dynamics—including high density, stop-and-go waves, and behavioral anomalies (Luque Sánchez et al., 2020) have proven effective in mitigating intentional hazard-triggered disasters. However, the absence of comparable tools within Polri indicates a significant technological gap that limits the capacity for proactive risk detection and timely intervention.

Within the Indonesian context, disaster prevention strategy formulation relies heavily on identifying internal and external factors that shape police performance (Anjasni, 2013). The SWOT based analysis used in this study reveals that while the organizational structure of Jakarta Regional Police or Polda Metro Jaya (PMJ) provides clarity of authority, division of labor, and strong legal backing, resource constraints continue to challenge operational readiness. Limited numbers of trained risk assessment personnel, uneven distribution of expertise across regions, and dependence on non-tax revenue (PNBP) from event organizers hinder the consistency and quality of risk evaluations. These constraints become more pronounced during periods when multiple mass-gathering events occur simultaneously, straining available personnel and budgets.

Another important finding concerns the relational environment in which policing occurs. Despite formal administrative ties only between PMJ and event organizers, informal collaborations with PPKGBK, the Jakarta Provincial Government, and the Jakarta Raya Military Command expand the support network for event security. Such cooperation enhances preventive capacity but also introduces variability, as informal coordination lacks standardized protocols.

Operationally, the police role in maintaining public order and enforcing the law remains anchored in strong legal mandates and hierarchical discipline, which support effective task execution. The establishment of specialized units such as the Cyber Crime Investigation Directorate further strengthens preventive policing by enabling early detection of digital provocations that may escalate into physical unrest (Feliciani et al., 2024). Yet, on the ground, dynamics remain unpredictable, largely due to inconsistent supporter organizations across football clubs (Harihara Subramanian & Verma, 2022). This unpredictability constrains immediate intervention, particularly as police are restricted to 2nd ring areas under FIFA and PSSI regulations.

The study also underscores the breadth of police functions involved in safeguarding mass events. From pre-event intelligence work and facility protection to emergency health response through Biddokkes, the policing ecosystem operates through multi-layered and interdependent tasks. The identification of diverse threat scenarios spanning ticket fraud, crowd surges, hooliganism, to post-match vandalism illustrates the complexity of risk environments encountered in football matches. The coordination of these functions by the PMJ Operational Bureau reflects an integrated command structure but simultaneously exposes vulnerabilities when capacity, technology, or interagency coordination is insufficient.

Finally, emerging opportunities suggest potential pathways for advancing Polri preventive capabilities. The global development of training in crowd science, risk assessment, and crowd management provides a foundation for strengthening human-resource competencies. Moreover, the increasing engagement of supporter communities in safety and security culture indicates that policing can benefit from community-embedded preventive strategies, shifting some responsibilities from enforcement to co-production of safety (Sebire et al., 2025).

Overall, the discussion reveals that while PMJ displays structural strengths, legal authority, and operational experience, its disaster-preventive capacity remains limited by technological underdevelopment, resource constraints, and external uncertainties in crowd behavior. Bridging these gaps, particularly in real-time monitoring technology, standardized interagency collaboration, and advanced training, emerges as essential for enhancing the police's role in preventing crowd-related disasters in Indonesia. The strategy is summarized in Table 1.

Table 1. SWOT qualitative analysist

SWOT	Strength	Weakness
	- Clear and hierarchical police organizational structure. - Clear division of duties and authority in the work unit. - Strong legal basis, has the authority to force	- Inadequate number of personnel. - Lack of public understanding of safety in stadiums. - Equipment that is not yet modern
Opportunity The amount of training related to *crowd management* Safety-conscious advocates - Concern for related parties about disaster prevention	**SO Strategy** - The police increase the knowledge of their officers with crowd management training, and then the officers provide counseling to the public to increase safety awareness. - With the existing authority, the police are required to provide sufficient information to the audience to help prevent disasters from occurring.	**WO Strategy** - The use of social media to provide counseling related to safety in the stadium. - Collaborating with government institutions and private parties that are concerned with increasing spectator safety awareness in stadiums and conducting more modern risk assessments.
Threat - Not all clubs have well-organised supporters. - FIFA rules about the placement of the police in ring 2, so that there will be a time lag during emergencies	**ST Strategy** - The police require organizers to organize supporters as part of a risk assessment before an event permit is issued.	**WT Strategy** - The police are working with the TNI, the fire department, Satpol PP, and the local security task force (Pamswakarsa) to build an integrated and effective security task force in the event of an emergency.

CONCLUSION

This study demonstrates that the police play an important role in disaster prevention strategies at the SUGBK, particularly through their functions in maintaining public order, enforcing the law, and providing protection and public services. The SWOT analysis reveals that while the policing framework is supported by clear organizational structures and strong legal authority, its effectiveness is constrained by limited technological capacity, resource challenges, and the absence of comprehensive regulatory guidance for diverse mass-gathering events. Current regulations focus primarily on sporting competitions and do not yet encompass other high-density activities such as concerts or religious gatherings. As a result, risk assessments rely heavily on manual observation and prior experience, reducing the potential for early detection of crowd-related hazards. Strengthening technological infrastructure, expanding regulatory scope, and standardizing risk-assessment procedures across event types are, therefore essential steps toward enhancing the police's capacity to prevent crowd-induced disasters in Indonesia's major venues.

SUGGESTION

Based on the findings of this study, several practical recommendations are proposed to enhance the effectiveness of disaster-prevention strategies at SUGBK and similar large-scale venues. First, in strengthening its mandate to maintain public order, Polda Metro Jaya should pursue deeper collaboration with the DKI Jakarta Provincial Government as well as relevant private sector partners. Such cross-sector partnerships would enable the acquisition of additional funding and technological resources, thereby modernizing the risk-assessment process. With improved technological support, risk monitoring could be carried out not only before an event but also in real time during matches, increasing the likelihood of early detection of crowd-related hazards.

Second, to advance its role in public protection and community guidance, Polda Metro Jaya should more strategically engage the Directorate of Community Guidance (Dit Binmas). Enhancing educational outreach, particularly regarding the identification of crowd-related dangers and appropriate preventive behavior, would strengthen community capacity and reduce spectators' vulnerability to potential disasters within SUGBK.

Third, in the context of event-permit management, Polda Metro Jaya should require supporter groups to demonstrate adequate internal organization and safety awareness before the issuance of crowd-gathering permits. Mandating proper supporter governance serves as a preventive mechanism to minimize disorder, especially in high-stakes football matches where fan dynamics may escalate risks.

Finally, as part of its law-enforcement function, the Cyber Crime Directorate of Polda Metro Jaya should enhance its monitoring of online platforms to detect early signs of provocation or misinformation that could trigger crowd unrest. Strengthening digital surveillance capacities enables timely intervention, and when necessary, the initiation of legal processes that generate a deterrent effect and help prevent the recurrence of similar incidents.

Collectively, these measures underscore the importance of institutional strengthening, technological modernization, community engagement, and early threat detection as key pillars for improving police led disaster prevention in large public venues.

REFERENCES

AC Nielsen. (2022). *Nielsen World Football Report*.

AlQahtany, A. M., & Abubakar, I. R. (2020). Public perception and attitudes to disaster risks in a coastal metropolis of Saudi Arabia. *International Journal of Disaster Risk Reduction*, *44*. https://doi.org/10.1016/j.ijdrr.2019.101422

Anjasni, B. (2013). SWOT Assessment of the Community Potency to Determine the Strategic Planning for Volcano Eruption Disaster Management (Case Study in Cangkringan, Yogyakarta Province). *Procedia Environmental Sciences*, *17*, 337–343. https://doi.org/10.1016/j.proenv.2013.02.046

Arief, B. N. (2001). *Masalah Penegakan Hukum dan Kebijakan Hukum Pidana dalam Penanggulangan Kejahatan*. Kencana.

Carter, W. Nick. (2008). *Disaster management : a disaster manager's handbook*. Asian Development Bank.

Coppola, D. P. (2015). *Introduction to International Disaster Management* (Third Edition). Butterworth-Heinemann.

Coppola, D. P., & Maloney, E. K. (2017). *Communicating Emergency Preparedness Practical Strategies for the Public and Private Sectors* (Second Edition).

Cross, A. R., & Fine, A. D. (2024). Are police as "guardian-oriented" as they should be? Expectation-reality discrepancies are related to perceptions of legitimacy. *Journal of Criminal Justice*, *94*. https://doi.org/10.1016/j.jcrimjus.2024.102260

Darby, P., Johnes, M., & Mellor, G. (2005). *Soccer and Disaster*. Routledge.

Degg, M., & Homan, J. (2005). Earthquake vulnerability in the Middle East. *Geography*, *90*(1), 54–66. https://doi.org/10.1080/00167487.2005.12094117

Fajar, M. (2024). Prevention of disaster triggered by crowd surge: comparative insights in selected countries and Indonesia. *Sustainable Urban Development and Environmental Impact Journal*, *1*(1), 18–26. https://doi.org/10.61511/sudeij.v1i1.2024.633

Feliciani, C., Corbetta, A., Haghani, M., & Nishinari, K. (2024). How crowd accidents are reported in the news media: Lexical and sentiment analysis. *Safety Science*, *172*, 106423. https://doi.org/10.5281/zenodo.8

García, A., Hernández-Delfin, D., González, B., Garitaonaindia, G., Lee, D. J., & Ellero, M. (2024). Analysis of local density during football stadium access: Integrating pedestrian flow simulations and empirical data. *Physica A: Statistical Mechanics and Its Applications*, *638*. https://doi.org/10.1016/j.physa.2024.129635

Gottlieb, P. (2022). *Aristotle's Ethics Nicomachean and Eudemian Themes*. Cambridge University Press.

Harihara Subramanian, G., & Verma, A. (2022). Crowd risk prediction in a spiritually motivated crowd. *Safety Science*, *155*. https://doi.org/10.1016/j.ssci.2022.105877

Jabber, M. A., Sakib, M. N., & Rahman, M. M. (2023). Exploring the roles and challenges of the servant leadership: A critical examination of the Bangladesh police. *Heliyon*, *9*(1). https://doi.org/10.1016/j.heliyon.2022.e12782

Longino, H. (2011). The social epistemology of economic experiments. *Journal of Economic Methodology*, *18*(4), 432–434. https://doi.org/10.1080/1350178x.2011.628462

Luque Sánchez, F., Hupont, I., Tabik, S., & Herrera, F. (2020). Revisiting crowd behaviour analysis through deep learning: Taxonomy, anomaly detection, crowd emotions, datasets, opportunities and prospects. *Information Fusion*, *64*, 318–335. https://doi.org/10.1016/j.inffus.2020.07.008

Palmiotto, M., & Unnithan, P. (2011). *Policing & Society*. Delmar.

Pearson, G., & Stott, C. (2022). *A New Agenda for Football Crowd Management Reforming Legal and Policing Responses to Risk*. Palgrave Macmillan.

Robbins, S. (2017). *Management*. Pearson.

Sarı, B., & Özer, Y. E. (2024). Coordination analysis in disaster management: A qualitative approach in Türkiye. *International Journal of Disaster Risk Reduction*, *100*. https://doi.org/10.1016/j.ijdrr.2023.104168

Sebire, J., Stubbs, G., & Al Hanaee, M. (2025). Safety and security in Abu Dhabi: The impact of policing on public perceptions. *International Journal of Law, Crime and Justice*, *80*.

https://doi.org/10.1016/j.ijlcj.2025.100728

TGIPF. (2022). *Laporan Tim Gabungan Pencari Fakta Tragedi Stadion Kanjuruhan Malang*.

Tin, D., Hata, R., & Ciottone, G. R. (2023). The anatomy of stadium disasters: causes, consequences and safeguarding the future from a medical perspective. In *Public Health* (Vol. 224, pp. 8–13). Elsevier B.V. https://doi.org/10.1016/j.puhe.2023.08.014

Wulandari, R. (2018). *STRATEGI MITIGASI BENCANA BANJIR DAN LONGSOR UNTUK PENGEMBANGAN WILAYAH TERBANGUN DI KOTA BANDAR LAMPUNG*. Universitas Indonesia.