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Rehabilitation and Reconstruction Plan (2022-2024): The Implementing of Central Sulawesi Governor's Regulation in Sigi Regency

Vidyanto*, Muhammad Rizki Ashari, Christin Florensia Melang, Muhammad Ryman Napirah, Muhammad Nasir, Arwan

* Universitas Tadulako, Palu, Indonesia

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Correspondence Author:
Vidyanto,
Universitas Tadulako,
Soekarno-Hatta Street, Palu 94119.
Email:
Vidyantountad@gmail.com

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Abstract

Background: Central Sulawesi is one of the most disaster-prone regions in Indonesia. In Sigi Regency, Beka Village experienced repeated floods between 2018 and 2021, while post-disaster rehabilitation and reconstruction following the 2018 disaster reached only 70.77 percent, leading to the issuance of Central Sulawesi Governor Regulation No. 4 of 2022. This study aimed to analyze the implementation of rehabilitation and reconstruction policies in Beka Village.

Methods: A qualitative case study approach was used involving informants from the Sigi Regional Disaster Management Agency (BPBD), the Ministry of Public Works and Housing, and the Beka Village Government. Data were collected through in-depth interviews, observations, and document reviews, and analyzed using content analysis with triangulation techniques.

Result: The findings show that policy communication and clarity were generally adequate, although consistency among implementing agencies remained limited. Human resources, budgets, and facilities were sufficient, while leadership commitment and employee incentives supported implementation. However, weaknesses were identified in the bureaucratic structure, particularly the absence of sanctions for SOP violations and the lack of specific SOPs for rehabilitation and reconstruction activities.

Conclusion: The implementation of Central Sulawesi Governor Regulation No. 4 of 2022 has not been fully effective, especially regarding communication and SOP availability. Improved coordination among implementing agencies is needed to accelerate rehabilitation and reconstruction efforts.

Keywords: Governor's Regulation, Post-Disaster Rehabilitation , Reconstruction Plan.

BACKGROUND

Natural disasters remain a major global public health and development challenge. According to the Centre for Research on the Epidemiology of Disasters (CRED), more than 95.6 million people were affected by 335 natural disasters in 2017, with floods and storms being the most frequent events worldwide. Asia, including Indonesia, is particularly vulnerable to hydrometeorological disasters due to its geographical and climatic conditions. In Central Sulawesi, Beka Village in Sigi Regency experienced repeated floods between 2018 and 2021, causing significant damage to infrastructure, livelihoods, and community resilience. In response, the Central Sulawesi Government issued Governor Regulation Number 4 of 2022 concerning the Post-Disaster Rehabilitation and Reconstruction Plan (R3P) for 2022–2024; however, its implementation has not been fully understood. Hydrometeorological disasters also result in deaths, injuries, displacement, poverty, infrastructure and crop damage, while disrupting healthcare systems through damage to health facilities, shortages of medical supplies, and displacement of health workers (1–3).

Previous studies have primarily focused on disaster mitigation, emergency response, and disaster risk reduction, with limited attention to the implementation of post-disaster rehabilitation and reconstruction policies at the local level. In particular, no studies have evaluated the implementation of Governor Regulation Number 4 of 2022 in Sigi Regency (4). Therefore, this study addresses this gap by examining the implementation of the rehabilitation and reconstruction policy among multiple stakeholders involved in post-disaster recovery, with the aim of providing evidence to strengthen interagency coordination and improve post-disaster rehabilitation and reconstruction policies in disaster-prone areas (5).

Central Sulawesi is one of the most prone to hydrometeorological disasters and extreme weather events, particularly flooding or landslides due to hydrological events, due to its geographical and topological conditions. Several severe flooding events occurred in several areas in the region, such as the Palu River in 2017, the Sadaunta River in Namo Village, Sigi, in 2019, Malino River in Karya Mandiri Village, Parigi Moutong Regency, in 2017. Furthermore, there were five flooding events in Beka Village, Sigi, between 2018 and 2020 and two events in 2021 (6).

The region still encountered some obstacles in responding to disasters. For example, after the most devastating earthquake and its aftermath hit the region in 2018, post-disaster rehabilitation and reconstruction only reached 70.77%. This indicated that a comprehensive rehabilitation and reconstruction implementation plan is urgently needed to maximize the rehabilitation and reconstruction process. In response to this fact, the governor released Regulation No. 4 of 2022 regarding post-disaster rehabilitation and reconstruction in 2022-2024.

The existence of the new regulation is expected to bring more positive improvement in the post-disaster rehabilitation and reconstruction process. Therefore, this study aims to explore more deeply the extent to which the Implementation of Central Sulawesi Governor Regulation Number 4 of 2022 concerning the Post-Disaster Rehabilitation and Reconstruction Plan in Sigi Regency. The study will focus on four aspects: communication, Resources, disposition, and bureaucratic structure.

METHODS

Study Design

This study employed a qualitative design using a case study approach to explore the implementation of post-disaster rehabilitation and reconstruction policies in Sigi Regency. The reporting of this study was guided by the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist to enhance the transparency and rigor of the qualitative research process.

Sample/Participants

A total of four informants participated in the study, consisting of one key informant and three supporting informants selected purposively based on their involvement in disaster management and post-disaster rehabilitation activities. The key informant was the Head of the Sigi Regional Disaster Management Agency (BPBD), while supporting informants included representatives from the Rehabilitation and Reconstruction Division of BPBD Sigi, the Regional III River Basin Agency of Sulawesi, and the Beka Village Government.

Participants were recruited using purposive sampling based on their roles, responsibilities, and involvement in disaster management and rehabilitation activities. A total of four participants were included in the study. The Head of the Sigi Regional Disaster Management Agency (BPBD) served as the key informant because of his responsibility in coordinating rehabilitation and reconstruction activities. Three regular informants consisted of the Head of the Rehabilitation and Reconstruction Division of BPBD Sigi, a representative of the Directorate General of Water Resources of the Ministry of Public Works and Housing (PUPR) through the Regional III River Basin Agency of Sulawesi, and a representative of the Beka Village Government.

Data Collection

Data collection was conducted in July 2024 using multiple methods, including in-depth interviews, document reviews, and field observations.

The study involved several institutions responsible for disaster management, including the Sigi Regional Disaster Management Agency (BPBD), the Regional III River Basin Agency of Sulawesi, the Beka Village Government, and the Water Resources Unit of the Ministry of Public Works and Housing (PUPR).

Data were collected through in-depth interviews, observations, and document reviews. Potential participants were contacted directly according to their institutional positions and willingness to participate in the study. Interviews were conducted until no new information, themes, or perspectives emerged from subsequent interviews, indicating that data saturation had been achieved. To ensure the rigor and trustworthiness of the findings, source triangulation and methodological triangulation were employed by comparing information obtained from different participants, field observations, and relevant documents.

Data Analysis

Data analysis was performed using content analysis by reviewing interview transcripts, field notes, and relevant documents, followed by coding, categorization, identification of themes and patterns, and narrative interpretation of the findings.

Data analysis was performed using content analysis. Interview transcripts, field notes, and documentary data were reviewed repeatedly and organized into analytical matrices to facilitate coding and theme identification. The analytical process involved data reduction, data categorization, identification of themes and patterns, narrative presentation of findings, and drawing conclusions.

Ethical Consideration

Potential participants were contacted directly according to their institutional positions and willingness to participate in the study.

RESULT AND DISCUSSION

Informan Characteristic

In rehabilitating and reconstructing the post-flood disaster of Beka village, there are several agencies involved, namely, the River Area Center which plays a role in normalizing the Kalipondo river, the Regional Disaster Management Agency which plays a role in coordinating from the Beka Village government to the central government, namely the regent and the river area center and the Beka Village government which plays a role in repairing the forest that has been deforested by replanting the requested tree seedlings from the Ministry of Environment (KLH). The total number of informants in the study was 4 people, consisting of 1 key informant, namely the head of the disaster management agency; ordinary informants consisting of 2 people, namely the emergency response section of the Sulawesi III River Area Center and the head of the rehabilitation and reconstruction division of BPBD Sigi Regency; and 1 additional informant, namely the secretary of Beka village, sigi regency. Information collection was carried out using the in-depth interview method or indept interview and documentation studies were conducted. In detail, the informants can be seen in the following table:

Table 1. Informan Characteristics

No	Informant Initials	Gender	Age (Years)	Final Education	Remarks
1	HK	Male	55	Master	Key informants
2	HY	Female	40	Bachelor	Ordinary Informants
3	HH	Male	53	Master	Ordinary informant
4	MT	Male	37	Bachelor	Additional informants

The Concept of Communication in the Implementation of Central Sulawesi Governor Regulation Number 4 of 2022 concerning the Post-Disaster Rehabilitation and Reconstruction Plan for 2022-2024.

Table 2. Subtheme, Theme and Quotes

Theme	Sub Theme	Main Finding	Representative Quotes
Transimission	Communication among implementing agencies	BPBD maintained effective communication with the provincial government, as the Provincial R3P was developed based on district R3P documents, enabling BPBD staff to understand the Governor's Regulation and their roles in rehabilitation and reconstruction.	*"Coordination with the province has always been carried out because the provincial R3P was developed from the district R3P. Every staff member is familiar with the R3P document."* (HY)
	Inter-agency policy dissemination	Communication with the River Basin Agency (BWS III) was less effective because it relied on Ministry of Public Works regulations rather than the Governor Regulation, with the R3P serving mainly as a basis for budget allocation while implementation depended on interagency coordination.	*"We see the R3P as the legal basis for continuing rehabilitation and reconstruction, but implementation depends on coordination among stakeholders and agreement on priority needs."* (HK)
	Clarity of policy directives	Participants consistently reported that the instructions for implementing rehabilitation and reconstruction were clear. Implementation followed the Post-Disaster Needs Assessment (Jitupasna), which served as the basis for determining priorities and restoring affected sectors.	*The implementation must follow the Jitupasna because it determines what needs to be restored after the disaster."* (HK)

Information Clarity	Implementation process	Rehabilitation and reconstruction activities followed a structured sequence beginning with the declaration of emergency status, submission of assistance requests by BPBD, planning, budgeting, and approval from the central government before physical works could commence.	*"We begin with planning, submit the proposal to the central government, and physical construction starts only after the budget is approved."* (HH)
Consistency	Consistency of policy implementation	Participants acknowledged that the implementation of rehabilitation and reconstruction was not always fully consistent with the R3P document. In several cases, implementation was adjusted to emerging needs and findings in the field, although the R3P remained the primary reference for decision-making.	*"There were some inconsistencies between implementation and the R3P document... coordination was probably not optimal, and this became an evaluation for us."* (HY)
	Dynamic implementation of R3P	The R3P was considered a living planning document because post-disaster needs continued to evolve. Consequently, some rehabilitation activities were implemented even though they had not been explicitly included in the R3P, provided they were agreed upon by relevant stakeholders.	*"The needs are very dynamic. There are activities that may not yet be included in the R3P, but the document remains our main guideline."* (HK)

Resources in the Implementation of Central Sulawesi Governor's Regulation Number 4 of 2022 concerning Post-Disaster Rehabilitation and Reconstruction Plans for 2022-2024.

Table 3. Subtheme, Theme and Quotes

	Sub Theme	Main Finding	Representative Quotes
Staff (Human Resources)	Human resource capacity at BPBD	Participants reported that BPBD had sufficient personnel for coordination, but limited technical expertise in disaster information systems, GIS, data management, and rehabilitation planning reduced its effectiveness in coordinating post-disaster recovery.	*"In terms of quantity, we are adequate, but in terms of quality we still need improvement, especially technical competencies and preparedness"* (HK)
	Organizational arrangement	BPBD did not establish a dedicated rehabilitation and reconstruction team because its role was limited to coordinating sectoral agencies, with responsibilities integrated into the existing organizational structure. In contrast, BWS III formed an implementation team involving relevant stakeholders and village representatives before carrying out rehabilitation activities.	*"There is no special team because we function as the coordinator."*(HK)
	Information and technical preparation	Participants reported that BPBD personnel received information and technical preparation before implementing rehabilitation and reconstruction through annual training and briefings on the Post-Disaster Needs Assessment (Jitupasna), including damage assessment, loss	*"Staff receive training and briefings on Jitupasna before conducting field assessments."* (HY)

		calculation, and identification of recovery needs.	
Information	Information for program implementation	Participants explained that rehabilitation and reconstruction programs were implemented according to the R3P framework, which allocates responsibilities across five recovery sectors. However, budget constraints and changing government priorities occasionally affected program implementation.	*"Each sector has its own responsibilities under the R3P, but implementation is often constrained by limited funding."* (HY)
Authority	Authority of BPBD	Participants explained that BPBD's primary authority is to coordinate, monitor, and evaluate rehabilitation and reconstruction activities undertaken by sectoral agencies. BPBD also compiles implementation reports but has limited authority to enforce compliance among other local government agencies.	*"Our authority is coordination, monitoring, and evaluation. We coordinate which agencies are responsible and prepare evaluation reports."* (HY)
	Coordination authority	A key informant emphasized that responsibility for overseeing the R3P is shared between BPBD and BAPPEDA. BPBD monitors implementation progress and identifies implementation barriers, while BAPPEDA integrates rehabilitation programs into development planning and budgeting.	*"BPBD and BAPPEDA jointly oversee the implementation of the R3P. BPBD ensures that implementation problems are identified and addressed."* (HK)
Facilities	Availability of facilities at BPBD	Participants reported that BPBD possessed adequate office facilities, such as computers and laptops, to support coordination and administrative activities. However, maintenance budgets for these facilities remained limited.	*"The available facilities, such as laptops and computers, are adequate, although maintenance budgets are limited."* (HY)
	Technical facilities and funding	BWS III had adequate emergency response equipment, including heavy machinery and flood-control facilities. However, rehabilitation and reconstruction projects relied on planning approval, central government funding, and third-party contractors.	*"Emergency response equipment is available, but rehabilitation projects depend on central government approval and third-party implementation."* (HH)

Disposition in the Implementation of Central Sulawesi Governor's Regulation Number 4 of 2022 concerning the Post-Disaster Rehabilitation and Reconstruction Plan for 2022-2024.

Table 4. Subtheme, Theme and Quotes

	Sub Theme	Main Finding	Representative Quotes
Bureaucratic Appointments	Attitudes toward policy implementation	Participants consistently reported that staff at BPBD and BWS III had positive attitudes toward implementing rehabilitation and reconstruction. Staff understood the R3P and showed commitment to carrying out their assigned responsibilities.	*"There are no obstacles in understanding the R3P document."* (HY)
	Leadership commitment	Participants described organizational leaders as firm, supportive, and committed to public interests. The appointment of agency heads followed established governmental	*"The leader is firm and concerned about the interests of the community."* (HY)

		procedures, while leadership was perceived as facilitating coordination and implementation.	
Incentives	Financial incentives	Participants reported that incentives were provided to personnel in all implementing organizations. At BPBD, incentives were primarily provided through additional employee income (TP), while BWS III and the village government provided salaries and other financial allowances according to institutional regulations	*"The incentive is provided through additional employee income (TP), depending on the employee's workload and responsibilities."* (HK)
	Non-financial rewards	Participants explained that employees demonstrating good performance received non-financial recognition, including appreciation from supervisors, opportunities to participate in official assignments, and consideration for promotion based on performance evaluations.	*"Good performance may lead to promotion and recognition based on employee performance assessments."* (HK)

Bureaucratic Structure in the Implementation of Central Sulawesi Governor's Regulation Number 4 of 2022 concerning the Post-Disaster Rehabilitation and Reconstruction Plan for 2022-2024.

Table 5. Subtheme, Theme and Quotes

	Sub Theme	Main Finding	Representative Quotes
Standard Operating Procedures (SOP)	SOP implementation	Participants reported that BPBD follows general rehabilitation and reconstruction guidelines issued by BNPB. Although no specific local SOP exists for R3P implementation, the Jitupasna guideline serves as the primary operational reference for determining rehabilitation and reconstruction needs.	*"We follow the generic SOP and technical guidelines issued by BNPB, particularly the Jitupasna guidelines."* (HK)
	SOPs at BWS III	Participants explained that BWS III has established SOPs for emergency response activities, while rehabilitation and reconstruction activities continue to follow planning procedures and technical regulations rather than a dedicated SOP.	*"We have SOPs for emergency response, but no specific SOP yet for rehabilitation and reconstruction."* (HH)
Bureaucratic Fragmentation	Division of responsibilities	Participants reported that responsibilities for rehabilitation and reconstruction were clearly distributed among organizational units. Within BPBD, each division has a specific mandate, with the Rehabilitation and Reconstruction Division serving as the primary coordinator for recovery activities.	*"Each division has its own responsibilities, and rehabilitation and reconstruction are coordinated by the designated division."* (HK)
	Inter-agency coordination	Participants explained that BWS III assigns responsibilities according to technical sub-divisions, with project implementation supervised through formal decrees and coordinated with contractors and other stakeholders.	*"Each technical sub-division has its own responsibilities, and field supervisors are appointed through official decrees."* (HH)

DISCUSSION

The Concept of Communication in the Implementation of Central Sulawesi Governor Regulation Number 4 of 2022 concerning the Post-Disaster Rehabilitation and Reconstruction Plan for 2022-2024.

Transmission

Communication is a key determinant of successful policy implementation because policy objectives must be conveyed accurately, consistently, and transparently to implementing organizations and stakeholders (7). This study found that communication regarding the implementation of Central Sulawesi Governor Regulation Number 4 of 2022 was only partially effective. BPBD Sigi and the Beka Village Government received and understood the regulation through internal coordination, WhatsApp groups, and official correspondence. In contrast, the Sulawesi III River Basin Agency (BWS III) was unfamiliar with the regulation and instead implemented rehabilitation and reconstruction based on the Ministry of Public Works and Housing regulations. Rehabilitation and reconstruction planning was guided by the Post-Disaster Needs Assessment (Jitupasna) and BNPB Regulation Number 17 of 2010, with BPBD coordinating relevant agencies across the settlement, infrastructure, economic, social, and cross-sectoral sectors.

These findings support Edward III's implementation theory, which emphasizes that policy transmission must reach implementers, target groups, and other relevant stakeholders to ensure effective implementation (8). They are also consistent with the study by (9), which found that information dissemination through direct meetings, invitations, and WhatsApp improved program implementation, although some community members remained uninformed because of limited participation and work commitments. Similarly, this study demonstrates that while communication channels were established, incomplete dissemination across implementing institutions reduced the consistency of policy implementation.

Information Clarity

Based on interviews and observations, the clarity of information regarding the implementation of rehabilitation and reconstruction was generally adequate, although some inconsistencies remained. BPBD Sigi clearly communicated the implementation of the R3P by coordinating with the housing, infrastructure, social, economic, and cross-sectoral agencies. In contrast, the River Basin Agency (BWS III) was unfamiliar with the R3P and Central Sulawesi Governor Regulation Number 4 of 2022, relying instead on the Ministry of Public Works procedures. The agency also explained that rehabilitation and reconstruction require a lengthy process, including planning, budget approval, and public procurement before implementation. Despite these differences, communication between BPBD, BWS III, and the Beka Village Government regarding the Kalipondo River normalization program was considered clear through coordination meetings and socialization activities.

Field observations confirmed that rehabilitation and reconstruction projects included in the R3P, such as road improvements in Jono Oge Village, had been completed, whereas the Kalipondo River normalization project was implemented outside the R3P and remained in the planning stage due to funding and administrative procedures. These findings indicate that information was generally communicated clearly among implementing agencies, although differences in policy references and planning procedures affected implementation consistency. This finding supports Edward III's theory that policy information must be clear and understandable to implementers to ensure effective implementation (9,10). It is also consistent with the study by (8), which found that clear communication enabled program implementers to understand their responsibilities and effectively carry out program activities.

Consistency

Based on interviews and observations, the implementation of Central Sulawesi Governor Regulation Number 4 of 2022 has not been fully consistent with the Post-Disaster Rehabilitation and Reconstruction Plan (R3P). Informants explained that some disaster-affected villages were not included in the R3P document, yet rehabilitation and reconstruction activities were still implemented when deemed necessary and approved by the relevant government agencies. Participants from the River Basin Agency (BWS III) also reported that the implementation schedule for the sabo dam construction and embankment repairs in Beka Village remained uncertain because the projects depended on budget approval from the central government. Consequently, the Beka Village Government could not determine when rehabilitation and reconstruction activities would begin.

Field observations supported these findings, showing that several rehabilitation and reconstruction needs, such as housing repairs in Beka Village, had not been included in the Jitupasna and that the Kalipondo River normalization project was still at the planning stage. As a result, embankment repairs and sabo dam construction had not yet been implemented. These findings indicate that the consistency dimension of policy implementation has not been fully achieved, which is inconsistent with Edward III's theory that policy directives should remain stable and consistent to avoid uncertainty among implementers (8).

Resources in the Implementation of Central Sulawesi Governor's Regulation Number 4 of 2022 concerning Post-Disaster Rehabilitation and Reconstruction Plans for 2022-2024.

Staff (Human Resources)

Based on interviews and observations, human resources for implementing Central Sulawesi Governor Regulation Number 4 of 2022 were adequate in quantity but limited in quality. The River Basin Agency (BWS III) had sufficient personnel and established a rehabilitation and reconstruction team involving relevant stakeholders and the Beka Village Government. In contrast, although BPBD Sigi had adequate staff across its divisions, many personnel were assigned outside their professional backgrounds, staff rotations were common, and only a few employees had expertise directly related to rehabilitation and reconstruction. In addition, training was conducted only once a year, limiting staff preparedness to coordinate post-disaster rehabilitation and reconstruction effectively.

Field observations confirmed that BWS III formed a dedicated team for the Kalipondo River rehabilitation, while BPBD staff frequently rotated between divisions. These findings indicate that although human resources were numerically sufficient, improvements in staff competence and capacity building remain necessary. This partly contrasts with resource theory, which emphasizes that effective policy implementation requires competent personnel, adequate skills, and continuous capacity development (11,12). Likewise, the findings differ from the study by Set (12), which reported that program implementation was strengthened by well-trained and experienced human resources, such as SMART Volunteers in disaster management.

Information

Sulawesi Governor Regulation Number 4 of 2022 was generally well communicated. Before rehabilitation and reconstruction activities began, BPBD Sigi conducted a Post-Disaster Needs Assessment (Jitupasna) to identify priority needs and prepare the Post-Disaster Rehabilitation and Reconstruction Plan (R3P). The assessment also determined the responsible agencies for each sector, including infrastructure, housing, economy, social, and cross-sectoral development. For example, road and housing reconstruction in Jono Oge Village involved several sectors, while rehabilitation in Beka

Village focused on water resource infrastructure under the responsibility of the Public Works Office and the River Basin Agency (BWS III). After technical planning, BWS III submitted funding proposals to the central government, followed by procurement through public tender, while the Beka Village Government received information on planned activities through socialization.

Field observations confirmed that BPBD informed implementing agencies about their respective responsibilities based on the Jitupasna results, and the Ministry of Public Works also provided guidance regarding funding and implementation stages for the Kalipondo River rehabilitation. These findings are consistent with Edward III's theory, which emphasizes that policy implementation requires clear information on implementation procedures and compliance with regulations. They also support the findings of Yudianti (13), who highlighted the importance of coordination and information dissemination for successful program implementation, while contrasting with Rahma, citing Meryani (14), who reported limited disaster-related knowledge among education personnel prior to capacity-building activities.

Authority

Based on interviews and observations, the authority for implementing Central Sulawesi Governor Regulation Number 4 of 2022 is clearly distributed among the responsible institutions. The River Basin Agency (BWS III) is responsible for rivers within the Palu–Lariang and Parigi–Poso River Basins, including the Kalipondo River in Beka Village, while BPBD Sigi coordinates and evaluates rehabilitation and reconstruction activities across implementing agencies. The R3P activity program and budget are managed jointly by BPBD and the Regional Development Planning Agency (BAPPEDA), whereas the Beka Village Government supports environmental rehabilitation by collaborating with the Environmental Agency to reforest flood-affected areas through tree planting.

Field observations confirmed that BWS III, BPBD Sigi, and BAPPEDA have formal authority to implement post-disaster rehabilitation and reconstruction under their respective legal mandates. These findings support Edward III's view that clear authority, supported by adequate facilities and budget resources, is essential for effective policy implementation. The results are also consistent with Harahap et al (15), who found that clear delegation of authority strengthened post-disaster rehabilitation and reconstruction in Karo Regency, but differ from Sigarlaki and Sambiran (16), who reported that local governments had not fully exercised their assigned responsibilities and authority.

Facilities

The availability of facilities generally supported the implementation of rehabilitation and reconstruction, although several limitations remained. BPBD Sigi had adequate operational facilities, including laptops and computers, despite limited maintenance budgets. At the village level, rehabilitation efforts focused on reforestation through the provision of tree seedlings and community-based planting activities along the riverbanks. Meanwhile, the River Basin Agency (BWS III) explained that rehabilitation and reconstruction projects were implemented through third-party contractors selected via public procurement, while emergency response equipment, such as gabions and heavy machinery, was readily available. Financial support for permanent reconstruction was also supplemented by international partners, including JICA and the World Bank.

These findings indicate that the availability of facilities, equipment, and funding sources played an important role in supporting post-disaster rehabilitation and reconstruction. This is consistent with the study by Suyeno et al. (17), which found that adequate facilities and budget resources significantly influence the implementation of flood management policies. Likewise, the preparation and implementation of post-disaster rehabilitation and reconstruction plans require funding from multiple sources, including national and local government budgets as well as other lawful funding mechanisms.

Disposition in the Implementation of Central Sulawesi Governor's Regulation Number 4 of 2022 concerning the Post-Disaster Rehabilitation and Reconstruction Plan for 2022-2024.

Bureaucratic Appointments

The disposition of policy implementers plays an important role in determining the success of policy implementation. In Sigi Regency, the appointment of BPBD leaders follows an assessment process conducted by the Regional Civil Service Agency under the authority of the Regent, while the Head of the River Basin Agency (BWS III) is appointed by the Ministry of Public Works. At the village level, the Beka Village Head is selected through community deliberation and demonstrated a strong commitment to public interests by coordinating directly with BPBD, the Public Works Office, the Fire Department, and other agencies during the 2021 flash flood response. These findings reflect the commitment of implementing officials to carrying out their responsibilities in disaster management. (18–20).

The findings support Edward III's view that the disposition of implementers, including bureaucratic appointments and incentives, influences policy implementation. They are also consistent with Muhammad and Aziz (21), who argued that bureaucratic appointments should follow formal legal procedures and competency-based assessments. However, the results differ from Nivlouei (21). who reported that employee recruitment in many organizations relied on less transparent online selection processes based primarily on test scores. (22).

Incentives

Incentives and bureaucratic appointments were found to support the implementation of rehabilitation and reconstruction. BPBD Sigi provides incentives in the form of additional income (TP), with the amount determined by employees' workload. Similarly, the River Basin Agency (BWS III) offers salaries, remuneration, and performance-based rewards, while village officials receive basic salaries and additional incentives when participating in village activities. Leadership appointments also follow formal procedures: BPBD leaders are appointed by the Regent through a competency assessment, the Head of BWS III is appointed by the Ministry of Public Works, and the Beka Village Head is selected through community deliberation. Observations confirmed these appointment mechanisms and showed that the village leadership actively coordinated with relevant agencies during the 2021 flash flood response.

These findings support Edward III’s theory that the disposition of implementers, reflected in appropriate bureaucratic appointments and incentive systems, contributes to effective policy implementation by motivating personnel and ensuring committed leadership (10). The results are also consistent with Muhammad and Aziz (21), who emphasized that bureaucratic appointments should follow formal legal procedures, and with Labolo (23), who argued that performance-based incentives are essential for improving bureaucratic motivation and organizational performance.

Bureaucratic Structure in the Implementation of Central Sulawesi Governor's Regulation Number 4 of 2022 concerning the Post-Disaster Rehabilitation and Reconstruction Plan for 2022-2024.

Standard Operating Procedures (SOP)

The organizational structure and the availability of Standard Operating Procedures (SOPs) influenced the implementation of rehabilitation and reconstruction. BPBD Sigi has established SOPs covering emergency response through the post-disaster phase, supported by technical guidelines available in both digital and printed formats, although employees who fail to comply generally receive

guidance rather than formal sanctions. In contrast, the River Basin Agency (BWS III) has general employee and emergency response SOPs but does not yet have specific SOPs for rehabilitation and reconstruction. Instead, employees who violate existing procedures may receive up to three warning letters. Field observations confirmed that each BPBD division has its own SOP, whereas no rehabilitation and reconstruction SOP was available at BWS III.

These findings support Edward III's theory that SOPs provide certainty, standardization, and coordination in implementing complex policies (2,3,24). They are also consistent with Purwanti et al. (25), who emphasized that SOPs serve as operational guidelines for policy implementers and that a well-coordinated organizational structure is essential for effective disaster management policy implementation.

Bureaucratic Fragmentation

The distribution of responsibilities for implementing rehabilitation and reconstruction was generally well defined in both BPBD Sigi and the River Basin Agency (BWS III). As the coordinating agency, BPBD Sigi assigns rehabilitation and reconstruction responsibilities to Division III, while Division I is responsible for preparedness and Division II for logistics and emergency response. Similarly, BWS III allocates rehabilitation and reconstruction tasks to a dedicated sub-division responsible for planning, funding proposals, field supervision, and coordination with third-party contractors. Assignment letters are issued to designate supervisors and personnel responsible for project implementation.

Field observations confirmed that each division in BPBD Sigi and BWS III performs distinct responsibilities according to its organizational functions. These findings support Edward III's theory of bureaucratic fragmentation, which states that policy implementation often requires responsibilities to be distributed across multiple organizations, making effective coordination essential to prevent communication failures and ensure successful implementation (24, 25).

CONCLUSION

The conclusions obtained according to the results and discussion of this research are that communication in the Implementation of Central Sulawesi Governor's Regulation Number 4 of 2022 concerning Post-Disaster Rehabilitation and Reconstruction Plans for 2022-2024 is not good enough, this is proven by the Beka Village government and Office Of The River Region III not knowing about this Regulation. Resources are good enough, there are facilities and budgets to finance the implementation of rehabilitation and reconstruction and human resources are available. Each agency has clear and formal authority. The disposition is quite good because of clear bureaucratic appointments, and incentives in the form of additional income, rewards or promotions for employees. The SOPs implemented at the Sigi Regency BPBD are in the form of operational guidelines and technical guidelines, but special sanctions have not yet been imposed if someone violates the SOPs, while the Office Of The River Region III does not yet have SOPs for carrying out rehabilitation and reconstruction. It is hoped that the Sigi Regency BPBD will notify all policy implementers regarding the implementation of Central Sulawesi Governor Regulation Number 4 of 2022 so that the implementation of reconstruction can be accelerated. It is hoped that further research will explore in more depth the indicators contained in policy implementation theory.

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AUTHOR'S CONTRIBUTION STATEMENT

V: Conceptualization, methodology, data collection, formal analysis, writing—original draft. MRA: Supervision, validation, writing—review & editing. CFM: Literature review, data analysis, writing—review & editing, project coordination. MRN, MN, A : Data collection, formal analysis, writing—original draft, methodology support.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this research.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

In the preparation of this manuscript, the authors used generative artificial intelligence (AI) and AI-assisted technologies solely to support language refinement, including grammar correction, sentence restructuring, and improvement of overall clarity and readability. The AI tools were not used to generate original research data, perform data analysis, interpret results, or formulate scientific conclusions. All substantive content, research design, data collection, analysis, interpretation, and final arguments presented in this article are entirely the responsibility of the authors. The authors have carefully reviewed and edited the output generated by AI tools to ensure accuracy, validity, and compliance with academic and ethical standards. The authors take full responsibility for the integrity and originality of the work.

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DATA AVAILABILITY

The dataset generated during and analyzed during the current study is available in summarized form in the tables. However, additional information may be obtained from the corresponding author upon reasonable request.

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