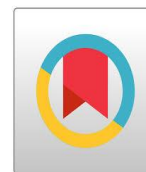


## *The Role of The Regional Disaster Management Agency in Responding to Floods*



### **Peran Badan Penanggulangan Bencana Daerah (BPBD) dalam Menanggulangi Banjir**

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#### ARTICLE INFORMATION

<p><b>Keywords</b>  <i>Role;</i>  <i>BPBD;</i>  <i>Disaster Management;</i>  <i>Flood;</i></p>	<p><b>ABSTRACT</b>                  This study examines the role of the Regional Disaster Management Agency (BPBD) of North Nias Regency in mitigating flooding in Lotu Subdistrict. The purpose of this study is to determine how the Regional Disaster Management Agency (BPBD) of North Nias Regency plays a role in mitigating flooding in Lotu Subdistrict. The method used in this study is a descriptive qualitative research method by analyzing data using role theory with five indicators, namely the role as a stabilizer, the role as an innovator, the role as a modernizer, the role as a pioneer, and the role as an implementer. The results of the study show that the Regional Disaster Management Agency of North Nias Regency faces several obstacles, such as having only 13 employees and 8 rubber boat operators, which limits its disaster management capabilities; only three employees have undergone disaster management training; and budget issues hinder the procurement of new equipment, resulting in only two functional rubber boats. This study has limitations, such as a lack of quantitative data to assess the effectiveness of socialization and education, as well as a lack of exploration of the roles of the community and volunteers. Further studies are recommended using a holistic approach with quantitative and qualitative methods, as well as expanding the focus on multi-stakeholder collaboration and the use of information technology to improve the capacity and effectiveness of the BPBD in an applicable manner.</p>
<p><b>Kata Kunci</b>                  Peran;                  BPBD;                  Penanggulangan;                  Banjir;</p>	<p><b>ABSTRAK</b>                  Penelitian ini berisikan tentang bagaimana Peran Badan Penanggulangan Bencana Daerah (BPBD) kabupaten Nias Utara dalam menanggulangi banjir di Kecamatan Lotu. Tujuan dari penelitian ini yaitu untuk mengetahui bagaimana Badan Penanggulangan Bencana Daerah (BPBD) kabupaten Nias Utara berperan dalam menanggulangi banjir di Kecamatan Lotu. Metode yang digunakan dalam penelitian ini adalah metode penelitian kualitatif deskriptif dengan menganalisis data menggunakan teori peran dengan lima indikator yaitu peran selaku stabilisator, peran selaku inovator, peran selaku modernisator, peran selaku pelopor dan peran selaku pelaksana sendiri. Hasil penelitian menunjukkan bahwa Badan Penanggulangan Bencana Daerah Kabupaten Nias Utara menghadapi beberapa kendala seperti, hanya memiliki 13 pegawai dan 8 operator perahu karet, yang membatasi kemampuan penanganan bencana, hanya tiga pegawai yang telah mengikuti pelatihan penanggulangan bencana, masalah anggaran menghambat pengadaan peralatan baru, sehingga hanya memiliki dua unit perahu karet yang berfungsi. Penelitian ini memiliki keterbatasan, seperti minimnya data kuantitatif untuk menilai efektivitas sosialisasi dan edukasi, serta kurangnya eksplorasi peran masyarakat dan relawan. Studi lanjutan disarankan menggunakan pendekatan holistik dengan metode kuantitatif dan kualitatif, serta memperluas fokus pada kolaborasi multi-pihak dan pemanfaatan teknologi informasi guna meningkatkan kapasitas dan efektivitas BPBD secara aplikatif.</p>
<p><b>Article History</b>                  Send 24<sup>th</sup> July 2025                  Review 6<sup>th</sup> September 2025                  Accepted 21<sup>th</sup> October 2025</p>	<p>Copyright ©2026 <a href="#">Jurnal Aristo (Social, Politic, Humaniora)</a>                  This is an open access article under the <a href="#">CC-BY-NC-SA</a> license.                  Akses artikel terbuka dengan model <a href="#">CC-BY-NC-SA</a> sebagai lisensinya.</p>



## **Introduction**

Natural disasters often occur in Indonesia, especially during the rainy season, although the dry season can also bring disasters. Although they cannot be avoided, anticipatory and preventive measures are important. Indonesia, located in the ring of fire, is highly vulnerable to earthquakes. This geographical condition brings challenges and advantages, such as abundant gas and oil resources. However, the high frequency of disasters can harm various aspects of life, disrupting the economy, society, and daily life, as well as having a negative impact on the community.

Flooding occurs when an area is inundated due to overflowing water that exceeds the drainage capacity of a region, causing physical, social, and economic losses (Rahayu, 2009). Floods are natural disasters with unique characteristics that distinguish them from other disasters. One of the main characteristics of floods is a significant rise in water levels, which can occur gradually or suddenly. This rise is often triggered by heavy rainfall over a short period of time, causing the volume of water flowing into rivers or drainage channels to exceed their capacity. In addition, the strong currents during floods can carry hazardous materials, such as debris, waste, and toxic substances, which can cause severe damage to infrastructure. This damage is not limited to buildings, but also includes roads, bridges, and other public facilities that are vital to people's lives.

The five factors that cause flooding in Indonesia include rainfall, damage to watershed retention, poor river channel planning, river siltation, and poor spatial planning and infrastructure development (Hermon, 2012). North Sumatra was chosen as the focus of flood research for several reasons. First, this region often experiences flooding, especially in Medan, making it a representative example for studying flood dynamics. Second, the causes of flooding here are complex, including land use change, rapid urbanization, and inadequate drainage infrastructure. Third, the social and economic impacts of flooding are significant, disrupting people's lives and the local economy, so research can help formulate effective mitigation policies. Fourth, there is potential for better infrastructure development in this region, allowing for concrete recommendations for water resource management. Finally, the cultural and social diversity in North Sumatra influences community adaptation to disasters, providing a richer perspective in the research. Thus, North Sumatra is the right choice for flood studies.

Flooding occurs regularly in Lotu subdistrict every year. Heavy rains accompanied by strong winds hit North Nias Regency, causing flooding in several subdistricts, including Baho Village and Lolofaoso Village. The overflowing Ehaul River submerged roads in Baho

Village up to knee height, while many houses in Lolofaoso Village were also affected. Local residents say they are accustomed to dealing with flooding during heavy rains, and power outages disrupt business activities. This situation has caused losses for the community, so it is hoped that the authorities will immediately take action to help those affected. Several families have evacuated to relatives' homes that are located on higher ground, but there have been no fatalities (Napitupulu, 2025).

As a comparison to several previous studies conducted in different locations, such as research (Rianto et al., 2022) which found that the role of the Kelurahan Government in road infrastructure development planning in Amal Bakti Village, Kateman District, Indragiri Hilir Regency, has not been optimal due to low community participation and ineffective socialization, in the research by (Sulistiowati et al., 2025) shows that the Regional Government of Tanjungpinang City acts as a regulator, dynamic facilitator, and facilitator in flood management but still faces challenges such as limited budgets, lack of socialization, and public behavior of littering, as well as in research by (Permana, 2023) which emphasizes the important role of the Bandung Regency Disaster Management Agency (BPBD) in managing flood risk through socialization, early warning systems, and inter-agency collaboration to improve community capacity, it can be concluded that each region has unique challenges and characteristics in flood management; Unlike these studies, this study focuses more on the causes of flooding, sustainable drainage cleaning efforts, and increasing public awareness of waste management and tree planting in flood-prone areas, with a specific research location at the North Nias Regency Disaster Management Agency (BPBD), thus providing a new contribution that is relevant to the local context, which differs from previous studies.

This study is novel in that it examines in depth the role of the Regional Disaster Management Agency (BPBD) of North Nias Regency in handling floods in Lotu District, an area that has not been specifically researched. This study not only assesses the effectiveness of the flood management strategies implemented by the BPBD, but also explores the integration of local wisdom of the local community in disaster mitigation and adaptation efforts. In addition, this study analyzes the institutional aspects, resources, and challenges faced by BPBD in carrying out its duties, so that it is expected to provide new contributions to the development of a flood management model that is in line with the characteristics of the North Nias region. By taking reference from research by (Harefa et al., 2024) which found that the slope inclination was categorized as steep with a slope inclination of 25-45m

in several areas in North Nias Regency. This was discovered through remote sensing technology and GIS.

Based on the author's experience of witnessing and experiencing flooding firsthand, the author found that one of the causes of flooding was the lack of large trees in Lotu District, which resulted in a reduction in the ability of the soil and environment to absorb rainwater. Large trees act as water barriers, helping to reduce surface runoff and increase water infiltration into the soil. When the number of trees decreases, rainwater cannot be absorbed optimally, so it flows directly into drainage channels and rivers. This causes an increase in the volume of water flowing, which in turn increases the risk of flooding, especially during heavy rains. Thus, the lack of large tree planting not only impacts the local ecosystem but also threatens the safety and welfare of the community in Lotu District.

Based on the problems described above, the researchers were interested in this study to determine the role of the North Nias District Disaster Management Agency in mitigating flooding in Lotu Subdistrict and the obstacles faced by the North Nias District BPBD in mitigating flooding in Lotu Subdistrict.

## **Method**

This research is a descriptive study that adopts a qualitative approach. In the context of this study, the selection of a descriptive method with a qualitative approach provides an opportunity for researchers to gain a deeper understanding of the phenomenon being studied. The data sources obtained in this study are secondary data sources and primary data sources. Secondary data sources were obtained through previous research results and descriptions and journals relevant to the role of government. Meanwhile, primary data sources were obtained through documentation and interviews with the Head of the Regional Disaster Management Agency, Mr. (YASOKHI HULU, SE), and one of the staff members of the North Nias Regency Regional Disaster Management Agency (BPBD), Mr. (Yoniari Nazara, SKM), as well as Mr. (Amoni'o Zega), a resident of Lotu Subdistrict who was a victim of the flood disaster.

This research was conducted using data collection techniques where the researcher conducted online interviews using the Zoom platform to collect data from sources who could not be met in person. The researcher arranged interview schedules with sources, such as the Head of the Regional Disaster Management Agency and one of the residents affected by the flood in Lotu District. A literature study was used to support the field data.

This study focuses on the role of the Regional Disaster Management Agency in flood management, with a case study in Lotu District. This location is on Gunungsitoli – Lahewa Road, Lawira Satua Village. This location was chosen based on the fact that Lotu District has always been affected by natural disasters, namely floods. Data for this study was obtained using various tools to collect, manage, and interpret information obtained through in-depth interviews, field observations, and documentation. The researchers analyzed the data after collecting primary and secondary data to understand the research problem. The data collected from various stakeholders in this study was then categorized into internal and external factors. After that, the findings from the field data collection were analyzed from the perspective of the theory of disaster management roles proposed by (Siagian, 2003).

Then the data obtained was analyzed using six main variables in the disaster management role theory proposed by Siagian in (Rianto et al., 2022) which states that role is a conscious effort made by a nation, state, and government to achieve national goals through planned growth and change towards a modern society. The validation process was carried out using the triangulation technique. According to Moelong, triangulation is a way of ensuring the validity of data by comparing it with other sources. In this study, triangulation was used to verify the accuracy of the results by comparing various sources, methods, and theories, as well as utilizing various informants. (Muksin et al., 2024).

## **Results and Discussion**

The North Nias Regency Disaster Management Agency has played an active role in disaster management by responding to flooding in several ways, namely by setting up emergency posts, conducting rapid assessments, and establishing evacuation points. They also coordinate with relevant agencies to provide assistance to affected communities. As is well known, Lotu Subdistrict, North Nias Regency, experienced flooding due to heavy rains and overflowing rivers. Several roads and residents' homes were submerged, significantly impacting daily activities. The local Regional Disaster Management Agency has prepared assistance and conducted evacuations in the affected areas. However, flooding in Lotu Subdistrict seems to occur annually, like an unavoidable disaster.



**Image 1 Flood of 2024**  
Source: Personal Document

In this case, the researcher conducted a study by interviewing the Head of the Regional Disaster Management Agency, staff of the Regional Disaster Management Agency, and one resident affected by flooding in Lotu District, as well as conducting observations and literature studies. With Siagian's theory (2003) with its 5 indicators which will be explained in detail as follows:

### **Role as a Stabilizer**

The role of the government as a stabilizer according to Siagian (2003) It encompasses important functions in maintaining social and economic balance and reducing uncertainty in society, where the government is responsible for creating fair and transparent policies to ensure equal access to resources and services for all levels of society, as well as preventing extreme economic fluctuations such as inflation and recession. In this case, the government plays an active role in formulating economic policies that support sustainable growth, such as infrastructure investment and support for strategic sectors, as well as intervening during crises through direct assistance and economic stimulus. Thus, the government not only functions as a regulator but also as a facilitator that increases public trust through transparency and community participation in decision-making, thereby creating an environment conducive to social and economic development.

The role of the government, particularly the Regional Disaster Management Agency (BPBD), as a stabilizer in the context of flood management includes an important function in maintaining social and economic balance and reducing uncertainty in society, where the BPBD is responsible for creating fair and transparent policies to ensure equitable access to resources and services for all levels of society affected by disasters, as well as

preventing extreme economic fluctuations due to losses caused by flooding. In this case, the BPBD can play an active role in formulating disaster management policies that support sustainable growth, such as investing in drainage infrastructure and early warning systems, as well as intervening when floods occur through direct assistance, evacuation, and provision of basic necessities for the community. Thus, BPBD not only functions as a regulator in disaster management, but also as a facilitator that increases public trust through transparency and community participation in decision-making, thereby creating an environment conducive to post-disaster social and economic recovery.

The Head of the Regional Disaster Management Agency (BPBD) emphasized the importance of public preparedness and awareness in facing disasters. Community stability during disasters greatly depends on the education provided, which aims to build individual resilience. By involving the community in mitigation programs, such as self-evacuation training, BPBD not only enhances individual capacity but also fosters a sense of ownership of collective safety.

However, BPBD faces challenges, particularly in relation to budget allocations that are more focused on repressive activities. This imbalance can hinder more effective preventive efforts in the long term. Therefore, it is important for local governments to consider investing in disaster education as part of a comprehensive disaster management strategy. The rapid response and situation analysis in the field carried out by BPBD staff is also an integral part of their duties, although limited resources can affect their ability to reach all affected locations.

The public's perception of BPBD shows that they appreciate the efforts made, especially in providing education and assistance during disasters. However, there is recognition that BPBD may not always be able to reach all locations, especially if the flooding is not considered too high or dangerous. This highlights the need for clear communication between BPBD and the community regarding the criteria for intervention and assistance provided. Overall, collaboration between BPBD and the community is essential to create better resilience to disasters, where community education and awareness are key to reducing the impact of disasters.

### **Role as an Innovator**

The role of the government as an innovator according to Siagian (2012) includes important functions in promoting and facilitating innovation in various sectors to achieve social and economic progress, where the government plays a key role in creating an

environment conducive to research, development, and application of new technologies through the development of innovation policies that provide incentives for research and development.

The role of the government, particularly the Regional Disaster Management Agency (BPBD), as an innovator in the context of flood management includes important functions in encouraging and facilitating innovation in various sectors to achieve social and economic progress, where BPBD can play a major role in creating an environment conducive to research, development, and application of new technologies in flood disaster mitigation and management through the development of innovation policies that provide incentives for research and development of early warning systems, efficient drainage technology, and sustainable water management methods. Thus, BPBD not only focuses on emergency response, but can also strive to integrate innovation into long-term strategies to reduce flood risk and increase community resilience to disasters.

The Regional Disaster Management Agency (BPBD) has played an innovative role in disaster management by updating standard operating procedures (SOPs) and empowering communities. One of the main innovations implemented is the establishment of an online disaster information service involving various parties, including the Indonesian National Armed Forces (TNI), the Indonesian National Police (Polri), and regional government agencies (OPD). This service allows the community to report disaster events directly, thereby accelerating the flow of information and response from the rapid response team (TRC). Thus, BPBD not only improves the efficiency of disaster management, but also builds community awareness and capacity to respond to disasters effectively.

To enhance BPBD's role as an innovator, several improvement measures can be taken. First, improving communication infrastructure is crucial to ensure a more stable network, especially in disaster-prone areas. Second, accelerating the decision-making process and implementation of new ideas from staff can enhance innovation and disaster response. Finally, continuing and expanding education programs in schools and communities will help increase disaster awareness and preparedness among the public. With these steps, the BPBD can continue to improve the capacity and resilience of the community in facing future disaster threats.

From the interviews, it appears that this innovation has had a positive impact on the community. The community now has better access to report disaster events, which reduces response time and improves the effectiveness of handling. In addition, community

empowerment efforts through education in schools demonstrate BPBD's commitment to building a sustainable disaster mitigation culture. However, challenges such as unstable cellular network constraints during disasters and the process of implementing new ideas from staff still need to be overcome to improve service effectiveness.

### **Role as a Modernizer**

The role of the government as a modernizer according to Siagian (2012) includes important functions in promoting and implementing change and renewal in various aspects of community life to achieve progress and prosperity, where the government acts as an agent of change that seeks to introduce and apply new practices, technologies, and systems that are more efficient and effective.

The role of the government, particularly the Regional Disaster Management Agency (BPBD), as a modernizer in the context of flood management includes important functions in promoting and implementing change and renewal in various aspects of community life to achieve progress and prosperity, where the BPBD can act as an agent of change that strives to introduce and apply new practices, technologies, and systems that are more efficient and effective in flood disaster mitigation and management. This includes the application of modern technologies such as early warning systems, the development of advanced drainage infrastructure, and sustainable water management methods. In addition, BPBD also focuses on increasing community capacity through education and training on disaster preparedness, as well as reforming policies that support disaster risk management. Thus, BPBD's role as a modernizer does not only focus on emergency response, but can also include long-term efforts to create a more resilient community that is prepared to face the challenges of flood disasters.

The Regional Disaster Management Agency (BPBD) plays an important role as a modernizer in improving community preparedness for disasters through various transformations. In this effort, BPBD adopts new technologies and approaches, such as conducting regular training and disaster simulations. This aims to equip the community with the skills needed to deal with emergency situations. In addition, BPBD also actively promotes the importance of disaster risk reduction through various integrated educational activities, including seminars and collaborations with educational institutions and civil society organizations. These transformations demonstrate BPBD's commitment to not only responding to disasters, but also preventing and mitigating their impact.

However, even though BPBD has a good plan, the main challenge it faces is budget constraints. The Head of BPBD revealed that the disaster management budget in North Nias Regency is often focused only on the time of the disaster, rather than on prevention and preparedness efforts. This creates a situation where BPBD must struggle to obtain adequate financial support to implement socialization and training programs. This limitation is not only a local problem, but also a challenge faced by BPBDs throughout Indonesia. With limited budgets, BPBDs are forced to find creative ways to convey information and conduct outreach, such as taking advantage of social moments outside of official activities.

From the perspective of BPBD staff, support for initiatives led by the Chief Executive is essential to achieving the organization's goals. Staff demonstrate a commitment to controlling and conveying important information through the services that have been created. This reflects the collaborative spirit within the organization, where each member contributes to improving the effectiveness of disaster management. However, without adequate budgetary support, these efforts may not be optimized. This highlights the need for greater attention from the government and stakeholders to ensure that BPBD has sufficient resources to carry out its duties effectively.

One of the residents affected by the disaster appreciated the BPBD's efforts in providing information and services related to disasters. The BPBD's visit to the church to convey information about disaster preparedness demonstrated a proactive approach in reaching out to the community. The community feels helped by the online information service that allows them to report disaster events directly. Despite challenges in terms of budget and infrastructure, the positive response from the community shows that BPBD's efforts in modernization and socialization have had a significant impact. Thus, even though BPBD faces various obstacles, their role as modernizers in disaster risk management remains relevant and important to improve community resilience to disasters in the future.

### **Role as a Pioneer**

The role as a pioneer according to Siagian in government role theory includes the government's ability to be a role model and innovator in society, where the government is expected to function not only as a regulator but also as a leader capable of inspiring change and development. The role as a pioneer according to Siagian in government role theory includes the ability of the government, in this case the Regional Disaster Management Agency (BPBD), to be a role model and innovator in society, where the BPBD is expected

to not only function as a regulator in disaster management, but also as a leader capable of inspiring change and development in flood mitigation. In this context, the BPBD must create innovative policies and programs, such as improving drainage infrastructure, educating the public about disaster preparedness, and collaborating with various parties, including the community and the private sector, to create effective synergies in reducing flood risk. Thus, BPBD can act as an agent of change that is able to direct the community towards preventive and responsive actions against flood disasters, as well as increase public awareness and participation in disaster management efforts.

The Regional Disaster Management Agency (BPBD) plays a leading role in flood management by promoting effective coordination between various relevant agencies and involving the community in disaster prevention and management efforts. The Head of BPBD emphasized the importance of collaboration with social services, health services, public works, the Indonesian National Armed Forces, the Indonesian National Police, and the National Search and Rescue Agency in responding to disasters. With information services that facilitate data exchange and situation analysis, BPBD can move quickly and in a coordinated manner when floods occur. This shows that BPBD not only functions as an agency that responds to disasters, but also as a key driver in building a solid collaborative network to improve disaster preparedness and response.

From the community's perspective, BPBD's involvement in flood management is greatly appreciated, especially in terms of direct support during and after disasters. One resident said that BPBD is always present at disaster sites and works with the community to assist with evacuation and aid distribution. The active participation of BPBD staff in outreach activities, both at social and religious events, demonstrates their commitment to raising public awareness about disaster preparedness. With this integrated approach, BPBD not only plays a leading role in flood management, but also builds a sense of solidarity and mutual cooperation among the community, which is key to facing future disaster challenges.

### **Role as the Executor Itself**

The role as an executor according to Siagian in government role theory refers to the government's responsibility to implement established policies and programs effectively and efficiently, whereby the government functions as an executor that implements various decisions and plans aimed at achieving public welfare. In this context, the government must be able to manage existing resources, including budgets, labor, and infrastructure, to ensure

that each program runs according to plan and provides maximum benefits to the community. In addition, policy implementation also requires good coordination between various government agencies and stakeholders, as well as active community involvement in the process, so that the results achieved can reflect the needs and expectations of the community. Continuous monitoring and evaluation are also an important part of the implementer's role, to assess the effectiveness of programs and make the necessary adjustments to achieve the desired goals. Thus, the role of implementer is not only to carry out tasks, but also to create a real positive impact on the lives of the community.

The role as an executor according to Siagian in the theory of government roles refers to the responsibility of the Regional Disaster Management Agency (BPBD) to implement policies and programs that have been established in disaster management, particularly floods, effectively and efficiently, where the BPBD functions as an executor that implements various decisions and plans aimed at protecting the community and reducing the impact of disasters. In this context, the BPBD must be able to manage available resources, including budgets, manpower, and infrastructure, to ensure that every flood management program runs according to plan and provides maximum benefits to the community. In addition, policy implementation also requires good coordination between various government agencies, non-governmental organizations, and other stakeholders, as well as the active involvement of the community in the process, so that the results achieved can reflect the needs and expectations of the community. Continuous monitoring and evaluation are also an important part of the BPBD's role as implementer, to assess the effectiveness of flood mitigation programs and make the necessary adjustments to achieve the desired goals. Thus, the role as implementer is not only to carry out tasks, but also to create a real positive impact on the lives of communities affected by flooding.

The Regional Disaster Management Agency (BPBD) serves as the main implementing agency in disaster management with broad responsibilities, ranging from planning to evaluation. In an interview, the Head of BPBD revealed that although the plans made are sometimes implemented and sometimes not, they try their best to carry out their duties to the best of their ability. Budget constraints are one of the factors hindering the implementation of plans, where budget efficiency has resulted in the elimination of several important budgets, such as disaster risk assessments. This shows that even though the BPBD has good intentions and plans, implementation in the field is often hampered by external factors beyond their control.

BPBD staff explained the process of implementing flood mitigation plans, which involve situation analysis and rapid response in the field. They use rubber boats to evacuate people and valuables, as well as provide post-disaster assistance. This approach demonstrates BPBD's commitment to prioritizing public safety in emergency situations. However, despite the staff's best efforts to carry out their duties, they also acknowledged shortcomings in human resources and equipment, such as rubber boats, which are urgently needed during disasters. This reflects the need for greater attention from local governments to improve the capacity of the BPBD so that it can operate more effectively in disaster management.

From the community's perspective, residents affected by flooding appreciate the efforts of BPBD, but also highlight the need for improvements in terms of resources and equipment. The community feels that although BPBD has done a good job, there is still room for improvement, especially in terms of procuring rubber boats and adding manpower. This shows that the success of the BPBD in carrying out its duties depends not only on intentions and plans, but also on adequate support from the government and other stakeholders. By increasing resources and equipment, the BPBD can be more effective in carrying out its duties as a disaster management agency, thereby better protecting the community in the future.

The North Nias District Disaster Management Agency (BPBD) plays a very important role in flood disaster management in Lotu Subdistrict through various integrated strategies, from planning to evaluation. Through effective coordination with various relevant agencies, BPBD is able to optimize its response to disasters and improve community preparedness. Although BPBD has made significant efforts in providing education and assistance, challenges such as budget and human resource constraints remain obstacles that need to be overcome. Therefore, support from the local government and other stakeholders is essential to ensure that BPBD can carry out its duties effectively and sustainably.

Overall, the success of BPBD in carrying out its role as an implementer, innovator, modernizer, and pioneer in disaster management is highly dependent on strong collaboration between BPBD, the community, and various related agencies. The community shows appreciation for BPBD's efforts, but also highlights the need for improvements in terms of resources and equipment. By strengthening capacity and infrastructure, as well as increasing community awareness and participation, BPBD can be more effective in protecting the community from the impact of future disasters. Investment

in disaster education and the development of adequate infrastructure will be key to creating better resilience to disasters, so that the community can face existing challenges with greater preparedness and resilience.

### **Challenges of BPBD in Flood Disaster Mitigation in North Nias Regency**

The Regional Disaster Management Agency (BPBD) revealed the serious challenges faced by the agency in terms of human resources and equipment. The number of civil servants in the BPBD is very small, consisting of only 13 people, while there are only eight rubber boat operators who serve as the Task Force (Satgas). With such limited personnel, the ability to carry out disaster management tasks is very limited.

Only three people have participated in training activities related to disaster management plans, which shows a lack of capacity in terms of training and human resource development. In addition, budgetary issues are a major obstacle to the procurement of necessary equipment. Although the BPBD is trying to increase the number of rubber boats, budget efficiency policies prevent them from purchasing new equipment. Currently, BPBD only has two rubber boats that are still in working condition, which is highly inadequate considering that the area it serves covers 13 sub-districts, 112 villages, and one urban village. In 2021, there were 17 recorded flood disasters, indicating a high need for adequate equipment and personnel. Given the current conditions, these resource constraints pose a significant obstacle to disaster management efforts, and they are eagerly awaiting assistance from the provincial and central governments to increase the BPBD's capacity to deal with future disaster challenges.

### **Conclusion**

The North Nias Regency Disaster Management Agency (BPBD) plays a very important role in maintaining stability and calm among the community when disasters occur, especially floods. Through various outreach and education programs, BPBD strives to raise public awareness about disaster risk mitigation so that communities can provide assistance and evacuate independently when emergencies occur. Although BPBD has worked hard to provide assistance and rapid response, it still faces significant challenges related to limited human resources and equipment.

Currently, BPBD only has 13 employees and 8 rubber boat operators, which severely limits their ability to respond effectively to disasters. In addition, only three people have undergone training related to disaster management plans, which indicates a lack of capacity

in human resource development within this institution. Budgetary issues are also a serious obstacle, with budget efficiency policies hindering the procurement of new equipment. As a result, BPBD only has two functional rubber boats to serve a large area, reducing the effectiveness of their disaster response. Given these conditions, it is important for BPBD to receive more support in terms of training and equipment procurement in order to increase their capacity and responsibility in disaster management in the region.

Recommendations for the Regional Disaster Management Agency (BPBD) of North Nias Regency are to enhance collaboration with local and central governments to secure more adequate funding, with allocations focused not only on disaster response but also on prevention and education programs to raise public awareness. With better funding support, BPBD can optimally implement disaster mitigation plans. In addition, the BPBD needs to strengthen training and human resource development to improve personnel capacity, involving the community and volunteers in training programs so that more individuals are prepared for disaster management. This approach will strengthen the BPBD team and build a sense of community responsibility for their safety. Finally, BPBD must improve telecommunications infrastructure to support online disaster information services, where improvements to the cellular network in the area will strengthen the disaster management system and improve community safety, enabling BPBD to provide faster and more accurate information to prepare the community for potential future disasters.

Although this study has provided a comprehensive overview of the role of the North Nias District Disaster Management Agency (BPBD) in flood management, there are several limitations that should be considered in future research. One limitation is the lack of quantitative data to support a more measurable analysis of the effectiveness of socialization and education programs, as well as the suboptimal exploration of the role of the community and volunteers in supporting disaster management efforts. Therefore, further research is recommended to develop a more holistic approach by combining quantitative and qualitative methods to measure the impact of the program in greater depth. In addition, further studies could broaden their focus by examining multi-stakeholder collaboration and the use of information technology in early warning systems and disaster management coordination, thereby providing more applicable recommendations for improving the capacity and effectiveness of BPBD in the future.

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