

Local Wisdom of Sasak Tribe Community in Dealing with Earthquake Disasters

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ABSTRACT

The earthquake disaster which hit Lombok Island in 2018 had caused both physical and material losses in various aspects of life on the island, especially in Karang Bajo Hamlet. As the consequence, the regional government has a greater responsibility to provide education to the community through local wisdom owned by the Sasak Tribe (The tribe living in the hamlet). This research aims to provide knowledge and understanding to the people of the Sasak Tribe, who live in the disaster-prone areas, so that they later have knowledge and become ready to face earthquake disaster through the preservation of their local wisdom. This study uses a qualitative approach. The data sources for this research are primary and secondary data sources. The data analyzed was gained from observations, documentation, and interviews. The data analysis technique used in this study is the data analysis technique of the Spredley analysis model with three stages, namely domain analysis, taxonomic analysis, and componential analysis. The results show that through earthquake disaster education, the Sasak Tribe community, who live in disaster-prone areas, can provide their understanding and knowledge about preparedness when facing earthquakes through preserving their local wisdom, such as the local wisdom of Selamat Asuh traditional ritual.

Keywords: Disasters Education, Local Wisdom, Earthquake

INTRODUCTION

Indonesia is a country prone to natural disasters (Utama, 2020). In 2005, the

International Strategy for Disaster Reduction 2006–2009, the World Campaign for Disaster Reduction and UNESCO placed Indonesia as the seventh country in the world prone to natural disasters. This situation is inseparable from Indonesia's geological position, which is located at the confluence of two large Eurasian and Indo-Australian plates. The plate collision results in a subduction zone which is an active earthquake path because it is a fault area, making Indonesia prone to earthquakes (Maulana, A.D., & Prasetyo, 2019). Astronomically, the equator passes through Indonesia, so it has a tropical climate. This causes high rainfall in the rainy season and drought in the dry season. Due to these factors, Indonesia is prone to natural disasters such as earthquakes, tsunamis, volcanic eruptions, floods, landslides, droughts, forest fires, tornadoes, etc. Of all the disasters that have occurred, earthquake is the most dangerous one because of its unpredictable timing (Latifah et al., 2022).

The islands of West Nusa Tenggara, especially Lombok, are tectonically active. Lombok is an area prone to potential earthquake disasters since it is flanked by the south and north of the earthquake generator, to the south of the subduction zone of the Indo-Australian plate subducting under Lombok Island, to the north of the geological structure of the uplift of the Flores fault, whose path stretches from the Bali Sea to the east of Flores (Ulusan Guncangan Tanah Akibat Gempa Bumi Lombok Utara, 2018). The earthquake

which hit Lombok Island was caused by the Australian tectonic plate moving from northwest to north. These facts show that Lombok Island is an island with many potential disasters, especially earthquakes, which are very threatening and cannot be ignored by all parties (Bakti & Nurmandi, 2020).

Based on the history of seismicity in 1980, Lombok Island experienced an earthquake similar to 2018 with the epicenter located in North Lombok Regency (Fauzan, 2020). On July 29, 2018 there was an earthquake with a magnitude of 6.4 on the Richter Scale, the strongest earthquake was within a radius of 10 km from East Lombok. On August 5, 2018 there was the first largest earthquake with a maximum magnitude of 7.0 on the Richter Scale. On August 9, 2018 aftershocks of magnitude 6.3 and August 19, a series of earthquake events occurred again which included a main shock of magnitude 6.3 and the second largest aftershock of magnitude 6.9 on the Richter scale. The Lombok region, West Nusa Tenggara Province (NTB), is located in an active tectonic region and modified in several places on Lombok Island with a very destructive Modified Mercalli Intensity (MMI) VIII (Pradono, 2018).

The earthquakes measuring 7.0 on the Richter Scale which hit Lombok Island between 1850 to 2018 caused a lot of losses in the form of physical and property damage. Thus it can be concluded that Lombok Island has a very high vulnerability to earthquakes. According to the 2018 BNPB's (National Agency for Disaster Management) report, the total number of victims who died during the Lombok earthquake in 2018 was 564 people. The details of the fatalities were 467 people died in the North Lombok Regency, 44 people died in the West Lombok Regency, the East Lombok Regency had 31 victims, 2 more victims in the Central Lombok Regency, 9 victims in the Mataram City, 6 victims in the Sumbawa Regency, and 5 victims in the West Sumbawa Regency. Regarding the injured victims, it was reported that there

were 1,584 injuries scattered in various places. The highest number of injured victims were located in the North Lombok totaling 829 people. Whereas in the West Lombok it reached 399 people, in the East Lombok it reached 122 people and the injured victims in the West Sumbawa were 115 people (Anshari et al., 2020).

The data of physical and material loss above shows that the conditions such as geographical position, where the Lombok Island is in an active fault, and the lack of early warning system for disasters, as well as the lack of knowledge and understanding about disaster of the Sasak Tribe people on the Island of Lombok causes the increasing number of victims when earthquake happened. Preparedness is crucial considering the big amount of losses both physically and materially every time a disaster occurs as what happened on Lombok Island in 2018. This shows that knowledge about the importance of disaster education in the Sasak Tribe is still inadequate. Disaster education is important to be taught from an early age both through formal and non-formal education. Through disaster education, the community has preparedness in dealing with earthquake disaster (Indriasari, 2018). This disaster education should be carried out starting from before the disaster, during the disaster, and after the disaster occurs. This will provide knowledge and awareness to the community and make them always responsive and ready to face disasters, as well as being able to minimize losses caused by disasters.

The physical condition of Lombok Island which is seismically active, causes it to become a very high earthquake-prone area. One of the earthquake disaster education which must be carried out and maintained is the disaster education based on the local wisdom of the Sasak Tribe. The local wisdom of the Sasak Tribe in question is a traditional ritual. The Sasak Tribe believe that their local wisdom is used as a way to provide disaster education, mitigation, and preparedness to the people

of Lombok. The local wisdom owned by the Sasak Tribe on the Lombok Island is in the form of *Selamat Asuh* traditional ritual. This traditional ritual is believed by the Sasak Tribe as a form of earthquake disaster education. The local wisdom of *Selamat Asuh* is a form of local wisdom owned by the Sasak Tribe which has become a habit and a ritual for special salvation as an effort to clean up and ward off when there is a major damage. The major damage in question is in the form of an earthquake which devastated all parts of North Lombok and all districts on Lombok Island (Rakhman, 2018)

Education is a set of efforts aimed at influencing other people, starting from individuals to groups, families, and communities towards independence to achieve life goals (Widiastuti, 2012). Disaster is a phenomenon in which indicators such as triggers, threats, and vulnerabilities interact systematically and pose risks to society (Suharini et al., 2017). Earthquake disaster is an unpredictable disaster, occurs suddenly, and is frightening. The location of the center, time of occurrence, and intensity of earthquake cannot be predicted precisely and accurately, however, it can be predicted as often as possible. Local wisdom is one of the efforts which can be made by the community to reduce the impact of disasters (Naping et al, 2019). Local wisdom-based disaster education intended in this study is in the form of physical and non-physical. Physically, the local wisdom of the Sasak people is *Selamat Asuh Gubug* (Bale Mengina) and *Selamat Asuh Mesigit* (Bayan Beleq Ancient Mosque), both of which are buildings which are unique and serve as earthquake-resistant buildings since the material must be made of wood, the walls are made of woven bamboo, the roof is made of reeds, and the floor is made of clay. Moreover, the non-physical local wisdom is in the form of traditional ceremonies, myths, fairy tales, and customary laws. This research is expected to be a way of providing education based on the local

wisdom of the Sasak Tribe in dealing with earthquakes.

MATERIALS & METHODS

The purpose of this study is to determine the form of local wisdom of the Sasak Tribe in earthquake disaster education. This study uses a qualitative approach. This type of qualitative research approach is used since the problem is related to humans who are fundamentally dependent on observation. This is based on the reason that the researchers want to analyze and understand in depth about the form of local wisdom of the Sasak Tribe as earthquake disaster education. The data sources for this research are primary and secondary data sources. Data analyzed was gained from observations, documentation and interviews.

STATISTICAL ANALYSIS

The data analysis technique used in this study is the data analysis technique of the Spredley analysis model. Firstly, domain analysis is done to obtain a thorough overview of the research object. This analysis is done through detailed general questions to find the domain as a basis for further research. The results of this domain analysis are in the form of an overview of the forms, the influence, and the ways of preserving local wisdom of the Sasak Tribe which have never been known before. Secondly, taxonomic analysis is done, this analysis is based on the domain to be selected which will later be elaborated into more detail. Then, observations, interviews, and documentation are carried out. Analysis of the entire data collected is based on the specified domain. That domain will be described in detail and depth. Thirdly, component analysis is done to look for specific characteristics in each internal structure by contrasting the results which have been carried out through observation and interviews. In the componential analysis, we will look for domains which are not similar and have differences. This data is

sought through data collection techniques of triangulation.

RESULT

The results of the research which will be presented in this study include the form of the local wisdom of the Sasak Tribe in providing education on earthquake disasters. Based on the data found in the field, it shows that the local wisdom of the Sasak Tribe is *Selamat Asuh* traditional ritual. The traditional ritual of *Selamat Asuh* is one of the local wisdoms owned by the Sasak Tribe whose existence is still being carried out today. This is based on the result of an interview with a historical observer explaining that:

“Seeing from the history, this traditional ritual of selamat asuh is a traditional ritual event of salvation. The word Asuh (fostering) is based on the catastrophic events that caused damage and casualties such as the Lombok earthquake disaster which happened in 2018. The traditional ritual procession of Selamat Asuh is carried out with three series of activities, namely Selamat Asuh Gubug, Selamat Asuh Mesigit, and Selamat Asuh Gunung.” (Mr. Rianom S.Sos, 2023)

The similar thing was also conveyed by Mr. Raden Nikrana as the customary leader in Karang Bajo Hamlet who revealed that:

“The Traditional Ritual of Selamat Asuh or traditional salvation carried out by the traditional people here is based on the big disaster that befell us in 2018. The implementation of traditional ritual salvation is carried out on consecutive Fridays and the first three series of activities are Selamat Asuh Gubug, Selamat Asuh Mesigit, and Selamat Asuh Gunung.”

Based on the explanations from the two informants, it shows that the Sasak Tribe

people know the history of the existence of the *Selamat Asuh* traditional ritual. *Selamat Asuh* traditional ritual is believed by the traditional Sasak Tribe people to be able to have a big impact on them regarding the existence of local wisdom owned by the Sasak Tribe as a form of earthquake disaster education. This can be seen in the meaning contained in each series of activities of the *Selamat Asuh* Traditional Ritual, such as the *Selamat Asuh Gubug* traditional ritual, which is structurally in the form of the earthquake resistant traditional house building. *Selamat Asuh Mesigit* and *Selamat Asuh Gunung* show that the people of the Sasak Tribe carry out this traditional ritual to ask for protection and safety so that they are always sheltered and protected from the danger of earthquakes. Up to this day, *Selamat Asuh mesigit* and *gunung*, based on the beliefs of the Sasak Tribe, have sacred and holy meanings. The existence of Mount Rinjani as the highest roof of Lombok Island is believed by the people of the Sasak Tribe as one of the holy places occupied by the previous saints. Overall, the meaning of the traditional ritual of *Selamat Asuh* can be interpreted as one of the ways for the Sasak Tribe people to save or clean up Lombok Island from earthquakes causing a lot of physical and material losses. There are three series of *Selamat Asuh* traditional rituals, namely 1) *Selamat Asuh Gubug* traditional ritual, 2) *Selamat Asuh Mesigit* traditional ritual, 3) *Selamat Asuh Gunung* traditional ritual.

a. *Selamat Asuh Gubug* Traditional Ritual
Gubug is a word in Sasak Tribe language which means village. This customary ritual is used as a form of local wisdom in physical form. The followings are pictures of *Gubug* in Karang Bajo Hamlet, Bayan District, North Lombok Regency.



Figure: *Bale Mengina* and *Beruqaq Sakaq Enem* real form

Bale Mengina is an old building which is a historical relic of ancestors so that its real form is still preserved until present. The characteristics of buildings from each region in the archipelago are different. Since ancient times, the people of the Sasak Tribe have built houses in the shape of a square measuring 7x9 meters and 6x7 meters. The building of *Bale Mengina's* house is mostly made of wood, bamboo, and reeds as one of the utilizations of natural resources. Structurally, the walls of this house are made of woven bamboo, the roof is made of reeds, and the floors are made of cement. Uniquely, every corner supporting this house is paved with stone. Each part of the traditional house building is connected by a continuous connection and strengthened by pegs and ties from bamboo ropes. The structure of this building is used as an earthquake resistant house design. The values contained in the architecture of these traditional house buildings include the history of the life of the Sasak Tribe. The traditional values of the community in living and the value of knowledge in the procedures for adapting and the culture of this traditional house are used as part of the procession of traditional ritual activities. One of the values of local wisdom contained in the building of this house is used as a way of life and a strategy which is very tangible from the activities of local communities in responding to various disaster problems, especially earthquake disasters.

The material for the construction of this traditional traditional house is wood. The wood material used has the ability to respond to earthquakes because as a whole the materials used to form traditional

buildings are able to respond to earthquakes. This was explained by Amaq Lokaq Pande as a person who lives in Karang Bajo Hamlet, Karang Bajo Village as follows:

“During the 2018 earthquake, in July and August, our family and I lived in the house. It's just that we went out standing in front of the yard because everyone was outside and we also came out standing in the yard. When the earthquake shook our house it just swayed following the movement of the earthquake and when the shaking stopped our house returned to its original position.”

Based on the explanation above, it shows that traditional house building owners are not worried if their houses will collapse. The strength of the building against the loads generated by earthquake shocks is influenced by the elasticity of the structure, as well as the shape and the stability of the soil as the base of the building. If this traditional house building collapses, it will not cause damage and casualties. The advantage of traditional house buildings made of wood is that they are lighter in nature so they do not burden the building which can trigger the collapse of the building. Moreover, the installation technique is carried out by using technique of *knock down* or dismantling technique. Buildings installed using the *knock down* technique will have wood joints installed as the support of the houses. This knock down technique is one of the solutions for handling earthquake resistant houses. So that when an earthquake occurs, these traditional houses are ensured to hold each other and not collapse.



Figure: Knock down technique in traditional house of Karang Bajo Hamlet

The foundation of this traditional house building is placed on the rock, instead of on the ground. The foundation of this building has a function to facilitate the process of transferring building loads during an earthquake. This movement process starts from the wall to the ground to make the building balance when there is a shock on the ground surface so that the building does not experience a fracture during an earthquake with a large strength.



Figure: Rock foundation in the traditional house of Karang Bajo Hamlet

b. *Selamat Asuh Mesigit* Traditional Ritual

Local wisdom of *Selamat Asuh Mesigit* Traditional Ritual in Indonesian means *selamatan di masjid* (salvation at the mosque). This traditional ritual is in the form of very unique buildings made from the utilization of natural resources around them. Looking at the functions, this mosque is not used as a place to worship every day like mosques in general. *Mesigit* or what is commonly referred to as mosque is located in Karang Bajo Village, Karang Bajo Hamlet, Bayan District, North Lombok Regency with the name of Bayan Beleq Ancient Mosque.



Figure: Bayan Beleq ancient mosque

c. *Selamat Asuh Gunung* Traditional Ritual

The Sasak Tribe people who live in Karang Bajo Hamlet, Karang Bajo Village, believe that *Selamat Asuh Gunung* traditional ritual is carried out to ask God for protection to save Lombok Island from earthquakes. The relationship between the people of the Sasak Tribe and the existence of Mount Rinjani can be seen from the wisdom they have, namely *Selamat Asuh Gunung*. Based on the explanation from the informant explained that:

"Mount Rinjani is trusted by the people of the Sasak Tribe as a holy place and is used as one of the places where the saints of Lombok Island reside" (Mr. Anom 2023).

Based on the explanation from the informant above, the relationship between the community and Mount Rinjani is very close regarding the belief of the Sasak Tribe people that Mount Rinjani is used as a holy place. The Sasak Tribe people and nature are one unit, both of which are God's creations. Local culture and wisdoms adhered to by the community influence their perspective towards God, environment, and each other, so that in relation to disaster mitigation, this aspect needs to be considered to support the effectiveness of emergency and post-disaster response programs.

DISCUSSION

Local wisdom basically has something to do with things that have the potential to be positive issues for society

which are related to natural events (Mahendra G, 2014). In this context, the meaning of the traditional ritual of *selamat asuh* can be interpreted as a way for the Sasak Tribe people to save or clean Lombok Island from an earthquake which caused a lot of losses both physically and materially. Before carrying out the *selamat asuh* ritual, the people of the Sasak Tribe who live in Karang Bajo Hamlet, Karang Bajo Village, do *Gundem*. *Gundem* in Indonesian is called *Musyawah Adat* (Customary Deliberation). The *Gundem* procession or customary deliberation is carried out by inviting traditional institutions in the Bayan area in general and the Karang Bajo area in particular. The form of organization which exists in the traditional village of Karang Bajo Hamlet in Karang Bajo Village is called *Pembekel Adat*. *Pembekel Adat* or customary head has no social strata in this village, however since the process of carrying out this traditional ritual was initiated by Karang Bajo Hamlet customary community, the traditional rituals for *selamat asuh* are held there.

CONCLUSION

The Sasak Tribe community have local wisdom of *Selamat Asuh* Traditional Ritual. This local wisdom is carried out with three series of activities, namely, *Selamat Asuh Gubug*, *Selamat Asuh Mesigit*, and *Selamat Asuh Gunung*. The local wisdom of Sasak Tribe people is used as a form of an earthquake disaster education because of its parts of the traditional rituals such as house buildings in this local wisdom which are reinforced with pegs so that every part of the traditional house supports each other to maintain its construction against earthquake shocks. Moreover, the pillars in this traditional house building become the center of strength of the building since its building materials are strong and durable.

Declaration by Authors

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REFERENCES

1. Anshari, B., Kencanawati, N. N., Fajrin, J., & Suroso, A. (2020). Sosialisasi Dan Pelatihan Pembuatan Bangunan Rumah Tahan Gempa Di Desa Pemenang Timur Kabupaten Lombok Utara, 1(1), 120–124.
2. Fauzan, A. L. A. A. (2020). Kearifan Lokal Tentang Mitigasi Bencana Di Kabupaten Lombok Utara Dalam Mitos Telaga Lindur. *Jurnal Ilmiah Ilmu Sosial*, 6(2), 184. <https://doi.org/10.23887/Jiis.V6i2.29941>
3. Indriasari, F. N. (2018). Pengaruh Pemberian Metode Simulasi Siaga Bencana Gempa Bumi Terhadap Kesiapsiagaan Anak Di Yogyakarta. *Jurnal Keperawatan Soedirman*, 11(3), 199. <https://doi.org/10.20884/1.Jks.2016.11.3.700>
4. Latifah, A., Supriyadi, & Masykuri, A. F. (2022). Pemodelan Tsunami Pada Zona Megathrust Pantai Selatan Jawa Menggunakan Community Model Interface For Tsunami (Commit). *Unnes Physics Education Journal*, 11(1), 78–87. Diambil Dari <http://journal.unnes.ac.id/sju/index.php/Upej>
5. Mahendra G. (2014). Kapasitas Kelembagaan Dan Kearifan Lokal Dalam Antisipasi Penanggulangan Bencana Merapi. *Ilmu Pemerintahan*.
6. Naping, H., Safriadi, & Musywirah, I. (2019). A Strategy Of Local Wisdom-Based Natural Disaster Management In Coastal Communities In Barru District. In *Iop Conference Series: Earth And Environmental Science* (Hal. 235).
7. Pradono, M. H. (2018). Kajian Kerentanan Bangunan Vulnerability Assessment Of Buildings. *Jurnal Alami : Jurnal Teknologi Reduksi Risiko Bencana*, 2(2), 82–88. Diambil Dari <http://ejournal.bppt.go.id/index.php/Alami/Article/View/3109/Pdf>
8. Rakhman, F. (2018). Selamat Asuh” Ritual Adat Bayan Ketika Ada Bencana. Diambil 19 Januari 2022, Dari <https://www.mongabay.co.id/2018/09/02/selamat-asuh-ritual-adat-bayan-ketika-ada-bencana-bagian-1/>
9. Suharini, E., S, D. L., Kurniawan, E., & Artikel, S. (2017). Pembelajaran

- Kebencanaan Bagi Masyarakat Di Daerah Rawan Bencana Banjir Das Beringin Kota Semarang. *Forum Ilmu Sosial*, 42(2), 184–195.
<https://doi.org/10.15294/Fis.V42i2.10143>
10. Ulasan Guncangan Tanah Akibat Gempa Bumi Lombok Utara. (2018).
11. Utama, D. B., Prewito, H. B., Pratikno, H., Kurniadi, Y. U., & Rahmat, H. K. (2020). Kapasitas Pemerintah Desa Dermaji Kabupaten Banyumas Dalam Pengurangan Risiko Bencana. *Nusantara: Jurnal Ilmu Pengetahuan Sosial*, 7(3), 598–606.
12. Widiastuti, N. I. (2012). Membangun Game Edukasi Sejarah Walisongo. *Komputa : Jurnal Ilmiah Komputer Dan Informatika*, 1(2), 41–48.
<https://doi.org/10.34010/Komputa.V1i2.60>

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