


(Analysis of Government Response to Natural Disaster Management in Sumatra: A Case Study on Response Delays, Interagency Coordination, and Institutional Capacity)

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Article Info	ABSTRACT
<p>Keywords: Response Governance Management Natural Disaster Policy Implementation Theory Sumatera, Indonesia</p>	<p>This study employed a qualitative research method, focusing on a case study of the recent flood disasters in Sumatra that occurred over the past two weeks. The research aims to evaluate the government's response to these disasters through the lens of Mazmanian and Sabatier's policy implementation theory, which emphasizes three primary determinants of policy implementation success: problem tractability, the ability of policy decisions to structure implementation, and non-statutory variables, including local context, organizational culture, and political support. The findings indicate that delayed initial responses, fragmented coordination among government agencies and technical institutions, and limited institutional capacity significantly undermined the effectiveness of flood management. Furthermore, although existing policy frameworks have been formalized, they remain insufficiently adaptive and do not provide adequate operational mechanisms to address the complex and dynamic nature of disaster events. These shortcomings have contributed to heightened public dissatisfaction and demands from communities struggling for survival. This study is expected to provide academic insights and constructive guidance for the government in enhancing policy implementation for disaster management, particularly in the context of the ongoing floods in Sumatra</p>
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INTRODUCTION

In recent weeks, the island of Sumatra has once again been struck by a series of relentless floods that swept through residential areas and left profound losses for thousands of affected communities. As of 10 December 2025, the National Disaster Management Agency reported—based on the emergency flood and landslide response dashboard covering the provinces of Aceh, North Sumatra, and West Sumatra, that within the past two weeks approximately 969 casualties have been recorded. The breakdown indicates that 391 victims originated from Aceh, 340 from North Sumatra, and 238 from West Sumatra (Tempo.co, 2025b). At the time this research article was written, search and evacuation efforts for disaster victims were still ongoing. Furthermore, according to Brigadier General Osmar Silalahi, Deputy Head of the Indonesian National Armed Forces Information Center, the

number of survivors who have taken refuge in various temporary shelters across the three affected provinces has reached approximately one million people, totaling an estimated 1,047,107 individuals (CNN Indonesia, 2025).

A series of disasters in North Sumatra began on 24 November 2025, when heavy rainfall accompanied by strong winds struck several districts, including Tapanuli, Sibolga, and surrounding areas. The extreme precipitation triggered landslides in the hilly regions and caused flooding across coastal zones and low-lying areas. According to data from the North Sumatra Regional Police, between 24 and 29 November a total of 488 disaster incidents were recorded, resulting in 1,076 victims, including fatalities, injuries, and individuals reported missing (Ronald, 2025). In the urban area of Medan, although the overall impact was not as severe as in other districts, the intense rainfall nevertheless caused widespread inundation and disruptions to transportation routes and logistical distribution. These conditions further complicated disaster-response efforts, as access to affected areas in Tapanuli and several coastal districts was temporarily cut off. Meanwhile, in Sibolga, 115 houses were reported to have suffered severe damage, forcing approximately 2,375 residents to evacuate to temporary shelters (Finta, 2025). In West Sumatra, disasters affected Agam Regency, Lubuk Basung, Padang Pariaman, and several other subdistricts beginning on 25 November 2025. The landslides and flooding in these areas damaged hundreds of homes, displaced numerous residents, and caused significant destruction to vital public infrastructure. Official reports from the National Disaster Management Agency indicate that in Padang Pariaman alone, material losses resulting from the extreme weather conditions were estimated to reach several hundred billion rupiah. In addition, thousands of residents appealed to the Ministry of Social Affairs for immediate emergency food assistance (Merdeka.com, 2025).

These consecutive disasters were not solely the result of natural phenomena; they were further exacerbated by accumulated ecological and institutional vulnerabilities. Several experts emphasize that forest degradation in upstream watershed areas, uncontrolled land conversion, and weak environmental management practices have significantly amplified the scale and severity of the impacts. Disruptions to hydrological functions—responsible for maintaining natural water absorption and retention—have caused high-intensity rainfall to rapidly translate into large-scale flash floods and landslides (UGM, 2025). In response to these conditions, although the government has established a regulatory framework—including Law No. 24 of 2007 on Disaster Management—practices on the ground indicate that governmental response to disasters has yet to reach an optimal level. Various media reports, BNPB/BPBD documents, and findings from previous studies suggest that delayed response, weak interagency coordination, and insufficient institutional capacity remain recurring issues in the country's disaster management efforts.

Several disaster events in Aceh, North Sumatra, and West Sumatra reveal a consistent pattern, including delayed initial evacuations, limited logistical distribution, insufficient official information for affected communities, and unsynchronized coordination between national authorities, local governments, and technical agencies. These conditions have intensified the impacts experienced by communities and slowed the recovery process. The delays in response reflect not only technical shortcomings but are also closely linked to the quality of

policy formulation, the effectiveness of implementation, governance practices, and the institutional capacity of agencies involved in disaster management. From a public policy perspective, the effectiveness of disaster management is strongly shaped by policy design, bureaucratic readiness, coordination mechanisms among stakeholders, and the consistency of implementation at the operational level. Drawing on the theoretical foundation of policy implementation proposed by Mazmanian and Sabatier, the effectiveness of a policy is determined not merely by the strength of the policy document itself, but also by the competence of implementing actors, inter-actor coordination, political support, and broader socio-environmental conditions. Government response delays in disaster situations can be understood through this lens, as slow decision-making, weak coordination, and limited institutional capacity are recurrent barriers to effective policy implementation.

Mazmanian and Sabatier further argue that the implementation of fundamental policy decisions essentially involves the execution of critical legislative or executive directives, which must be accompanied by clear identification of the problems to be addressed and a structured approach to guiding the implementation process.

RESEARCH METHODOLOGY

This study employs a qualitative approach that descriptively portrays the phenomena under investigation, with the researcher positioned as a primary subject within the research problem. This approach aligns with the perspective articulated by Tjipto Subadi in (Safarudin et al., 2023), that qualitative research emerges from a fundamental perspective on problems within the field of knowledge, ultimately aiming to answer the questions posed by the researcher. In addition, the researcher utilizes literature as a primary data source, which refers to studies obtained through relevant problems or cases. Furthermore, John W. Creswell (Bakhrudin All Habsy, 2017). A literature review is defined as a written summary of other documents, including journals, theories, or books, which provides information and organizes the literature according to the researcher's needs. The analysis is conducted through the collection, examination, and evaluation of secondary sources, including scientific journals, official government reports (BNPB, BPBD), publications from disaster management agencies, and other relevant academic documents. The focus of this review is to understand general patterns and structural factors that influence government response to natural disaster management in Sumatra, with particular attention to three main dimensions: response delays, intergovernmental and technical agency coordination, and institutional capacity.

The literature study approach provides a comprehensive and structured conceptual foundation for analyzing phenomena occurring in the field. Through this method, the researcher is able to integrate dispersed data sources and synthesize relevant empirical and theoretical findings. Based on this understanding, the researcher has chosen to employ a qualitative research method, with data analyzed through a literature-based approach utilizing scientific journals, books, official government websites, and news websites with verifiable scholarly credibility. This study is specifically limited to examining government responses to natural disasters namely floods and landslides that occurred over the past two weeks in the provinces of Aceh, North Sumatra, and West Sumatra.

RESEARCH RESULTS AND DISCUSSION

Research Findings

Grindle (Bunker, 2010) explain that in practice, the administrative actions involved in the implementation of a policy can commence once the policy has been properly established, with clear objectives and targeted goals. A well-structured policy program, supported by adequate funding, can then be effectively deployed to achieve its intended outcomes. Mazmanian and Sabatier they further explain that performance analysis of policy implementation provides insights into the effectiveness and relevance of existing frameworks, identifies variables influencing the implementation process, and can be classified into three general categories. First, the relative ease or difficulty of the problem to be addressed. Second, the capacity of the government, as the policy-making authority, to systematize the implementation process. Third, the influence of the existing political balance on each public policy (Bunker, 2010).

According to Mazmanian and Sabatier, public policy implementation is a process through which major policy decisions typically embodied in laws, executive regulations, or court rulings—are operationalized and transformed into concrete actions that impact target groups as well as the broader society. This process is not limited to the formal application of policies; it encompasses all activities and dynamics occurring after policy formulation, including administrative efforts and the substantial consequences arising from its implementation. According to Mazmanian and Sabatier, policy implementation is a complex and dynamic process in which fundamental policy decisions are operationalized into concrete actions that impact the intended target groups. Within their framework, three groups of factors serve as the main determinants of implementation success. First, the tractability of the problem, referring to the manageability of the issue the policy aims to address; second, the ability of the policy decision to structure the implementation, which pertains to the capacity of the policy instruments themselves to create a supportive framework for execution; and third, non-statutory variables, which are factors outside legal provisions that nevertheless influence the implementation process in the field (Melanie, 2019).

- a) The tractability of the problem factor relates to the simplicity or complexity of the issue targeted by the policy. Problems that are technically complex, heterogeneous in the characteristics of target groups, and frequently changing in nature tend to be more difficult to translate into consistent operational actions. In the context of natural disasters, this variable becomes particularly significant, as the nature of disasters is often unpredictable and frequently requires rapid responses to dynamic conditions in the field. Indicators include: technical difficulty or the availability of technical resources and technology, diversity of target group behaviors, the proportion of the target group within the total population, and the degree and scope of behavioral changes desired.
- b) The ability of the policy decision to structure implementation refers to the capacity of a policy to organize and guide its execution. This factor emphasizes that a policy must have clear objectives, consistency, adequate resource allocation, and strong inter-actor coordination mechanisms. Policies that are ambiguous, conflict with other regulations, or lack sufficient resources are likely to encounter significant obstacles during implementation. Indicators include: clarity and consistency of objectives, use of causal

theory, appropriateness of funding allocation, integration of hierarchy within institutions and the institutional environment, rules and decisions of agencies, commitment of implementing officials, and access for external parties

- c) Non-statutory variables affecting implementation encompass external contexts such as the socio-economic conditions of the community, political support, technical readiness of implementers, and the attitudes of target groups toward the policy. These factors often determine whether a policy can be effectively executed or fails despite being formally well-designed. Indicators include: socio-economic and technological conditions, public support, the attitudes and resources of the target groups, support from authorized officials or agencies, and the commitment of leadership.

Result and Discussion

Tractability Of Problem

One recurring issue in disaster management is delayed initial response. The initial response period is critical, during which swift and appropriate actions can minimize the impact of disasters on populations and infrastructure. However, during natural disaster events in Aceh, North Sumatra, and West Sumatra, delays in evacuation and convoluted emergency response systems resulted in higher casualties. From the perspective of Mazmanian and Sabatier, such delays can be understood as a consequence of the problem's complexity (tractability). Natural disaster issues are dynamic, unpredictable, and involve numerous actors across extensive geographic areas. This complexity necessitates that emergency response policies incorporate flexible mechanisms that can be rapidly operationalized when disasters occur. Nevertheless, findings from the literature review indicate that existing policy instruments have not fully accommodated these dynamics. The policy framework remains overly generic and insufficiently responsive to variations in disaster conditions across different regions. This was evidenced during Cyclone Senyar, which had issued warnings to the government, local authorities, and some media several days in advance. The Meteorology, Climatology, and Geophysics Agency, approximately eight days before the disaster, had detected the formation of Cyclone 95B and issued signals that were not acted upon by local government authorities (Theconversion.com, 2025).

This also had subsequent impacts on the community, including the destruction of public facilities, delayed logistical assistance, shortages of essential food supplies, and, in some cases, residents resorting to looting as a means of coping (Kompas.com, 2025b). Although such actions are morally regrettable, Dr. Suko Widodo, a lecturer at the Faculty of Social and Political Sciences, Airlangga University (Antarajatim, 2025). Stated that this should serve as a wake-up call for the government, as it reflects weak disaster management, inappropriate actions by officials, and is further exacerbated by media outlets that fail to understand the disaster context, thereby creating tensions within the community.

I believe that labeling these actions as looting directed at the victims is highly inappropriate, as there is a rational explanation behind them—they only engaged in such actions as a means of survival. (Antarajatim, 2025)

Furthermore, delayed response also reflects weaknesses in the ability of the policy decision to structure implementation. During the initial phase of the disaster, command and

control lines were often not clearly mapped, resulting in postponed inter-agency coordination. This was particularly evident when the disaster impacted multiple administrative jurisdictions, as different districts or provinces experienced varying levels of impact simultaneously. Existing policies have not explicitly established adaptive and rapid cross-regional coordination protocols, leading to hindered implementation during the early stages. The current policy framework assumes a high level of structural readiness; however, the reality indicates that such readiness remains far from ideal. For instance, in the preparation for aid distribution in West Sumatra, numerous blocked roads and collapsed bridges forced relief efforts to take detours, consuming additional time and resources (AntaraSumbar, 2025)

Ability Of Policy Decision To Structure Implementation

Coordination constitutes a critical element shaping the effectiveness of disaster response. Effective coordination ensures that the various actors involved national, provincial, and local governments, BPBD, BNPB, technical agencies, civil society organizations, and private-sector entities are able to exchange information, mobilize resources, and undertake operational actions in an integrated manner. However, empirical examinations of the cases in Sumatra indicate that coordination among governmental bodies and technical institutions frequently fails to operate in a synchronized fashion. From the perspective of policy implementation theory, such coordination challenges reflect inherent limitations within the *ability of the policy decision to structure the implementation*. Although existing policy instruments may outline mechanisms for cross-actor coordination, they often fall short in providing sufficient clarity regarding the roles and responsibilities of each stakeholder during disaster events. This ambiguity contributes to overlapping authorities, duplication of tasks, and miscommunication among the actors involved.

The low quality of coordination can also be associated with non-statutory variables, particularly organizational culture and interagency relations. Institutions involved in disaster management frequently operate within their own sectoral logic, where organizational priorities emphasize internal mandates rather than cross-sectoral collaboration. Such a fragmented institutional culture weakens the synergy required for a rapid and well-coordinated response. In the case of Sumatra, this pattern is evident in the difficulty of consolidating real-time situational data and the absence of effective feedback mechanisms between frontline responders and higher-level decision makers. The slow governmental response further generated secondary impacts, including prolonged delays in the distribution of logistical assistance, which in turn prompted urgent calls from various stakeholders for the immediate declaration of an emergency status in the flood-affected areas across Sumatra. (BBC.COM, 2025).

In addition to the severely limited facilities available for flood response in Sumatra, the government's mobilization of emergency funding was notably slow, with medical supplies and food assistance arriving later than required. According to the Center of Economic and Law Studies (Celios), as reported by Kompas.com, the estimated economic losses resulting from the Sumatra disaster reached IDR 68.67 trillion. These losses exerted downward pressure on the national Gross Domestic Product (GDP), reducing it by approximately 0.29 percent. The extensive road damage and the disruption of numerous domestic transportation

routes further exacerbated the economic strain experienced by affected communities (Valdy, 2025). Moreover, affected communities required immediate medical assistance due to the mud-laden environment, the disruption of hospital access, and the increasing incidence of disaster-related illnesses (Tempo.co, 2025a). As reported by *TribunJatim.com*, affected residents continue to struggle to obtain adequate food supplies. Financial assistance distributed by various actors has been perceived as ineffective in addressing their immediate needs. This sentiment was conveyed directly by community members, who stated:

“We are not asking for money! it is useless to us right now. What we urgently need is food and lighting.” (Alga, 2025).

Non-Statutory Variables Affecting Implementation

Institutional capacity encompasses multiple dimensions, including strategic planning, human resources, financial capabilities, and the technical proficiency required for disaster response. This capacity constitutes a critical prerequisite for ensuring that policies are implemented effectively. In many of the disaster events in Sumatra, limitations in institutional capacity have become a significant barrier to delivering a rapid and well-coordinated response. From the perspective of Mazmanian and Sabatier’s implementation theory, these limitations primarily reflect the influence of non-statutory variables. While a policy may articulate ambitious objectives and formal implementation structures, its effectiveness is inevitably constrained when implementing agencies lack adequate resources. This was evident in the insufficient availability of technical equipment for search-and-rescue operations, inadequate budget allocations to support logistical needs, and limited technical training among frontline personnel.

Moreover, institutional capacity is shaped by the interaction between policy design and local contextual conditions. Many regions across Sumatra possess distinct geographical, demographic, and socio-cultural characteristics. Policies formulated in a centralized manner—without sufficiently accounting for local knowledge systems or institutional structures at the regional level—face substantial challenges when operationalized in the field. The misalignment between generic policy design and the specific needs of local communities leads to weak policy adaptation, resulting in response measures that are less relevant to the actual conditions on the ground. Based on the analysis above, it can be concluded that the principal obstacles in the government’s disaster response in Sumatra—namely delays, weak coordination, and limited institutional capacity—can be comprehensively understood through Mazmanian and Sabatier’s policy implementation framework. The theory’s three determinant factors—problem tractability, the ability of policy decisions to structure implementation, and non-statutory variables—interact in complex ways and jointly shape the outcomes observed in the field.

The inherent complexity of disaster events demonstrates the need for policies designed with mechanisms that are more adaptive and responsive to uncertainty. Existing policy instruments tend to be normative and insufficiently flexible to address rapidly changing emergency conditions, which in turn contributes to delays in the initial response. Furthermore, the ability of policies to structure implementation reveals that, despite the presence of a formal legal framework, gaps in operational detail and cross-actor coordination mechanisms

continue to impede effective action. This is evident in overlapping institutional mandates, communication breakdowns, and unclear role delineation when disasters affect large and heterogeneous regions. Meanwhile, non-statutory variables—including technical preparedness, organizational culture, political support, and local contextual factors—ultimately determine whether a policy can be translated into effective operational measures. In the absence of robust institutional capacity, adequate resources, and a collaborative working culture, the implementation of disaster management policies is likely to encounter substantial constraints, even when formal policy frameworks are already in place.

More concerningly, reports indicated that certain local officials proceeded with personal religious travel despite their jurisdictions being severely affected by the disaster, (CNNIndonesia, 2025). Reports from *Kompas.com* indicate that, despite the absence of official authorization from the governor, the Regent of South Aceh, Mirwan MS, proceeded with religious travel to the Holy Land during a period in which his jurisdiction was affected by the disaster. This action led to his temporary suspension from office, highlighting the potential implications of leadership conduct on governance and disaster management effectiveness (Nasional.Kompas.com, 2025). The magnitude of this disaster has even attracted international attention. Global media outlets have highlighted the alleged incompetence of officials and reports of excessive forest exploitation by certain individuals, driven by frustration over the slow disaster response, as well as the widespread presence of logs that damaged residential areas. (CNBCIndonesia, 2025). It has been reported that more than five countries and five international organizations have expressed readiness to assist Indonesia in responding to the Sumatra disaster. As noted by *Kompas.com*, these include Malaysia, Elon Musk (USA), the Muslim World League (MWL), the United Nations, and the United Arab Emirates (UAE). However, as of the time this paper was written, the Indonesian government has not yet formally opened access for foreign aid. (Kompas.com, 2025a)

CONCLUSION

This analysis demonstrates that the government's response to natural disasters in Sumatra continues to face significant structural and operational challenges. Mazmanian and Sabatier's policy implementation theory helps explain that implementation failures are not solely attributable to flawed policy design, but also result from institutional unpreparedness, weak coordination structures, and limited adaptability to specific local conditions. Therefore, strengthening the effectiveness of governmental disaster response in the future requires improvements across three primary dimensions. First, policies need to be designed with mechanisms that are more adaptive and responsive to disaster-related uncertainties. Second, implementation structures should be enhanced with clear regulations regarding cross-actor coordination, including well-defined roles and responsibilities for each agency. Third, institutional capacity must be prioritized, with investments in human resource development, technology, and community-based approaches that strengthen local engagement.

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