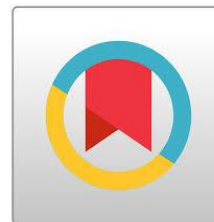


**The Ability of Disaster-Resilient Village In Mitigating Landslides In Sirongge Village, Pandanarum District, Banjarnegara Regency In 2020**

**Kemampuan Desa Tangguh Bencana Dalam Mitigasi Bencana Tanah Longsor Di Desa Sirongge Kecamatan Pandanarum Kabupaten Banjarnegara Tahun 2020**



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ARTICLE INFORMATION	
<p><b>Keywords</b>  <i>Disaster Mitigation;</i>  <i>Lanslide;</i>  <i>Disaster Resilience Village;</i></p>	<p><b>ABSTRACT</b>                      This study aims to determine the extent to which disaster-resilient villages are capable of mitigating landslides based on Disaster Resilient Villages in Sirongge Village, Pandanarum District, Banjarnegara Regency, to mitigate landslides in the form of landslides. By using qualitative methods through interviews with four informants, namely the head of BPBD prevention in Banjarnegara Regency, the head of Sirongge Village, the Sirongge Village government and the Sirongge Disaster Resilient Village administrator, this research was carried out for one year, researchers found that landslide disaster mitigation activities in Sirongge Village were running well in 2020, especially in non-structural mitigation, these activities are carried out in collaboration between the village government, Disaster Resilient Village volunteers, and the community through coordination from the Banjarnegara Regency BPBD, the community also plays an active role in carrying out mutual activities. cooperation, because it is through the disaster-resilient village program, Sirongge Village is able to face and reduce the risk of landslides, the suggestions in this study include, The village government continues to look for new innovations as a means of mitigating landslides in Sirongge Village, the community needs to develop raise awareness of the Disaster Resilient Village program In Sirongge Village, the village government provides information boards in the form of posters on landslide disaster mitigation procedures.</p>
<p><b>Kata Kunci</b>  <i>Mitigasi Bencana;</i>  <i>Tanah Longsor;</i>  <i>Desa Tangguh bencana;</i></p>	<p><b>ABSTRAK</b>                      Penelitian ini bertujuan untuk mengetahui sejauhmana kemampuan desa tangguh bencana dalam melakukan mitigasi bencana tanah longsor berbasis Desa Tangguh Bencana di Desa Sirongge, Kecamatan Pandanarum, Kabupaten Banjarnegara, melakukan mitigasi berupa tanah longsor. Dengan menggunakan metode kualitatif melalui wawancara kepada empat informan yaitu kepada kasi pencegahan BPBD Kabupaten Banjarnegara, kepala Desa Sirongge, pemerintah Desa Sirongge dan pengurus Desa Tangguh Bencana sirongge, penelitian ini dilakukan selama satu tahun, peneliti menemukan bahwa kegiatan mitigasi bencana tanah longsor di Desa Sirongge berjalan dengan baik pada tahun 2020, terutama pada mitigasi non struktural, kegiatan-kegiatan tersebut dilaksanakan dengan kerjasama antara pemerintah desa, relawan Desa Tangguh Bencana, dan masyarakat melalui koordinasi dari BPBD Kabupaten Banjarnegara, masyarakat juga berperan aktif dalam melakukan kegiatan-kegiatan yang bersifat gotong-royong, karena hal tersebut melalui program desa tangguh bencana Desa Sirongge mampu menghadapi serta mengurangi resiko bencana tanah longsor, saran dalam penelitian ini meliputi, Pemerintah desa terus mencari inovasi baru sebagai sarana mitigasi bencana tanah longsor Desa Sirongge, masyarakat perlu meningkatkan kesadaran akan</p>

		adanya program Desa Tangguh Bencana Di Desa Sirongge, pemerintah Desa memberikan papan pemberian informasi berupa poster tata cara mitigasi bencana tanah longsor.
<b>Article History</b> Send 5 <sup>th</sup> February 2022 Review 21 <sup>th</sup> April 2022 Accepted 22 <sup>th</sup> July 2022		Copyright ©2023 <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. 

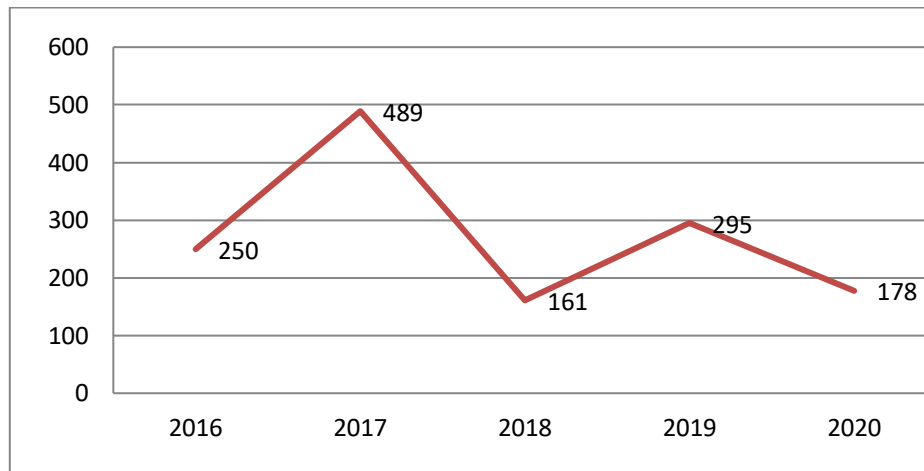
## **Introduction**

This study is to find out how to mitigate natural disasters in the form of landslides in the form of the Disaster Resilient Village policy which was implemented in Sirongge Village, Pandanarum District. According to Law Number 24 of 2007, a disaster is an event or series of events that threaten and disrupt the lives and livelihoods of the community caused, both by natural factors and/or non-natural factors as well as human factors, resulting in human casualties, environmental damage, loss of property, and psychological impacts of disasters occur because of threats and vulnerabilities without the capacity of the community to cope with them.

According to BNPB Law No. 24 of 2007 explains that disaster management planning includes, assessment and identification of disaster threats, understanding of community vulnerability, analysis of possible disaster impacts, choices of disaster risk reduction actions, determination of disaster preparedness and mitigation mechanisms and allocation of authorities, tasks and resources. which exists. Meanwhile, according to the Regulation of the Head of the National Disaster Management Agency (Perka BNPB) Number 11 of 2014 concerning community participation in disaster management, which emphasizes the importance of community participation in the implementation of the disaster management system, starting from the pre-disaster stage, emergency response, initial and post-disaster recovery. -disasters, which can be carried out independently or in collaboration, and prioritize the main impact of disaster risk reduction.

The National Disaster Management Agency stated that Central Java province was the province most affected by natural disasters from 2016 to 2020, reaching 3693 disaster cases, the second was in East Java province with 2319 disasters, the third in Aceh province with 776 disaster events and the last is in the province of South Sulawesi as many as 498 disaster events. The National Disaster Management Agency also stated that Central Java is an area that has the potential for disasters to occur (BPS Central Java Province, 2021). It was recorded that from 2016 to 2020 there were 1,373 landslide events based on the table below:

Graph 1. Landslide Disaster Event Central Java Province 2016-2020



Source: National Agency for Disaster Management, 2021.

The data above shows that Central Java as a whole has a low to moderately high level of landslide potential. The most vulnerable district is Banjarnegara because the area is dominated by sloping to slightly steep slopes and has Latosol and Inceptisol soil types that are prone to soil erosion. Based on a study conducted by the head of BPBD Banjarnegara Regency 2019, Banjarnegara has 266 villages and 12 urban villages, there are 199 villages which are landslide-prone areas and there have been 163 cases of landslides in 2019. (Zain & Banyumas contributors, 2019). Based on the problems that have been raised, the purpose of this study is to determine the level of vulnerability to landslides in Banjarnegara Regency.

Knowledge of disasters is very much needed by the community, various information about types of disasters that may threaten the community, symptoms of disasters, recommended places to evacuate, and other information will greatly help the community in dealing with future disasters and can reduce the number of disaster victims. . Some of the main factors causing the emergence of many victims due to disasters are the lack of public knowledge about disasters and the lack of community preparedness in anticipating these disasters.

The researcher provides a summary of the results of previous studies related to the Disaster Resilient Village that disaster mitigation is divided into two aspects, namely the physical aspect in the form of mitigation of natural and structural conditions then the social aspect in the form of increasing community resources. (Nursa'ban, 2015). Disaster mitigation programs are implemented by villages or sub-districts so that the community is ready to face disasters (Noza et al., 2017). The concept of preparedness is carried out by examining village

capacities and capabilities (Comfort et al., 2010). The village government also needs to analyze the threat of disasters in their area (Buchari et al., 2017).

Disaster mitigation education is very important for public education (Suhardjo, 2015). One way to do this is to form a disaster-resilient community as a real form of community-based disaster mitigation (Maryani, 2016). After there is disaster education, the community is given participation to manage disaster mitigation activities independently (Twigg & Steiner, 2013). The most important thing in empowering the community is that equality and the aspirations of the community can be accommodated (Suhardjo, 2015).

For example, landslide mitigation activities in the Disaster Resilient Village need to analyze the season and rainfall (Susanti et al., 2017). There is also another analysis in the form of mapping that can be done using digital as a form of collaboration between technology and disaster (Chen & Huang, 2012). There are 2 aspects that determine landslide susceptibility, namely: natural aspects and management aspects. Natural aspects include: cumulative daily rainfall, consecutive days, land slope, geology, presence of faults or faults, soil depth to impermeable structures; on the other hand, from the management aspect, among others: land use, infrastructure, settlement density (Santoso et al., 2018).

Law No. 24 of 2007 Mitigation is an effort that is tried to reduce the impact of disasters, through the development of forms and increases as well as awareness of the ability to experience the threat of disaster to residents. With the existence of this law, a policy was issued by the adrift party as a new hope for better disaster management and can reduce losses caused by natural disasters (Herpita Wahyuni, 2021). Mitigation efforts can be carried out in non-structural forms, such as avoiding disaster areas by using ways to avoid disaster locations which can be identified through spatial and regional planning and by empowering residents and local governments (Putra & Podo, 2017).

Mitigation is defined as actions taken before a disaster occurs with the aim of reducing or eliminating disaster risks to residents and the environment. Mitigation is a step taken independently of an emergency situation (Puri & Khaerani Thalita Rifda, 2017). Mitigation is a series of efforts to reduce disaster risk, both through structural mitigation and non-structural mitigation in the form of awareness and capacity building to face disaster threats (Habibullah, 2013). Due to the low level of people's understanding of disaster mitigation, improvements need to be made such as conducting introductions and training on natural disasters, improving the environment and roads that function as evacuation routes, rehearsals for evacuation, making disaster-prone maps, installing cheap and simple early warning system tools and relocation (Nusantoro, 2020). North Dakota State University produces research and journals

on disasters, citing the role of technology in predicting and visualizing forensic engineering. In the development of disaster risk reduction, supporting technology is needed. This technology has a strategic role in making it easier for officers and the public to identify signs of a disaster. Prediction of the possibility of a disaster can be done through a tool called the Early Warning System (EWS).(Sulistiyani et al., 2017).

Disaster mitigation must be carried out properly because of the large number of losses caused. Law No. 24 of 2007 concerning Disaster Management describes that mitigation means an effort to reduce disaster risk both through physical and social efforts that include the people's ability to deal with natural disasters.(Sari et al., 2020). Currently the implementation of disaster management is more focused on the pre-disaster stage than the emergency response stage(Hardy et al., 2020). Disaster risk reduction concepts and practices of reducing disaster risk through systematic efforts to analyze and manage the factors that cause disasters. And this includes through reducing exposure to hazards, reducing the vulnerability of people and property, managing land and the environment wisely, and increasing preparedness for adverse incidents.(Friska et al., 2021). The skills and knowledge needed to occupy certain positions must be possessed by human resources. Skills and knowledge can be obtained from Education and Training. The use of the term education and training in an institution or organization which is better known as Education and Training (education and training)(Kristia & Mulyana, 2019).

A disaster-resilient village is an event for forming villagers to be more independent in dealing with disasters that hit the village, this event is carried out in villages that are claimed to be vulnerable to disasters.(Muhamad, 2020). A disaster-resilient village based on Perka BNPB NO.1 of 2012 is a village or sub-district that has the ability to organize people's resources to reduce vulnerability and increase capacity to reduce disaster risk and have the ability to be independent to deal with potential disaster threats.(Sinaga, 2019).

Disaster Resilient Village is a village or sub-district that has the independent ability to adapt and deal with potential disaster threats. The village or kelurahan must also be able to recover quickly from the various impacts of disasters(HB Ginting, 2020). For this reason, it is necessary to create a disaster-resilient village that has the capability in disaster management, it is necessary to develop adequate institutional capacity.(AH Ginting, 2020). Based on the Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 81 of 2015 concerning Evaluation of Village and District Development. In terms of disaster response, villages must pay attention to village contingency planning, disaster risk maps, community-centred early warning systems, and evacuation infrastructure. In fact, village community empowerment, village development, and village community development are an inseparable

part of village governance. The success of implementing community development in the village cannot be separated from the role of the village government in its ability to empower community and community development to reduce disaster risk (Mahbubah et al., 2021). The establishment of a Disaster-Resilient Village is an effort to respond to the Government's response to various external challenges faced by the community in the village, especially in dealing with natural disasters experienced. (Ariyanti et al., 2021).

Organizing a disaster-resilient village event requires the energy of a facilitator to be a companion to the people during the activity process. In addition, involving the local district/city government, being the overall activity manager from the beginning to the end of the formation and commitment to replicate Destana in other villages/kelurahan. Provincial and Regency/Municipal Disaster Management Agency can make disaster-resilient village residents and facilitators become regional assets in disaster risk reduction efforts in their area. (National & Pillars, nd). Disaster-resilient villages have several main principles, including inclusion, taking sides with vulnerable groups, as well as justice and gender equality, where these 3 principles emphasize the importance of participation of all elements of society. This means that the entire community, including disaster-prone groups, will be involved in disaster management and disaster risk reduction in the village (Alifa & Wibowo, 2015).

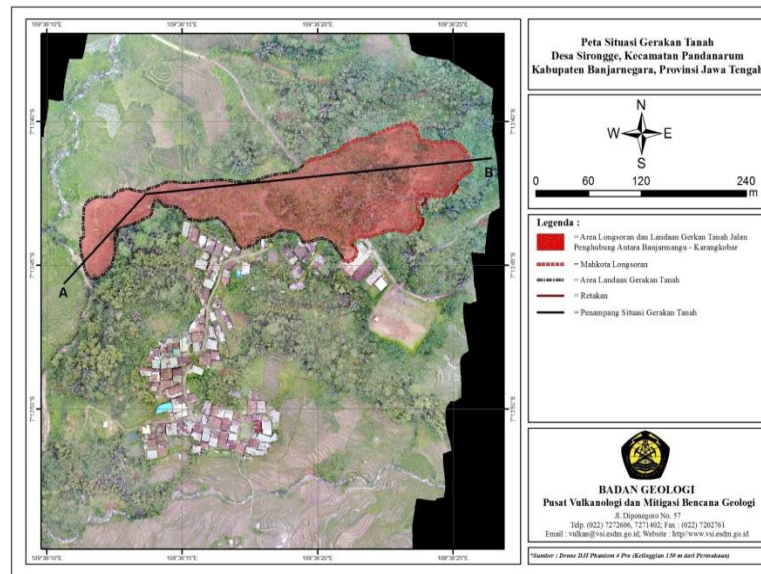
The Disaster Resilient Village Event (Destana) is carried out using people's empowerment accompanied by technical assistance from the government through non-structural mitigation activities and structural mitigation. is, in parallel, it is necessary to strengthen the capacity of the community and strengthen the capacity of the environment by optimizing local wisdom so that the people have independence in dealing with disasters at the village level. (Hijri et al., 2020).

According to previous studies, disaster mitigation must be considered and carried out perfectly in order to minimize risk and must be carried out effectively, efficiently and actively so that people know and understand what preparations must be made when a disaster occurs, especially Sirongge Village which has a landslide risk. Therefore, this study would like to focus on efforts to explore and analyze the role at the kelurahan level from Destana as a social unit for disaster risk reduction in the local village/kelurahan in collaboration between the village government and the community.

In this case, the researcher chose a location in Sirongge Village, Pandanarum District, because this location is included in an area that is categorized as very vulnerable based on the geological map of Sirongge Village because Sirongge Village is a village located on a steep



slope and there are 2 points of land movement locations located in the middle of the hill. The following is a map of the ground motion in Sirongge Village, Pandanarum District:



Picture 1. Land Movement Map of Sirongge Village, Pandanarum District  
Source: Research Documentation, 2021

Based on the BPBD of Banjarnegara Regency, at this time a Disaster Resilient Village is formed in Sirongge Village, Pandanarum District through the Regional Revenue Budget (APBD). Pandanarum sub-district, especially in Sirongge Village. Sirongge Village is the first village in the establishment of DESTANA in Banjarnegara. So that it can be said to be a pioneer in the formation of DESTANA (BANJARNEGARA DINKOMINFO, 2018), and has carried out a series of structured efforts such as, reporting to the Regional Government, Local Apparatus or Banjarnegara BPBD when soil cracks or ground movement occur, installing an Early Warning System (EWS), and conducting socialization on landslide disaster mitigation carried out in collaboration between the Banjarnegara BPBD with the Sirongge Village apparatus, especially with the Sirongge Village DESTANA party in dealing with landslides.

The urgency of this research is to identify in dealing with problems that arise as a result of the landslide disaster in Sirongge Village by using non-structural theory, namely in the form of spatial management and training to increase community capacity, through knowledge and attitudes of emergency planning and resource mobilization. In this study, landslide disaster mitigation efforts are not only the responsibility of the government or BPBD but a shared responsibility, therefore the government cooperates with DESTANA (Disaster Resilient Village) in carrying out disaster mitigation in Sirongge Village.

## Method



The research method used is a qualitative method which is a research method that describes all research data in descriptive form to explain the results of the research. (Alhamdi et., al, 2020). Data collection techniques in this study were carried out through interviews to find out more deeply about the problems to be studied through information from customers (Alhamdi et., al 2020). The resource selection technique in this study refers to Sugiyono's theory, namely Purposive Sampling is a sampling method by determining characteristics that are in accordance with the objectives, for example the person is considered to know best about what information we need, so that the determination of informants who really master the information and are trusted to be a source of data (Sugiyono, 2012). The sample technique in this study uses purposive sampling. The resource person is the volunteer administrator of the Disaster Resilient Village. Then don't forget the target of this program is the community, the research sample is the village head who bridges the aspirations of the community.

This research was conducted in Sirongge Village, Pandanarum District, Banjarnegara Regency, this location was chosen as the object of research because Sirongge Village has a DESTANA-based mitigation method in collaboration with BPBD to overcome the problem of landslide disaster mitigation, not only relying on the government but also using local wisdom such as mutual assistance. royang with the community in mitigating landslide disasters.

The resource person who will be addressed is Junaedi as the head of BPBD prevention in Banjarnegara Regency because the field of prevention is more aware of things related to the field of natural disaster prevention such as disaster mitigation. Warno as the head of Sirongge Village who served as an advisor, village government administrator, implementer of development and community empowerment. Mardianto as the village secretary is a figure who understands the implementation of activities. Subur and Dirto as administrators of DESTANA volunteers in Sirongge Village who are the figures who understand the most about the implementation of disaster risk reduction and landslide mitigation in Sirongge Village, and use secondary data in the form of previous research and supporting data from primary data in the form of documentation in the form of photographs. photos obtained from the field.

- 1) The provision of information is a form of education for understanding public disaster through intermediary media.
- 2) Socialization, a form of direct public understanding of disaster.
- 3) Disaster Simulation and Training, related to disaster simulation or advanced activities from providing information to understanding the community which is applied in the form of disaster practice.

## Results and Discussion

Sirongge Village is a village located in Pandanarum District, Banjarnegara Regency which is an area prone to landslides and moving land, the location with the potential for landslides is in Sawangan hamlet and the others are small landslides. According to the Head of Sirongge Village, that in Sirongge Village there are frequent ground movements that result in subsidence, Sirongge Village has a history of potential landslides with the type of crawling, soil movement which is influenced by soil slope, soil texture and rainfall. Based on the results of an interview with Ir. Junaedi, the head of the Banjarnegara district BPBD prevention section said that in Sirongge Village a Disaster Resilient Village was formed in 2018, to overcome or minimize the risk of landslides. During 2020, Sirongge Village carried out activities aimed at mitigating landslides based on disaster-resilient villages which included:

### A. Providing information

#### 1) Providing information using signs

There are various media that can be used as a solution in conveying information about the importance of education on landslide disaster preparedness actions to the community. One of them is poster media in which there are color images and short writing so that it is easier to understand.

While in Sirongge Village there was no poster as a reference, but there were only signs for evacuation routes for gathering points and evacuations, therefore it was necessary to improve further regarding the provision of information using posters, it is hoped that the community would understand better and understand how to mitigate landslide disasters. because there are no posters, the community must understand what to do when a disaster occurs, which is given when there is an association of citizens in which there are matters related to disaster mitigation.



**Picture 2. Evacuation Route Sign**  
*Source: Research Documentation, 2021*

In Sirongge Village there are eight sign points including six evacuation route signs, one gathering point sign and refugee shelter signs, based on these signs, it is hoped that the people of Sirongge Village can comply with and carry out disaster mitigation in accordance with the signs that have been provided. These findings were also conveyed by volunteers. Sirongge Village Disaster Resilient Village:

Based on the results of interviews obtained from volunteer members of the Disaster Resilient Village. In Sirongge Village, there are eight evacuation route signs located in landslide-prone locations, namely in Sawangan Hamlet, the signs are evacuation routes, gathering point signs and evacuation shelter signs near SD Negeri 2 Desa. Sirongge.

In this case, the researcher concludes that the Banjarnegara Regency BPBD has carried out the tasks that must be carried out in mitigation efforts in landslide-prone areas in Sirongge Village in the form of installing evacuation route signs.

## 2) Village Conference

Providing information directly by conducting village meetings is also part of disaster mitigation, which must be carried out before mitigation efforts are carried out with the intention of being an early notification to the local community, so that misunderstandings do not occur due to the absence of communication. The Village Deliberation is the core of the Village idea which shows the results of the participation of a shared understanding to achieve common goals, the village meeting is attended by the village government, disaster Tangguh village volunteers and the Sirongge Village community.



**Picture 3. Village Conference**  
*Source: Sirongge Village Archives, 2020.*

The material provided is about checking locations that are prone to moving soil, actively cleaning rivers and burying soil cracks, village deliberations are carried out in the context of public education which aims to increase public insight and understanding about

landslide disaster mitigation and can be carried out on various occasions both in official forums involving elements of the government and other related parties as well as in informal forums such as community associations. The purpose of village deliberations is to explain to the community as the target group of policies regarding the content of policies, village deliberations are carried out when the community submits reports on land movements to the village or destana, and the village government directly holds village deliberations to carry out mitigation executions in the field.

The following is the flow of providing information directly through development planning deliberation based on the results of interviews and then processed by researchers as follows:

**Chart 1.**Flow of Enforcement of Village Deliberation Results



*Source: Processed by researchers, 2021*

a. Village government

The Village Government conducts village deliberations based on instructions from the Village Head consisting of Village officials, DESTANA volunteers, RT and RW heads, village communities. The village government in the musrenbang conveys information from the district to the village in the form of mitigation directions that must be carried out and follow-up actions in the event of a landslide.

Not only that, the village and the village have a WhatsApp group containing village volunteer members and village officials which are used as a tool to communicate and discuss disaster and disaster mitigation.



Picture 4. Disaster Resilient Village Whatsapp Group  
Source: Sirongge Village Archives, 2020.

In this case, the researcher found that the Sirongge Village government had used social media in conducting deliberations aimed at mitigating landslides, the WhatsApp group consisted of several village officials, Destana volunteer personnel, coordination related to disaster information was conveyed by the Destana volunteer management to village officials. and village personnel, which will then be reported to the community, so that the community understands what to do when a ground movement occurs, namely by burying cracked soil at vulnerable points.

#### b. DESTANA Volunteers

Disaster Resilient Village Volunteers in Sirongge Village participate in village meetings to manage the information provided by the village government by forming a mitigation strategy. Here Destana volunteers function as policy makers and field officers related to implemented mitigation or disaster management based on information from the village government. can't all be active because some of the members are nomads and here they complement each other.

This was also explained by the secretary of Sirongge Village, DESTANA Sirongge Village volunteers include village officials and community members who are willing to take part in education and training on disaster with BPBD Banjarnegara Regency, their function is to make the village strong and independent in dealing with disasters

and tasked with assisting the people of Sirongge Village. in order to be able to carry out mitigation properly and correctly so that in 2020 the community carries out landslide disaster mitigation activities appropriately.

**c. Public**

The community has a role to provide feedback on the situation on the ground as a policy reference material and has a role in participating in implementing mitigation policies so that all elements in Sirongge Village understand their respective roles and functions. There are findings based on interviews from the head of Sirongge Village, according to him, the community plays an active role in disaster mitigation, especially those that are mutual cooperation. This was also confirmed by the secretary of Sirongge Village that when the community received direction from the village government through village meetings in terms of disaster mitigation, the community would carry out such activities as construction of irrigation canals, rehearsals for waterways, and burial of soil cracks caused by soil movement, so that the movement of land that caused landslides in Sirongge Village in 2020 was reduced.

**B. Socialization**

Socialization needs to be carried out in landslide disaster mitigation activities so that people know the dangers of landslides and the delivery must be done repeatedly and carried out directly in certain villages which are prone to landslides. The success of socialization is influenced by several factors, ideally socialization What is done to the community should be done by providing adequate, accurate, and fair information. In addition to these factors, discretion is a factor that supports the success of socialization. Discretion is the flexibility of the village government and DESTANA to make decisions on matters related to socialization in accordance with the situation and conditions in the field. Socialization must be done flexibly.





**Picture 5. Direct Socialization with the Community**

*Source: Sirongge Village Archives, 2020*

In this case, socialization in disaster mitigation is very important so that people understand about the dangers of landslides and the actions that must be taken to prevent and minimize the impact of landslides. The researcher found that the village government conveyed socialization about the threats and signs of landslides as well as an independent simulation of handling landslides. There were interesting findings related to the socialization of landslide disaster mitigation delivered by the management of the Disaster Resilient Village Volunteers in Sirongge Village, the socialization of disaster in Sirongge Village was carried out on the sidelines of the village development planning deliberation.

Dissemination of disaster mitigation in Sirongge Village was pioneered by the village government which was then coordinated by DESTANA, so that DESTANA provided information to village heads and RT/RW so that disaster mitigation socialization was formed. DESTANA personnel, the hamlet head of Sirongge Village and the community. The socialization materials carried out in Sirongge Village are as follows:

#### 1) Landslide Socialization

Landslide socialization was carried out so that the community had an understanding of landslide disasters, the material in this socialization included an explanation of what landslides were, which explained that landslides are disasters that can cause several risks if the handling is not done properly, what risks can be caused as a result landslides that explain the dangers that occur due to landslides such as damage to residential buildings, damage to facilities and infrastructure, environmental damage and casualties. The speakers in this socialization were the village head, Sirongge Village Government and DESTANA volunteers from Sirongge Village. The speakers in this socialization were



the village head, Sirongge Village Government and DESTANA Sirongge Village volunteers.

Date	Activity	Presenter	Participant
15 february 2020	Provide material about landslides and landslide hazards	BPBD Banjarnegara, Destana Volunteers	Village Head, Village Government, Public
	Provide materials related to landslides and provide reports when landslides occur	BPBD Banjarnegara, Destana Volunteers	Village Head, Village Government, Public
	Provide materials related to disasters, disaster mitigation efforts	BPBD Banjarnegara, Destana Volunteers	Village Head, Village Government, Public

**Table 1. Table of Landslide Disaster Socialization Activities in Sirongge Village**  
*Source: Interview results of DESTANA volunteers in Sirongge Village*

Not only that, there were findings submitted by the head of Sirongge Village which stated that the biggest landslide in Sirongge Village occurred in 2018 in Sawangan Hamlet which resulted in the interruption of the highway 232 people were displaced. The incident is expected to be a lesson for the people of Sirongge Village regarding the dangers of landslides, this socialization was carried out during village meetings. pioneered by the village government, the speaker in this socialization is the village head, so that the community is aware of the importance of mitigating landslides.

## 2) Disaster Resilient Village Sustainability Socialization

Socialization of the sustainability of the Disaster Resilient Village was carried out so that the community knew and understood what a Disaster Resilient Village was, explained about DESTANA, DESTANA is a policy made by BPBD as a means to deal with disasters, especially landslides, DESTANA volunteers, which are teams or members formed by BPBD through special training related to disaster and the function of DESTANA, explaining about Sirongge Village as a Disaster Resilient Village that must be able to be independent in dealing with landslide disasters, carried out when village meetings and participants attend through invitations from the village, held once a year. This socialization was carried out because the community did not really understand what a Disaster Resilient Village was, and what a DESTANA volunteer was.

Even though the DESTANA volunteer team is a team whose members were formed by BPBD with volunteers to help the village regarding all disaster-related efforts, the speakers in this socialization were filled by the Sirongge Village Government and Sirongge Village DESTANA Volunteers, this is because the community is not fully able to attend.

Date	Activity	presenter	Participant
Sunday, February 16, 2020	Providing materials related to disasters	BPBD Banjarnegara, Destana Volunteers	Village Head, Village Government, Public
	Provide materials related to disasters and related to Disaster Resilient Villages as well as the duties and functions of DESTANA volunteers	BPBD Banjarnegara, Destana Volunteers	Village Head, Village Government, Public

**Table 2. Table of Socialization Activities for Disaster Resilient Village Sustainability in Sirongge Village**

*Source: Interview Results of Disaster Resilient Village Volunteers in Sirongge Village*

There are findings based on interviews with DESTANA volunteers from Sirongge Village which stated that the establishment of DESTANA was carried out by means of EDUCATION and Training conducted by BPBD, the organizational structure of DESTANA volunteers was structured including a soup kitchen team, evacuation, trauma healing.

The organizational structure of DESTANA volunteers in Sirongge Village has their respective roles and functions, namely the soup kitchen team functions as a regulator and maker of consumption that will be given to refugees when a landslide occurs, the evacuation team functions as a team that regulates the evacuation of disaster victims, and a trauma healing team which acts as a provider of information to disaster victims so that there is no panic or shock when post-land disaster occurs.

### 3) Mitigation Strategy Outreach

The socialization of landslide mitigation strategies in Sirongge Village is carried out so that the community knows and understands what activities must be carried out before a disaster occurs and when there are signs of a landslide disaster, this socialization is carried out during village meetings and the material is filled by the Government Sirongge Village and Members of the DESTANA volunteers from Sirongge Village.

Date	Activity	Presenter	Participant
Sunday, February 16, 2020	Provide materials related to disaster mitigation	BPBD Banjarnegara, Destana Volunteers	Village head, Government Village, Community
	Provide material related to what will be done in disaster mitigation	BPBD Banjarnegara, Destana Volunteers	Village head, Government Village, Community

**Table 3. Distribution of Activities and Participants in the Dissemination of Mitigation Strategies in Sirongge Village**

*ource: Interview Results of Disaster Resilient Village volunteers in Sirongge Village*

In this socialization, it provides an explanation about finding the location of moving land in Sirongge Village, about field surveys related to soil cracks that must be buried as mitigation efforts, checking and maintaining the early warning system (EWS) tool, as well as being active in cleaning rivers with the Government. Sirongge Village, Pandanarum District Government, DESTANA volunteers and the community as an effort to mitigate landslides, so that in 2020 people understand what must be done in an effort to mitigate landslides.

## C. Simulation and Training

### 1) Evacuation Simulation

The Sirongge Village evacuation simulation was carried out by village volunteers together with the community with guidance from the Banjarnegara BPBD to find out real conditions on the ground when a disaster occurred, know what to do when rescued yourself and function to reduce panic. There are findings related to the simulation based on the results of interviews by DESTANA volunteers in Sirongge Village, according to him. Evacuation simulations in Sirongge Village were carried out by carrying out the practice of evacuating fatalities and evacuating the most important items to be brought when a landslide occurred.

This was also confirmed by the Sirongge Village government. Evacuation simulations were carried out by bringing items that were really needed, in which direction to evacuate according to the signs provided and doing conditioning at the gathering point. Banjarnegara Regency, so that people only follow the instructions given and usually the evacuation site is in the safest area in the area, there is one refuge in

Sirongge Village, namely in the Sawangan hamlet adjacent to SD Negeri 2 Sirongge, Pandanarum District.

## 2) Training

### a. Training related to basic disaster materials

This training was carried out by BPBD Banjarnegara with DESTANA volunteers totaling 30 volunteers from Sirongge Village. These volunteers received direct training by BPBD which was attended by the Social Service, TNI, POLRI and the Indonesian Red Cross.

No	Activity	Participant
1	Providing materials related to disasters from pre-disaster to post-disaster	Sirongge Village Government, DESTANA Volunteers, Sirongge Village Community
2	Providing materials related to the evacuation of landslide victims	Sirongge Village Government, DESTANA Volunteers, Sirongge Village Community

**Table 4. Distribution of Activities and Participants of the Basic Disaster Materials Training**

*Source: Interview Results of DESTANA Volunteers in Sirongge Village*

The training function is related to basic disaster materials so that DESTANA volunteers understand landslide disaster mitigation efforts, then provide training to the community in the form of knowledge regarding what a landslide disaster is, the potential that can make land prone to landslides, how to mitigate it, education related to evacuation signs and what actions should be taken in the event of a landslide. With this training, Sirongge Village will be able to be independent in dealing with problems that will occur when a disaster occurs. There were findings regarding training related to basic disaster materials obtained from interviews with DESTANA volunteers in Sirongge Village which stated that disaster training was carried out by the village government with DESTANA volunteers and monitored by the Banjarnegara Regency BPBD, In this case, the implementation of training in Sirongge Village can be said to be quite independent in carrying out training activities because it can share village funds for landslide disaster mitigation efforts, although it does not come entirely from village funds because it gets funds from the district, this training is carried out based on coordination between the village

government and the government Banjarnegara Regency, so that in 2020 thanks to the training, the community will understand what mitigation must be done.

**b. Material training related to early warning system (EWS)**

The implementation of the second training is related to the early warning system (EWS) tool, which is related to what an early warning system (EWS) tool is, how to know if a disaster will occur by using the tool and how to act when the siren sounds. Early Warning System (EWS) was installed to minimize disaster risk. If there is a ground movement that has passed the specified safe limit, this tool will automatically sound. This early warning from the EWS will alert the public to immediately move and save themselves. So it is hoped that if a landslide occurs the area will be sterile and there will be no casualties. This was also confirmed by the Sirongge Village secretary that, when a siren sounded on the early warning system tool, the Sirongge Village Government or DESTANA volunteers would immediately report the incident to the Banjarnegara BPBD, so that the Banjarnegara BPBD would go directly to Sirongge Village.

**D. Landslide disaster mitigation capability in Sirongge Village**

Researchers analyzed the ability of landslide disaster mitigation in Sirongge Village using the design concept of Disaster Risk Reduction (Mudzakir, 2018). By calculating the risk of disaster through the calculation of the threat (hazard), vulnerability (vulnerability), capacity (capacity) and risk (risk) of an area so as to know the risk of disaster. Landslides are natural disasters that can occur at any time in Sirongge Village (hazard), then the steepness of the slopes, rainfall, land slope in Sirongge Village, vulnerability (vulnerability). Capacity includes DESTANA volunteers, evacuation route signs, early warning system (EWS) tools. As well as risk, potential environmental damage, land damage, house damage, road damage in Sirongge Village.

The Sirongge Village Government stated that high rainfall can cause soil shifts, resulting in soil cracks that can lead to landslides, to minimize the occurrence of landslides, the Sirongge Village government, DESTANA Volunteers carry out landslide disaster mitigation in the form of checking locations prone to motion. , stockpiling of soil cracks and burial of irrigation canals as an effort to mitigate landslides.



**Picture 6. Ground Movement Location Check**

*Source: Sirongge Village Archives, 2021*

In this case the check is carried out by DESTANA volunteers accompanied by the Banjarnegara Regency BPBD. Checking the location of the movable land is carried out to determine if the ground movement can be said to be vulnerable, resulting in cracks that have the potential to cause landslides. Researchers found findings that the Sirongge Village government, DESTANA volunteers, and the community worked together to build irrigation canals, clean irrigation canals, repair soil cracks by filling them up, this was done in accordance with the policy of the Village government and mutual agreement between the Village Government, Tangguh Village Volunteers Disasters and the Sirongge Village Community. Monitoring, early warning and information dissemination are carried out by installing EWS in locations that are detected to have a high landslide susceptibility, there are 3 points of EWS installation locations in Sirongge Village, namely two in Sawangan hamlet and one in Gumelar hamlet.



**Picture 7. Checking and Maintenance of Early Warning System (EWS) tools by BPBD Banjarnegara and Disaster Resilient Village Volunteers Sirongge Village**

*Source: Village Archives, 2021*

The maintenance and checking of the Early Warning System (EWS) tool itself aims to prevent technical problems with the EWS equipment, such as shorting the device which



causes the siren to sound even though there is no ground movement, according to the Sirongge Village Disaster Resilient Volunteer, who stated that problems with the EWS tool are usually caused by small animals in the form of ants and people who are in the fields who accidentally touch the sensors on the tool. This activity is carried out based on coordination between the Banjarnegara Regency BPBD and Disaster Resilient Village Volunteers, here the Disaster Resilient Village Volunteers report to the Banjarnegara Regency BPBD if there is a problem with the tool so that BPBD goes directly to Sirongge Village to check. For the next activity, namely activities carried out in Sirongge Village in 2020, which are in the form of disaster socialization and training. The socialization is given with the aim of providing understanding to the community regarding disasters in order to minimize the risk of landslides, while disaster training is provided with the aim that the community must take appropriate actions to reduce the risk of landslides.

## **Conclusion**

Based on the results of research on the ability of disaster-resilient villages in mitigating landslides in Sirongge Village, Sirongge Village has been able to be independent in dealing with landslide disasters, this can be seen from the absence of major landslides in 2020 but only in the form of soil movements and small landslides, landslide disasters. The biggest event in Sirongge Village occurred in 2018, based on the results of interviews from several sources, Sirongge Disaster Resilient Village has carried out landslide disaster mitigation efforts based on the direction of the Banjarnegara BPBD. Based on three non-structural mitigation indicators, namely providing information using three ways, namely providing information using eight signposts and village consultations carried out based on instructions from the village head, further socialization which includes landslide socialization material, socialization of the sustainability of Disaster Resilient Village and socialization material on mitigation strategies, and simulations and training in which there are several activities, namely evacuation simulations, training related to basic disaster materials and training related to the early warning system. by the disaster-resilient village Sirongge Sirongge Village, but there are still people who do not understand about DESTANA volunteers and the functions of the Disaster Resilient Village Program. The disaster-resilient village program in Sirongge Village itself is going well thanks to the collaboration between the Banjarnegara Regency BPBD, Sirongge Village Government, DESTANA volunteers and all elements of the Sirongge Village community, they coordinate with each other to carry out disaster mitigation.



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