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Implementation of Community-Based Natural Disaster Risk Reduction Policy in Minahasa Regency

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Abstract. This study aims to find out, describe, analyze, and explain the implementation of community-based natural disaster risk reduction policies in Minahasa Regency based on Government Regulation No. 21/2008, as well as identify the factors that influence it. The research method used is descriptive qualitative, with data collection techniques through interviews, observation, and documentation. The results showed that the implementation of community-based natural disaster risk reduction policy in Minahasa Regency has not run optimally. Several obstacles were found in the implementation of socialization activities, such as the uneven implementation of socialization in all regions, limited access to online socialization, and the lack of regulatory, budgetary and personnel support. In training activities, weak coordination between institutions was identified, the implementation of training in disaster-prone areas was not optimal, and the technical planning of the program was not optimal. Meanwhile, in the rehearsal and simulation activities, there are still areas that have not carried out these activities, the lack of a disaster awareness culture in the community, and the lack of government follow-up on program sustainability. These findings indicate the need for improvement in the aspects of planning, coordination and resource support so that the community-based disaster risk reduction policy in Minahasa Regency can be implemented effectively and sustainably.

Keywords. Policy Implementation, Community-Based Natural Disaster Risk Reduction, Disaster Management

A. INTRODUCTION

Disaster risk reduction essentially reflects the relationship between humans and nature related to human values, as well as moral and ethical responsibility for life (Sunarto, 2024) [1]. Disaster risk reduction is a policy of the government of the Republic of Indonesia to minimize threats and vulnerabilities and increase community capacity in the face of disasters with the aim of providing protection and comfort to the community through the implementation of disaster management in the pre-disaster stage, during disaster emergency response, and post-disaster (Ruchban et al., 2024) [2]. This is done to reduce the potential losses caused by disasters in a certain area and period of time which can be in the form of death, injury, illness, threatened lives, loss of security, displacement, loss of property, environmental damage, and disruption of community activities. Disaster risk reduction efforts are carried out through the development of physical facilities and infrastructure as well as through non-physical efforts. However, there are

still problems encountered where the potential and threat of natural disasters are high, but not accompanied by disaster risk reduction efforts in the form of community capacity building in disaster-affected locations (Dewi & Sasdar, 2024) [3].

North Sulawesi Province, especially Minahasa Regency, is geographically located in an area that has many characteristics and potential for natural disasters such as: earthquakes, volcanic eruptions, tsunamis, droughts, forest and land fires, floods, landslides, and tornadoes. This makes Minahasa Regency an area with a high level of natural disaster risk. According to the 2023 Disaster Risk Index published by the National Disaster Management Agency (BNPB), Minahasa has a score of 193.85 with the highest disaster risk ranking 14th out of 514 regencies/cities in Indonesia, and 1st out of 15 regencies/cities in North Sulawesi.

Table 1. Regency/City Disaster Risk Index in 2023

No.	Regency/City	Province	Score	Risk Class
1.	Mandailing Natal	North Sumatra	214.80	High
2.	South Halmahera	North Maluku	214.20	High
3.	North Nias	North Sumatera	214.00	High
4.	Nias	North Sumatera	211.70	High
5.	Southwest Maluku	Maluku	211.29	High
6.	West Nias	North Sumatera	210.80	High
7.	Gunungsitoli City	North Sumatera	207.67	High
8.	Agam	West Sumatera	204.32	High
9.	Jayapura	Papua	203.2	High
10.	West Pasaman	West Sumatera	203.2	High
11.	Aceh Besar	Aceh	202.01	High
12.	Nagan Raya	Aceh	197.6	High
13.	Bau Bau City	Southeast Sulawesi	194.8	High
14.	Minahasa	North Sulawesi	193.85	High
15.	Kaur	Bengkulu	192.16	High

Source: IRBI Book 2023 BNPB

Table 2. Disaster Risk Index of North Sulawesi Province from 2005-2023

No.	Regency/City	2021	2022	2023	Category
1.	Minahasa	199.4	193.85	193.85	High
2.	Southeast Minahasa	185.08	174.78	174.78	High
3.	North Bolaang Mongondow	144.00	144.00	144.00	Medium
4.	Sangihe Islands	137.334	142.40	142.40	Medium
5.	South Bolaang Mongondow	149.6	141.82	141.82	Medium
6.	Siau Tagulandang Biaro Islands	155.86	137.95	137.95	Medium
7.	South Minahasa	134.80	137.22	137.22	Medium

8.	Bolaang Mongondow	121.75	136.96	136.96	Medium
9.	East Bolaang Mongondow	148.45	135.19	124.21	Medium
10.	North Minahasa	125.31	122.58	121.37	Medium
11.	Tomohon City	119.2	111.55	111.55	Medium
12.	Bitung City	109.23	104.87	104.87	Medium
13.	Talaud Islands	102.80	100.15	100.15	Medium
14.	Manado City	107.89	90.96	83.38	Medium
15.	Kotamobagu City	76.00	69.91	65.51	Medium

Source: Data processed by researchers, 2025

Based on Government Regulation Number 21 of 2008 Article 7 Paragraph 2 which emphasizes the implementation of disaster risk reduction is carried out through activities: recognition and monitoring of disaster risk, participatory disaster management planning, development of a disaster-aware culture, increasing commitment to disaster management actors, implementing physical, non-physical efforts, and regulating disaster management (Haeril et al., 2021) [4]. However, in reality, natural disaster risk reduction efforts, especially those that are community-based in the form of a disaster awareness culture, have not run optimally in the Minahasa Regency area. Littering, building houses in disaster-prone areas, clearing forests for settlement purposes, are problems caused by the lack of a community disaster awareness culture in disaster risk reduction.

Based on the existing background, the researcher is interested in conducting research entitled implementation of community-based natural disaster risk reduction policies in Minahasa Regency, with the aim of knowing, describing, analyzing and explaining the implementation of community-based natural disaster risk reduction policies in Minahasa Regency based on Government Regulation Number 21 of 2008 and the factors that influence it.

B. METHOD

This research uses a qualitative research approach, namely by analyzing phenomena regarding the Implementation of Community-Based Natural Disaster Risk Reduction Policies in Minahasa Regency with a locus in the Office of the Regional Disaster Management Agency of Minahasa Regency and Papakelan Village, East Tondano District, Minahasa Regency.

The focus of this research is the implementation of community-based natural disaster risk reduction policies in Minahasa Regency related to non-structural mitigation in disaster awareness culture development activities and the factors that influence it, with indicators of socialization activities, training activities, and simulation activities.

The research location is the Regional Disaster Management Agency of Minahasa Regency and the disaster management service area, namely Papakelan Village, East Tondano District. Research informants were determined by purposive sampling, with data collection techniques in the form of observation, in-depth interviews, and document studies. Data analysis used the interactive model of Miles and Huberman (1984) in Pangkey et al. (2023), where there are 4 models of analysis steps, namely data collection, data reduction, data display, and conclusion drawing/verification [5]. To test the validity and validity of the data, researchers used 4 stages of data validity testing from Sugiyono (2010) in Tumbel (2023), namely credibility test, transferability test, dependability test, and confirmability test [6].

C. RESULT AND DISCUSSION

Implementation of Community-Based Natural Disaster Risk Reduction Policy

a. Socialization Activities

Socialization activities in community-based flood disaster risk reduction are part of the delivery of information, communication, education on the implementation of disaster management to the community so that the community can recognize the potential, threat of disaster and how to mitigate the disaster (Saiman et al., 2022) [7]. This research presents data on socialization activities as a community-based natural disaster risk reduction effort in Minahasa Regency with the research location in Papakelan Village, East Tondano district. Although socialization activities have been implemented in the Minahasa Regency area, there are still various problems found such as socialization activities have not been carried out thoroughly in the Minahasa Regency area, the inequality of access to information technology in the implementation of socialization activities, and the lack of institutional support.

Table 1. Research Findings on the Focus of Policy Implementation with Socialization Indicators

Focus	Indicator	Findings
Implementation of Community-Based Natural Disaster Risk Reduction Policy	Socialization	Socialization activities have not been fully implemented in Minahasa Regency, and socialization has not been formal and structured so that the information received by the community is passive and limited.
		Inequality in access to information technology. Limited utilization of online socialization media based on the capacity of information recipients, socio-economic conditions, education level, age and socio-cultural background.
		Lack of institutional support. Lack of internal support from local governments in the implementation of natural disaster management in the form of budget resources, regional regulations/policies, supporting documents and human resources/personnel.

Source: Primary data processed by researchers, 2025

The implementation of community-based disaster risk reduction has a number of problems in the sub-focus of socialization activities where socialization activities have not been carried out thoroughly in the Minahasa Regency area. Based on the research results and the table above, it shows that the implementation of socialization activities has not been directed based on a priority scale and has not been able to reach all areas and is limited to certain areas based on certain types of threats and potential disasters. This resulted in disaster information received by the community being uneven, passive and limited. There are even certain village/kelurahan areas that have received socialization activities within 2 years. And this is due to the lack of evaluation and monitoring carried out by the relevant agencies in the application of the implementation of community-based disaster risk reduction programs.

Based on the implementation model developed by Donald S. Van Meter and Carl E. Van Horn (1975) as a reference in this study, it is stated that one of the aspects that influence policy implementation is the standards and objectives of the policy (Mamonto, 2023) [8]. Based on this theory, the implementation of socialization activities must refer to the goals/objectives of the activities, namely community-based disaster risk reduction in the Minahasa Regency area which has the potential and threat of disasters. However, the research results show that the

implementation of formal socialization activities has not reached all areas in Minahasa Regency, specifically Papakelan Village, East Tondano district. The area often experiences floods and flash floods caused by the overflowing of the Taler Watershed that passes through Papakelan Village. On the other hand, the lack of reference standards for the implementation of socialization activities in the form of Standard Operating Procedures (SOP) for the Implementation of Disaster Management has resulted in the implementation of policies that are not measurable, not directed in accordance with indicators of success and priority scale.

Socialization activities carried out by the Regional Disaster Management Agency (BPBD) of Minahasa Regency are not only carried out formally/face-to-face to the community, but also online through websites and social media. However, in its implementation, it was found that not all communities could access socialization services through online media. This is due to inequality in access to information technology which is influenced by the capacity of information recipients, socio-economic conditions, education level, age and socio-cultural background.

According to Van Meter and Van Horn's theory in Tumbel (2024), the success of policy implementation is influenced by inter-organizational communication and strengthening of activities [9]. With good communication between policy implementers, shortcomings in online information services that cannot be accessed by some communities can be continued by the government and other community groups in formal and non-formal meetings. Furthermore, the success of implementation is also determined by social, economic and political conditions. Based on this theory, the delivery of online socialization information is not optimal due to the limited ability of the community to access information caused by age, economic capacity, and supporting facilities and infrastructure that can be done through social, cultural, economic and political approaches.

The third finding based on the research conducted is the lack of institutional support. Internally, local government support has not been optimal in the implementation of natural disaster management in socialization activities in the form of regional regulations/policies, budgets, supporting documents and human resources/personnel. Van Meter and Van Horn's theory in Dilapanga et al. (2024) states that policy performance is influenced by resources [10]. This shows that the availability of adequate resources in the form of financial support, human resources and infrastructure results in policy implementation with good performance. The absence of regulations related to the Disaster Management Plan (RPB) has resulted in a program of socialization activities that cannot be carried out optimally. On the other hand, limited budget availability has resulted in the implementation of socialization activities that have not been able to reach areas that have threats and potential disasters based on a priority scale. Likewise with supporting resources (facilities, infrastructure and human resources) that have not supported the implementation of face-to-face and online socialization.

Baihaqi's research (2023) in Mauleky et al. (2025) on the Implementation of the Bandung Regency Government's Flood Disaster Risk Reduction Policy in Support of Regional Resilience, can be a relevant comparison on the implementation of socialization activities in disaster risk reduction in the Minahasa Regency area. In the study, disaster-prone information service activities have been running well. The community is provided with information/socialization services continuously and sustainably every year, and is also empowered in the formation of the Tagana Team (Disaster Preparedness Cadets) from community volunteers. In addition, there is a Task Force team whose role is to urge and actively invite people to care about their environment [11].

Different things were found in the research on the Implementation of Flood Disaster Risk Reduction Policy in Minahasa Regency, especially the research location, namely Papakelan Village, West Tondano district, related to the research sub-focus on socialization activities. Where the problem found is that the implementation of face-to-face or formal socialization activities has not yet reached the areas in Minahasa Regency including in Papakelan Village. This is due to the lack of standard guidelines and targets in determining the priority scale, resulting in weak monitoring and evaluation related to the implementation of socialization activities.

According to the researcher's view on the findings of socialization activities that have not been carried out thoroughly in the Minahasa Regency area, especially in Papakelan Village, East Tondano district, the steps that need to be taken by the Implementator are to make improvements and evaluations regarding planning documents, for example, improving standard operating procedures (SOPs) in disaster information services to the community. With the improvement of the SOP, the implementation of socialization activities in the context of disaster risk reduction can be carried out effectively, precisely and reach areas that have threats and potential disasters based on a priority scale.

Based on the second finding related to socialization activities through online media that cannot be accessed by some community groups, the researcher's understanding is that what needs to be done is the use of alternative media to help the community obtain information and socialization, in the form of utilizing village information boards, leaflets, and oral announcements (such as through mosque/church loudspeakers) as well as utilizing meetings that involve the community (such as PKK meetings, Elderly Meetings, Sunday School Children's Worship or in bereavement worship and other worship activities or meetings).

Furthermore, based on the research findings regarding the lack of institutional support related to budgets, regulations and resources in the implementation of socialization activities, the researchers provide solutions for implementers to be able to take a holistic and collaborative approach to the implementation of socialization activities in community-based disaster risk reduction. This is because disasters have a wide impact on all levels of society. So it takes cooperation between the government, society, academics, the business world, the media and the community in disaster management.

b. Training Activities

This study presents data on the sub-focus of research on training activities in community-based natural disaster risk reduction. This paper will discuss the findings related to several questions asked by the researcher to the informants such as how much influence training activities have in community-based natural disaster risk reduction, what factors influence the success of training, the involvement of stakeholders in training activities, and whether training activities have been implemented in Minahasa Regency and Papakelan Village in particular. Based on the questions asked by the researcher to the informants, several findings were obtained such as weak coordination between institutions in training activities, not fully implemented disaster risk reduction policies in the form of training activities, and weak technical planning of community-based disaster risk reduction programs/activities.

Table 2. Research Findings on Policy Implementation Focus with Training Indicators

Focus	Indicator	Findings
Implementation of Community-Based Natural Disaster Risk Reduction Policy	Training	Weak Inter-Agency Coordination in Training Activities. Lack of involvement of various stakeholders in providing disaster management training
		The implementation of training has not been carried out in several disaster-prone areas including in Papakelan Village, East Tondano district.
		Weak technical planning of Community-Based Disaster Risk Reduction programs/activities. Planning performance indicators are not yet fully effective, targeted and measurable, which causes difficulties in monitoring and evaluation based on budget capabilities and socio-cultural dynamics of the community.

Source: Primary data processed by researchers, 2025

The first finding in the sub-focus of training activities is the weak coordination between institutions in training activities. In the implementation of training activities, there was a lack of involvement of various stakeholders in providing training in disaster management as part of disaster risk reduction. Given the impact of disasters that can affect widely, the implementation of natural disaster mitigation through education and capacity building requires the participation of all parties in this case the BPBD government and related institutions), academics, the business world, the media and communities owned by the community. However, the results showed that the participation of related institutions has not been dominantly involved in providing education and training to the community. This is still influenced by the implementer, in this case the BPBD implementing agency, which has not involved all related agencies and institutions in the training. Van Meter and Van Horn in Tarore (2023) explain that one of the successes in policy implementation is communication between related organizations and implementing activities. Communication between organizations can facilitate program policies and activities so that they are easy to carry out and the intended group is able to understand and be responsible for the program being carried out [12].

Based on the second finding in the sub-focus of training activities, training activities have not been carried out in areas that have disaster potential and threats. This is due to the absence of plan documents and supporting data used by BPBD as a reference in implementing training activities. So that in determining the location of the implementation of training activities, it is based on the perception of the implementing party, in this case BPBD. According to Van Meter and Van Horn in Langkai (2019) related to implementation theory, it explains that the attitude of implementers (disposition) is an important variable in policy implementation [13]. The implementation of training activities in disaster risk reduction has not been evenly and thoroughly carried out in disaster-prone locations due to the role or attitude of decision makers without the support of documents that serve as a reference for implementation.

The next sub-focus finding of training activities is the weak technical planning of community-based disaster risk reduction programs/activities. Although the implementer, in this case BPBD, already has a Strategic Plan (Renstra), Annual Work Plan (Renja), and SOP for the implementation of disaster management, it has not reviewed in detail the planning for the implementation of training activities in the context of community-based natural disaster risk reduction. On the other hand, specific planning documents that explain the implementation of disaster management in the form of Disaster Management Plan (RPB) documents, Disaster Risk Assessment (KRB) documents, Contingency Plan Documents, Disaster Emergency

Management Plan Documents (RPKB), Disaster Easter Needs Assessment Documents (JITUPASNA) and other planning documents have not been owned by BPBD Minahasa Regency. According to Van Meter and Van Horn, the success of policy implementation is influenced by the resources available. In this theory, resources refer to everything needed to support the success of policy implementation. One of the factors to support the implementation of training activities in disaster risk reduction is supporting documents in disaster management planning, including regulations or rules issued by the Regional Government so that the process of implementing disaster management is carried out properly.

When compared based on the results of previous research, Nuraini and Rahman (2025) on the Implementation of Flood Disaster Mitigation Policies at the South Tangerang City Regional Disaster Management Agency have not discussed in depth the training activities carried out in the context of disaster mitigation. However, communication and coordination have been carried out through meeting forums involving disaster preparedness groups and existing community communities to discuss disaster mitigation activities in the form of socialization and training [14]. In contrast to the results of the research conducted by the author, where training activities in the context of disaster risk reduction have been carried out in several areas, but the implementation has not optimally involved several elements of related institutions due to weak coordination and communication.

c. Simulation Rehearsal

The implementation of simulation rehearsal activities has been carried out by BPBD Minahasa Regency with the aim of improving and training the preparedness of the apparatus and the community in facing disasters. Based on the results of interviews conducted by researchers to several informants, the results of research related to the sub-focus of simulation rehearsal activities include the implementation of simulation rehearsals that have not been carried out in several disaster-prone areas including in Papakelan Village, East Tondano District, the formation of a disaster awareness culture for the community and the lack of government follow-up in the sustainability of the activity program.

Table 3. Research Findings on Policy Implementation Focus with Simulation Rehearsal Indicators

Focus	Indicator	Findings
Implementation of Community-Based Natural Disaster Risk Reduction Policy	Simulation Rehearsal	Simulation rehearsals have not been carried out thoroughly in several disaster-prone areas including in Papakelan Village, East Tondano district.
		Disaster awareness culture has not yet been established in the community
		Lack of government follow-up in the sustainability of programs and activities

Source: Primary data processed by researchers, 2025

The first finding is that the implementation of simulation rehearsal activities has not been implemented in Papakelan Village, East Tondano district and several other areas in Minahasa Regency. Where the reference for the implementation of simulation rehearsal activities is based on the implementation of socialization and training activities. Areas where socialization and training activities have been carried out are the main priority in the implementation of simulation rehearsal activities. Van Meter and Van Horn in the implementation theory state that the success of implementation is influenced by the

characteristics of the implementing agency which includes the structure of the bureaucracy, norms and patterns of relationships that occur in the bureaucracy, all of which will affect the implementation of a program.

In the sub-focus of simulation rehearsal activities, the second finding is that a disaster-aware culture has not been formed. The implementation of simulation rehearsal activities is only limited to the knowledge gained by the community but cannot be applied and practiced in daily life by the community. Implementer attitude or disposition is one of the factors that influence the success of implementation according to Van Meter and Van Horn. The response of the implementor, in this case the community who receives knowledge and education on policies in the form of simulation rehearsal activities, has not been able to be carried out and practiced.

The next finding in the sub-focus of simulation rehearsal activities is the lack of government follow-up in the sustainability of the activity program. Where the implementation of simulation rehearsal activities is only carried out when the activity program is carried out, which is not accompanied by the implementation of regular monitoring and evaluation among the community. Van Meter and Van Horn in Akib (2012) emphasize that the success of policy implementation is influenced by the disposition of the implementer [15]. Simulation rehearsal activities need to be carried out regularly and continuously in order to help improve community preparedness and response in dealing with disasters that can happen at any time.

Determinants of Community-Based Disaster Risk Reduction Policy

a. Socialization

In this research, findings were obtained related to determinant factors in the implementation of socialization activities. Where in the implementation of disaster risk reduction policies, there are factors that support, among others, the existence of competent resources in their fields in providing socialization services to the community, the availability of online socialization services to the community as a form of providing disaster information services, and the high community response to socialization activities so as to increase community capacity in the implementation of disaster management. However, there are several factors that hinder the implementation of the policy, including limited budget, management resources, supporting facilities and infrastructure and the implementation of socialization activities has not been carried out continuously.

Table 4. Research Findings on the Focus of Determinant Factors with Socialization Indicators

Supporting Factors	Inhibiting Factors
Having competent resources in their fields in providing socialization services to the community	Budget constraints.
The availability of online socialization services in the form of websites and other social media (Facebook, Instagram, TikTok, etc.).	Limited management resources and supporting facilities and infrastructure.
High community response to socialization activities and increased community capacity in the implementation of disaster management.	The implementation of activities has not been continuous.

Source: Primary data processed by researchers, 2025

The supporting determinant factor in the community-based natural disaster risk reduction policy is the availability of resources in the implementation of socialization activities. According to Van Meter and Van Horn's theory in Agustino (2017), the availability of resources

is a factor that influences policy implementation [16]. With adequate personnel resources, it facilitates disaster information services to the community that affect disaster risk reduction policies. However, limited budget resources have resulted in less than optimal service implementation of disaster risk reduction policies in socialization activities. Based on that, then according to the researcher's view that the existing supporting factors can continue to be developed in the implementation of socialization activities in the context of disaster risk reduction and maximizing limited budget resources in the implementation of targeted socialization activities can have a big impact on disaster risk reduction.

The availability of online socialization services strengthens the implementation of community-based disaster risk reduction policies. The implementation of socialization activities that cannot be reached through face-to-face meetings can be facilitated through online media. Through online media, the community can access information easily and quickly. However, the limited resources of personnel and managers in implementing online socialization affect the implementation of risk reduction policies. So the thing that can be done is to coordinate and build cooperation between competent institutions in the field of communication and information to collaborate in delivering socialization messages to the general public.

b. Training

In this research, findings were obtained related to determinant factors in the implementation of training activities. Where in the implementation of disaster risk reduction policies there are factors that support, among others, the support of national regulations in disaster management, regional communication forums as a forum for communication in disaster management, plans for preparing disaster documents. However, there are several factors that hinder the implementation of the policy, including the absence of regional level regulations in supporting disaster risk reduction, there is no regional action plan, and budget availability is focused on emergency management.

Table 5. Research Findings on the Focus of Determinant Factors with Training Indicators

Supporting Factors	Inhibiting Factors
National regulatory support in disaster management.	There is no regulation at the regional level in the form of local regulations or district regulations in the context of disaster risk reduction.
FORKOPIMDA as a regional communication forum as a forum for communication in the implementation of disaster management.	Does not yet have a regional action plan for disaster management.
Plan to prepare disaster documents in 2026.	Disaster management budgets are mostly organized around responsive rather than preventive disaster management.

Source: Primary data processed by researchers, 2025

In the supporting determinant factors in community-based natural disaster risk reduction policies related to training, namely the existence of policy support in the context of disaster management but not followed by supporting policies at the regional level. Based on the researcher's view, to implement disaster risk reduction policies in the implementation of training, regional policy and regulatory support will strengthen the implementation of disaster management activities. Holistic collaboration and communication in a forum can accelerate the implementation of community-based disaster risk reduction activities. The existence of efficiency policies also influences the implementation of disaster risk reduction, especially in

the preparation of budgets for the preparation of regional documents in the context of organizing disaster management.

c. Simulation Rehearsal

In this research, findings were obtained related to determinant factors in the implementation of training activities. Where in the implementation of disaster risk reduction policies, there are factors that support, among others, the existence of measurable goals and objectives of activities in the form of increasing community understanding of evacuation procedures, training skills, and increasing disaster awareness culture. Furthermore, the local wisdom of the community strengthens the implementation of policies in disaster risk reduction in the Minahasa Regency area.

Table 6. Research Findings on the Focus of Determinant Factors with Simulation Rehearsal Indicators

Supporting Factors	Inhibiting Factors
Has measurable objectives of improving understanding of evacuation procedures, practicing skills, and enhancing disaster awareness culture.	Lack of availability of supporting facilities and infrastructure in the implementation of activities.
Local wisdom support	Social, economic and environmental conditions that have a high influence on policy implementation

Source: Primary data processed by researchers, 2025

The factors that hinder the implementation of disaster risk reduction policies in simulation rehearsal activities are the lack of availability of supporting facilities and infrastructure in the implementation of activities, as well as social, economic and environmental conditions.

D. CONCLUSION

Based on the results of the research and discussion described above, it can be concluded that the implementation of community-based natural disaster risk reduction policies in Minahasa Regency has not been implemented optimally. This is influenced by several findings, namely:

- 1) In the socialization activities, it was found that the implementation of socialization activities experienced several obstacles and problems such as the lack of comprehensive socialization activities in the Minahasa Regency area, the implementation of online socialization activities could not be accessed by some communities, the lack of institutional support in the form of regulations, budgets and human resources/personnel.
- 2) In the training activities, there are findings in the form of weak coordination between institutions in training activities, training activities have not been carried out in areas that have disaster potential and threats, and weak technical planning of community-based disaster risk reduction programs/activities.
- 3) In the rehearsal and simulation activities, it was found that the implementation of simulation rehearsal activities had not been carried out in Papakelan Village, East Tondano district and several other areas in Minahasa Regency, the formation of a disaster awareness culture, and the lack of government follow-up in the sustainability of the activity program.

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