East Asian Journal of Multidisciplinary Research (EAJMR)
Vol. 4, No. 8, 2025: 4231 - 4242

Analysis of the Knowledge, Skills, and Attitudes of TRC BPBD Gayo Lues Staff in Preparedness for Landslide Disasters

Mia Khairunnisa[1*], Safrida[2], Faisal Abdullah[3]
Program Magister Ilmu Kebencanaan Sekolah Pascasarjana Universitas Syiah Kuala Darussalam, Indonesia
Corresponding Author: Mia Khairunnisa khairunnisamia1@gmail.com

A R T I C L E I N F O

Keywords: Knowledge, Skills, Attitude, Preparedness, BPBD Gayo Lues

Received : 15, July
Revised : 10, August
Accepted: 25, August

A B S T R A C T

This study aims to analyze the level of knowledge, skills, and attitudes of the staff of the Rapid Reaction Team (TRC) of BPBD Gayo Lues towards preparedness to face landslide disasters. This study uses a descriptive qualitative approach with interview, observation, and documentation techniques. The results showed that most of the TRC staff had a high level of knowledge and skills, while attitudes were in the category of being quite good. The main obstacles include a lack of specialized training and limited infrastructure. It is recommended that routine training, attitude strengthening, and increased logistical support and cross-sector coordination be carried out. The capacity building of the TRC is expected to be able to strengthen preparedness to deal with landslide disasters effectively and sustainably.

DOI prefix: https://doi.org/10.55927/eajmr.v4i8.300
ISSN-E: 2828 – 1519 (Online)
https://mtiformosapublisher.org/index.php/eajmr

INTRODUCTION

Indonesia is one of the countries with the highest level of disaster vulnerability in the world. The geographical location in the Pacific Ring of Fire, as well as its complex geological, climatological, and hydrological conditions make Indonesia very vulnerable to various types of natural disasters, such as earthquakes, floods, tsunamis, and landslides (Anastasya et al., 2022). One of the provinces that has a fairly high level of disaster vulnerability is Aceh Province. According to data from the Aceh Disaster Management Agency (BPBA), this area is often hit by disasters such as floods, flash floods, earthquakes, tsunamis, landslides, and forest and land fires.

Indonesian Disaster Information Data (DIBI) recorded as many as 1,170 disaster cases occurred in Aceh Province from 2020 to 2024, with 107 cases of which were landslides (Disaster, 2020). Gayo Lues Regency is one of the areas that experienced a significant impact from the disaster. Gayo Lues Regency is a highland area surrounded by hills and mountains. This topography makes the area very vulnerable to landslides, especially with high rainfall intensity and lack of vegetation cover.

Based on data from the Gayo Lues BPBD, from 2020 to 2024 there were 76 landslide incidents with the number of injured reached 1,362 people. 2022 was the year with the highest number of incidents, namely 34 cases, caused by the high intensity of rain in the region. One of the impacts of the landslide incident in Gayo Lues Regency is the damage to infrastructure, the disconnection of national road access, and the burial of residents' settlements. This indicates that disaster mitigation and handling capabilities still need to be improved.

The Rapid Reaction Team (TRC) of BPBD Gayo Lues is at the forefront of disaster management, including landslides. This team has an important role in providing quick response, evacuation of victims, and coordination with various parties when disasters occur. TRC's performance is greatly influenced by the quality of its human resources, which include three main aspects, namely knowledge, skills, and attitudes in dealing with disaster situations (Parasite & Inspiration, 2024).

Adequate knowledge enables TRC members to understand the types of disasters, local characteristics of vulnerable areas, and effective and efficient emergency response procedures. This is an important basis for decision-making in the field. Skills include technical abilities such as evacuation, equipment use, first aid, and crisis management. Without these skills, TRC's response to disaster events will be less than optimal.

The attitudes shown by TRC members—such as courage, caring, professionalism, and the ability to work under pressure—are decisive factors for success in the disaster management process. Based on initial observations made by researchers, it is known that TRC BPBD Gayo Lues has never held a special and routine training that focuses on landslide disasters. Existing training is still general and is carried out incidentally depending on the allocation of available funds.

The TRC Coordinator confirmed that budget limitations as well as facilities and infrastructure are the main reasons for the lack of optimal

development of personnel competencies. In fact, the need for training based on local disaster potential is very urgent. This condition has an impact on the quality of TRC preparedness, which can be seen from the data on the increase in the number of injuries in 2022, although the number of incidents tends to decrease in the following years.

Lack of technical understanding and lack of specialized training cause the response to landslides to be not carried out optimally. This shows that increasing human resource capacity is a crucial aspect that must be addressed immediately. In the context of disaster management, speed and accuracy in responding greatly determine the safety and welfare of the affected communities. Therefore, it is important for every TRC staff to have comprehensive competencies that continue to be improved.

This research is important to find out the extent of the knowledge, skills, and attitudes of TRC BPBD Gayo Lues staff in preparedness to face landslide disasters, as well as to identify the obstacles they experience. With the results of the analysis obtained, it is hoped that it can be used as an evaluation material and the basis for the formulation of a TRC capacity building policy that is more systematic, structured, and based on local disaster potential.

In addition, the results of this study can provide input to the Gayo Lues Regency Government in designing training programs that are in accordance with regional needs, as well as increasing the budget allocation for disaster management. Based on this background, this research is entitled "Analysis of Knowledge, Skills, and Attitudes of TRC BPBD Gayo Lues Staff in Preparedness for Landslide Disasters" to answer these problems comprehensively.

THEORETICAL REVIEW

Disaster management is a systematic effort to reduce the risk and impact of a disaster event, both through prevention, mitigation, and preparedness measures. In this context, the Rapid Reaction Team (TRC) under the auspices of the Regional Disaster Management Agency (BPBD) plays a vital role in providing an initial response to disasters, including landslides that often occur in the Gayo Lues Regency area. To ensure an effective response, TRC members must have three basic elements of competency that are very important, namely knowledge, skills, and attitudes.

TRC Staff Knowledge

Knowledge is the collection of information or understanding that an individual has regarding a particular topic that is acquired through experience, education, or training (Timothy, 2017). In the context of disasters, the knowledge that TRC members must have includes an understanding of the basic concepts of disasters, local disaster characteristics, emergency response procedures, and proper communication and coordination systems when disasters occur. According to (Sadat, 2016), strong knowledge in disaster management can improve the quality of initial response and reduce the adverse impact of disasters. TRC members are also required to master technologies such as disaster monitoring

applications and geographic information systems (GIS) that can help with quick and accurate decision-making.

TRC Staff Skills

Skill is the ability to perform a task or job effectively and efficiently (Lengkong et al., 2019). In TRC operations, the skills needed include evacuation techniques, first aid, the use of safety equipment, and the ability to control emergency situations. These practical skills must be trained regularly so that TRC members are ready to face various challenges in the field. Good skills also include effective communication skills, emergency situation management, and teamwork. With adequate skills, TRC will be able to provide assistance quickly and appropriately to disaster-affected communities.

TRC Staff Attitude

Attitude is a person's mental and emotional readiness in responding to a situation (Suharyat, 2009). In the context of TRC, attitudes reflect seriousness, professionalism, and concern for disaster victims. TRC members are required to have a tough, responsive, independent, and empathetic attitude. This attitude is very important because it will affect the way TRC members interact with the community, manage pressure in emergency situations, and coordinate with other agencies. (Sirine, 2025) mentioned that a proactive attitude, emotionally stable, and open to criticism are important elements that determine the success of the team in emergency response operations.

Disaster Preparedness

Preparedness is a series of activities carried out to anticipate disasters through organizing and appropriate steps before a disaster occurs (Ristiani, 2020). Preparedness aspects include risk mapping, training and simulation, early warning systems, cross-sector coordination, action plan preparation, and post-disaster evaluation. According to (Aldino et al., 2023), good preparedness can reduce community vulnerability and minimize the impact it causes. In this case, TRCs must have readiness in terms of logistics, human resources, and an understanding of disaster management SOPs that are in accordance with the characteristics of their region.

Landslides as a Priority Disaster

A landslide is a geological event in which a mass of soil or rock moves suddenly from a steep slope to the bottom (Polawan & Alam, 2019). The main triggering factors for landslides are high rainfall, unstable soil conditions, and human activities such as deforestation and infrastructure development in vulnerable areas. According to (Wijaya & Aprilia, n.d.), landslides not only cause physical damage, but can also result in loss of life and long-term impacts on people's socio-economic lives. Therefore, the preparedness of the TRC in dealing with this disaster must be based on a deep understanding of the triggering factors and local characteristics of vulnerable areas.

METHODOLOGY

Approaches and Types of Research

This study uses a descriptive qualitative approach with the aim of understanding in depth the phenomena related to the knowledge, skills, and attitudes of the staff of the Rapid Reaction Team (TRC) at the Regional Disaster Management Agency (BPBD) of Gayo Lues Regency in dealing with landslides (Rukin, 2019). This approach was chosen because it allows researchers to explore the meanings, experiences, and views of informants directly and contextually. As explained by (Moleong, n.d.), a qualitative approach aims to understand social phenomena from the perspective of participants through naturalistic interaction and interpretation.

Research Location

This research was carried out at the office of the Regional Disaster Management Agency (BPBD) of Gayo Lues Regency, Aceh Province. This location was chosen purposively based on the high level of landslide disaster vulnerability in the region and the central role of the Gayo Lues BPBD TRC in disaster management. The researcher collected data directly at the BPBD office and several relevant field points, such as disaster-affected locations and TRC training or simulation areas.

Research Subjects and Informants

The subject in this study is the staff of the Rapid Reaction Team (TRC) of BPBD Gayo Lues. The determination of informants was carried out by purposive sampling technique, which is the selection of subjects who have direct experience and are relevant to the focus of the research. The informant consists of:

- Active TRC staff (minimum 1 year of service),
- TRC Coordinator,
- Head of BPBD and heads of related fields,
- Representatives of the community affected by the landslide.

The total number of informants interviewed was 10-15 people, with consideration of data saturation.

Data Collection Techniques

In this study, data collection was carried out through the following techniques (Jogiyanto Hartono, 2018):

- In-depth interview
  Interviews are conducted in a semi-structured manner using pre-arranged interview guidelines. This technique is used to explore the understanding of TRC staff regarding their knowledge, skills, and attitudes in dealing with landslide disasters. The interview was recorded (with permission) and recorded for further analysis.
- Participatory observation
  The researcher conducted direct observation of the activities of TRC staff, both in the office, in training, and in preparedness simulations. This observation aims to see firsthand the behavior, team

coordination, and technical and non-technical readiness of TRC staff in dealing with disaster situations.

- Documentation studies
  The documentation collected is in the form of disaster incident data, TRC activity reports, internal SOPs, photos of training/simulation implementation, and other supporting data related to disaster preparedness in Gayo Lues.

Data Analysis Techniques

The data analysis in this study uses the model interactive analysis technique (Miles, M. B., & Huberman, 1994), which includes three main stages:

- Data reduction
  This process is carried out by filtering, selecting, and simplifying data obtained from interviews, observations, and documentation. The reduction is carried out by focusing data that is directly related to the formulation of the problem, namely the knowledge, skills, and attitudes of TRC staff towards disaster preparedness.
- Data presentation
  The reduced data is then presented in the form of descriptive narratives, matrices, and interview excerpts that represent the main issues. This data presentation helps researchers understand patterns, relationships, and trends in the data.
- Conclusion drawing and verification
  After the data is analyzed and presented, the researcher draws provisional conclusions and verifies through triangulation and cross-checking between data to ensure validity and qualitative reliability.

Data Validation Techniques

To ensure the validity of the data, the researcher uses triangulation, namely:

- Source triangulation: comparing information from various informants (staff, leaders, the public).
- Triangulation techniques: comparing the results of interviews, observations, and documentation.
- Time triangulation: conducting interviews and observations in different times and conditions to see the consistency of information.

In addition, the validity of the data is also strengthened through member checks, which are asking for clarification and confirmation from informants on the results of provisional findings.

RESULTS

Level of Knowledge and Skills of TRC BPBD Staff on Preparedness for Landslide Disasters in Gayo Lues Regency

Based on the results of the distribution of questionnaires to all TRC BPBD Gayo Lues staff, it is known that their level of knowledge of landslide disaster preparedness is mostly in the high category. The data shows that 92% of respondents are in the high category, and 8% are in the medium category, while

none are in the low category. This shows that most TRC staff have understood the meaning of disasters, types of disasters, their causes, and assignment SOPs well

The skill level also shows quite good results. Of the 33 questions covering aspects of communication, evacuation, first aid, and coordination, it was found that 73% of respondents were in the high category, while the other 27% were in the medium category, and none were in the low category

Here is a summary of TRC staff's knowledge level and skill level data:

Table 1. Knowledge and Skill Level of TRC BPBD Gayo Lues Staff

Category	Knowledge (%)	Skills (%)
Tall	92	73
Keep	8	27
Low	0	0

The results of interviews with the Head of Emergency and Logistics show that knowledge improvement is carried out through basic education and routine training, although these activities have not been carried out consistently every year. Basic training was conducted in Bogor for three months to strengthen the preparedness of TRC staff. However, budget constraints are still the main obstacle in the implementation of continuous training.

Level of Attitude of TRC BPBD Staff to Preparedness to Face Landslide Disasters in Gayo Lues Regency

The level of attitude of TRC staff towards landslide disaster preparedness also showed quite good results, although not optimal. Based on the results of the distribution of the questionnaire consisting of 9 questions regarding professionalism, personality, coordination, and responsibility, the results were obtained that 50% of respondents had attitudes in the high category and 50% in the medium category. No staff are in the low category

Table 2. Attitude Level of TRC BPBD Gayo Lues Staff

Category	Attitude (%)
Tall	50
Keep	50
Low	0

The results of in-depth interviews corroborate this data. Coordination between the TRC and other agencies such as the TNI and the National Police has taken place cooperatively, especially during the evacuation of victims and post-disaster handling. Several people interviewed said that they saw firsthand TRC staff working with other officials in the field in standby apples, emergency rescue, and landslide material cleaning. However, emergency response attitudes still need to be improved, especially in terms of managing response time and the availability of infrastructure facilities when disasters occur. The results of the interviews show that BPBD often experiences logistical limitations and depends on the assistance of private institutions and the community. This has an impact on the initial response that is sometimes less than optimal

DISCUSSION

Level of Knowledge and Skills of TRC BPBD Staff on Preparedness for Landslide Disasters in Gayo Lues Regency

The results of the study show that the majority of TRC BPBD Gayo Lues staff have a high level of knowledge in dealing with landslide disasters. This proves that TRC personnel generally understand the basic concept of disasters, types of disasters, emergency response procedures, and their roles and responsibilities when disasters occur. These findings are in line with opinion (Agustin & Ajhuri, 2020) which states that knowledge is an important foundation in shaping the preparedness of a rapid reaction team to be able to provide an initial response quickly and appropriately.

In terms of skills, most of the staff are also in the high category, although there are some who are still in the medium category. This shows that TRC members already have technical capabilities such as first aid, use of safety equipment, and general evacuation of victims, but not entirely evenly. (Catur et al., 2025) emphasizes that practical skills greatly determine the operational effectiveness of TRCs in emergency situations. This means that more structured and focused periodic training is an urgent need.

This research also corroborates the results of the research (Azzahra & Koesyanto, 2023), stating that increased knowledge and skills capacity will have a direct impact on the speed and effectiveness of TRCs in responding to disasters. However, in the context of Gayo Lues, the uneven level of technical training specifically for landslide disasters is still a challenge. Therefore, more specific and systematic training planning needs to be prioritized so that the skills of TRC staff can be improved comprehensively and consistently.

Level of Attitude of TRC BPBD Staff to Preparedness to Face Landslide Disasters in Gayo Lues Regency

The level of attitude of the Gayo Lues BPBD TRC staff towards landslide disaster preparedness was in the fairly good category, with half of the respondents in the high category and the rest in the moderate. This attitude reflects the awareness and responsibility of staff in carrying out their duties, but there is still room for improvement, particularly in the consistency and discipline of emergency response. This is in line with the theory (Parasite & Inspiration, 2024) which states that positive attitudes, such as empathy, professionalism, and responsibility, are an important part of disaster preparedness.

The cooperative attitude shown by TRC staff in coordinating with the TNI, POLRI, and the community also shows that they have a collective awareness of the importance of cross-sector collaboration in responding to disasters. However, based on the results of interviews, the readiness of this attitude is often hampered by technical and logistical obstacles, such as a lack of equipment or a lack of operational funds. Research by Mahardika et al. (2022) also states that the attitude of TRC will be optimal if it is supported by adequate infrastructure and policy support from local governments.

This study reinforces the findings of the (Catur et al., 2025), that community involvement and the readiness of the attitude of field officials greatly determine the success of disaster management. With an improvement in attitude aspects—through psychosocial training, the formation of preparedness mentality, and the instillation of humanitarian values—TRC can carry out its functions more effectively in maintaining the safety of the community during landslides.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research conducted on the Rapid Reaction Team (TRC) of the Gayo Lues Regency BPBD, it can be concluded that in general, the level of knowledge, skills, and attitude of TRC staff towards preparedness to face landslide disasters is in the category of good to high. TRC staff's knowledge level is mostly in the high category, indicating that they have understood the basic concepts of disasters, emergency response procedures, and their respective roles in disaster management operations. This shows that TRC staff are intellectually ready to carry out their duties in the field. Their technical skills are also quite adequate, although there are still some members who are in the medium category, indicating that improvements in practical and technical training are still needed equally.

Meanwhile, the aspect of TRC staff's attitude towards preparedness shows that half of them have a responsive, cooperative, and responsible attitude, while the rest are still at a moderate level. This means that although in general TRC members show enthusiasm and professionalism in carrying out their duties, they are not fully optimal in terms of consistency, mental readiness, and coordination during critical conditions. This attitude has a great influence on the effectiveness of field actions, especially in disaster emergency situations such as landslides that often occur in the Gayo Lues area. The main obstacles found were the lack of specialized training and limited support facilities such as evacuation equipment, communication, and early warning systems.

Based on these findings, it is recommended that BPBD Gayo Lues carry out systematic and sustainable capacity building of TRC staff. First, there is a need for a routine training and simulation program focused on landslide disasters in accordance with the local characteristics of the Gayo Lues area. Second, it is necessary to strengthen emergency response attitudes, through character education, psychological training, and discipline coaching on SOPs. Third, adequate budget support and infrastructure are needed from the local government so that each TRC personnel is able to carry out their role optimally in the field. Fourth, active community involvement in preparedness and cross-sectoral collaboration with the TNI, POLRI, and other humanitarian institutions also needs to be improved so that the disaster management system runs in an integrated and effective manner. With these steps, it is hoped that the performance of the Gayo Lues BPBD TRC can be more alert, adaptive, and professional in dealing with the threat of landslides in the future.

FURTHER STUDY

Future research could focus on monitoring changes in the knowledge, skills, and attitudes (KSA) of TRC BPBD Gayo Lues staff over time following training or disaster response experiences, while also testing the effectiveness of different training methods in enhancing KSA and field performance. The development and validation of a landslide-specific preparedness assessment instrument would allow for more accurate measurement. In addition, examining contextual factors such as leadership, clarity of standard operating procedures, and resource availability could provide deeper insights into their influence on KSA. Integrating KSA data with risk maps, early warning system records, and actual disaster response outcomes would help reveal the relationship between individual capacity and operational effectiveness. Finally, evaluating performance in simulations—covering both technical and non-technical competencies—would strengthen recommendations for measurable and sustainable capacity-building strategies.

ACKNOWLEDGMENT

The authors would like to express their sincere gratitude to the TRC BPBD Gayo Lues staff for their valuable participation and cooperation throughout this study. Appreciation is also extended to the Gayo Lues Regency Government for granting permission and facilitating data collection, as well as to all individuals

and institutions who provided support, insights, and encouragement during the research process.

REFERENCES

Agustin, A. A., & Ajhuri, K. F. (2020). Motivasi anggota dan peran Tim Reaksi Cepat (TRC) dalam bekerja di Badan Penanggulangan Bencana Daerah (BPBD) Kabupaten Ponorogo. *ROSYADA: Islamic Guidance and Counseling*, *1*(1).

Aldino, P., Pristiana, A. F., & Rosida, S. M. (2023). Kesiapsiagaan Dan Pembentukan Kelurahan Tangguh Sebagai Langkah Meminimalisir Resiko Bencana. *Komunikologi: Jurnal Ilmiah Ilmu Komunikasi*, *20*(02).

Anastasya, E., Putra, I., & Dharma, I. (2022). Pemetaan Tingkat Kerawanan Bencana Tsunami di Pesisir Barat Daya Provinsi Banten. *Journal of Marine and Aquatic Sciences*, *8*(1), 85–92.

Azzahra, Q. A., & Koesyanto, H. (2023). Efektivitas Tim Reaksi Cepat. *HIGEIA (Journal of Public Health Research and Development)*, *7*(1), 1–11.

Bencana, B. N. P. (2020). *Data Informasi Bencana Indonesia (DIBI)[terhubung berkala]*.

Catur, E. J. B., Utomo, A. W., & Siahainenia, W. R. R. (2025). Peran Strategis Relawan TRC BPBD Kota Salatiga dalam Penanggulangan Bencana Tanah Longsor di Kota Salatiga. *Innovative: Journal Of Social Science Research*, *5*(2), 757–767.

Jogiyanto Hartono, M. (2018). *Metoda pengumpulan dan teknik analisis data*. Penerbit Andi.

Lengkong, F., Lengkong, V. P. K., & Taroreh, R. N. (2019). Pengaruh Keterampilan, Pengalaman dan Lingkungan Kerja terhadap Kinerja Karyawan di PT. Tri Mustika Cocominaesa (Minahasa Selatan). *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, *7*(1).

Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook (2nd ed.)*.

Moleong, L. J. (n.d.). *Metodologi penelitian*.

Parasit, L., & Ilham, I. (2024). Perilaku Organisasi dalam Penanggulangan Bencana Daerah di Kabupaten Buton Selatan. *ETNOREFLIKA: Jurnal Sosial Dan Budaya*, *13*(1), 42–55.

Polawan, S. S. M., & Alam, F. (2019). *Memahami bencana banjir dan longsor*. RV Pustaka Horizon.

Ristiani, I. Y. (2020). Manajemen kesiapsiagaan dalam menghadapi potensi bencana di Kabupaten Sumedang. *Jurnal Pemerintahan Dan Keamanan Publik (JP Dan KP)*, 126–138.

Rukin, S. P. (2019). *Metodologi penelitian kualitatif*. Yayasan Ahmar Cendekia Indonesia.

Sadat, A. (2016). Efektivitas Kinerja Badan Penanggulangan Bencana Daerah Dalam Pengurangan Resiko Bencana Di Kota Baubau. *JIP (Jurnal Ilmu Pemerintahan): Kajian Ilmu Pemerintahan Dan Politik Daerah*, *1*(1), 1–20.

Sirine, H. (2025). *How Brilliant Leaders Transform Business Challenges into Gold*. Greenbook Publisher.

Suharyat, Y. (2009). Hubungan antara sikap, minat dan perilaku manusia. *Jurnal Region*, *1*(3), 1–19.

Timotius, K. H. (2017). *Pengantar metodologi penelitian: pendekatan manajemen pengetahuan untuk perkembangan pengetahuan*. Penerbit Andi.

Wijaya, J., & Aprilia, T. (n.d.). *DAMPAK BENCANA ALAM LONGSOR TERHADAP KONDISI PSIKOLOGIS DAN TINDAKAN MITIGASI PADA MASYARAKAT*.