

Conference Paper

Factors Forming Community Resilience Affected By Floods

Firdaus W Suhaeb*, Sri Jayanti Rasyid, Muhammad Aksha Wahda, Mauliadi Ramli, Ernawati S. Kaseng

Universitas Negeri Makassar, Indonesia

Abstract.

This Conference Paper uses descriptive-qualitative research to describe and analyze factors forming community resilience affected by floods. The determination of informants is determined deliberately on flood-affected communities using criteria according to the purpose of the study. Primary data were obtained from in-depth observations and interviews, while secondary data were obtained from library sources and relevant data. The data collection techniques used were observation, interviews, and documentation, while the data were analyzed using descriptive-qualitative analysis through several stages, namely data reduction, data presentation, and conclusions. The results of this study show that factors forming the resilience of the community to flood disasters are: (1) Value factors that have existed in the community for many years in the flooded land, namely mutual assistance; (2) Economic factors, finding alternative jobs or coping strategies by flood-affected communities; (3) Social factors, namely knowledge and skills to adapt to flood disasters through non-formal training and counselling on disaster and disaster mitigation from their experience or obtained through social media and mass media, such as television and radio; (4) Institutional factors, namely socialization of early flood warning, socialization of flood disaster mitigation, appeals for the prohibition of throwing garbage in rivers and essential food assistance before and during the occurrence of flood by the relevant government; and (5) Infrastructure factors that include the construction of facilities and infrastructure such as river dredging, drainage construction, and river cliff protection walls.

Keywords: resilience, community, flood, disaster, affected

Corresponding Author: Firdaus W Suhaeb; email: firdaus.w.suhaeb@unm.ac.id

Published 3 January 2024

Publishing services provided by Knowledge E

© Firdaus W Suhaeb et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the ICHELSS Conference Committee.

1. Introduction

Indonesia is a country located on the equator and is located between three main plates, namely the Pacific plate, the Australian plate, and the Eurasian plate, which causes Indonesia to be often hit by hydrometeorological disasters in the form of floods, earthquakes, landslides, tornadoes and tsunamis. In 2021, Indonesia's number of disaster events reached 5,402 and was dominated by hydrometeorological disasters. [1]

According to Law Number 24 of 2007 concerning disaster management, disasters disrupt and threaten people's lives caused by natural and non-natural factors (due to human activities), causing casualties, environmental damage, property losses, and

 OPEN ACCESS

psychological impacts. Disasters are events that threaten and disrupt the expected life of society and cause various losses, in the form of loss of one's life, property, and social structure [2]. As a result, it can exceed the limit of the community's ability to overcome it, so it requires protection and assistance from other parties. [3].

Sociological studies that discuss disasters have a variety of understandings, responses, and ways how communities deal with disasters, as well as responses and patterns of external actors or organizations to be involved in providing benefits in disaster management. The sociology of disaster describes how a society can maintain social order in conditions of uncertainty due to disasters. Some things considered necessary in the continuity of social order and the consequences that arise are efforts made to restore social order as before or after the disaster [4]. The study of disasters generally focuses on the behaviour of individuals and groups when experiencing stressful conditions caused by disasters. Natural disasters are closely related to social phenomena because the impact caused by disasters can affect the shape and sustainability of human life both in economic and social terms [5].

Flooding is an event where land that is usually dry becomes inundated by water due to high rainfall and low conditions of the region and has a basin. In addition, flooding is also caused by overflowing water from existing channels but exceeding its capacity so that it inundates the surrounding area. Based on BNPB data from 2021 to 2022, there were 1,794 floods in Indonesia. And in South Sulawesi, in 2021, 150 flood disasters were recorded. Luwu Regency, one of the districts in South Sulawesi Province, is often hit by floods yearly, with 15 floods recorded in 2021 and 8 events in 2022.

Floods are influenced by natural factors such as high and unpredictable rainfall and tides. In addition to biological factors, human actions also affect the occurrence of natural disasters, such as building settlements in catchment areas, building on river banks, littering, especially in rivers, and deforestation [6]. The majority of people do not realize that disasters that occur are the result of human actions that destroy the environment.

One of the areas in Luwu Regency that are often affected by floods is the Suli District area. If the intensity of rainfall is high and of long duration, there is undoubtedly flooding in this area due to overflowing river water. Based on the results of initial observations of researchers that floods that hit this area have a height of approximately 1-1.5 meters, and sometimes there are also small floods with a height of roughly 50 cm. The people of Suli are used to floods that occur in their area. Based on the researcher's interview with Lurah Suli, one of the causes of the high intensity of flooding is now caused by protected forests that have changed their role into clove bunches. The community does

this to meet economic needs regardless of the impact of environmental damage that occurs in the future.

Floods in the Suli District area have caused the community to experience property losses, damage to several community houses, health disruption, and disruption of community economic, educational, and daily activities. In addition, public facility buildings suffered injuries such as schools, health centres, and government offices, and high flood intensity makes the community be prepared for the possibility. The floods in the Suli region are familiar to them. Floods were common in their lives for many years. This condition affects the response and survival of the Suli community.

According to Dugan & Coles (1991) that resilience is the ability of individuals or communities to recover and bounce back from disappointments, obstacles, and setbacks. Alvord & Grados (2005) define resilience as a skill, attribute, and ability of individuals to adapt to challenges, difficulties, and suffering [7]. This resilience ability is needed by the community, especially in flood-prone areas, to survive and face floods in their environment through strategies carried out in development for the district to have the ability to organize, learn, and adapt in facing environmental disasters.

The condition of the risky area in the Suli District area should make the community survive and settle in its place, making them resilient to floods. This can be seen from the ability of the community to manage risk, the ability to meet food needs during floods, and the ability to adapt both before floods, during floods, and after floods. People's survival is not just formed, but several factors encourage them to survive. To form a resilience ability, elements that comprise it are needed, according to Susan L Cutter, namely value factors, economic factors, social factors, institutional factors, and infrastructure factors [8].

Based on the background explanation above, it is interesting to study more about the vulnerability of the living conditions of the Suli people to floods in general and what makes them survive living in the area even though the space occupied is prone to floods. Especially the picture that aims to determine and analyze several factors forming community resilience affected by floods in Suli District, Luwu Regency.

2. Method

This study is to see the situation accurately and clearly related to the picture of resilience or resilience of people living in Suli District, whose area is prone to flooding. Therefore, this study uses qualitative research methods with a descriptive approach. So that it can describe in more depth various information from research informants about matters

relevant to research, the process used aims to look at social living conditions from multiple points of view and can explain how a society forms a social construction. The research procedure is carried out through observation and interviews with informants as research subjects. Suli District, Luwu Regency, was chosen as the study's location to determine the community's resilience to floods in areas that are always prone to flooding.

The informant criteria were selected using purposive sampling techniques. [9]. The criteria for research informants are indigenous people in the Suli District area who have inhabited the research site for at least three years, communities affected by floods, and government officials. The informants in this study amounted to 11 people, nine people from the district and two people from local government officials, namely the local Head of Suli Village and officials of the Regional Disaster Management Agency of Luwu Regency. The data collection techniques used are observation, interviews, and documentation. In analyzing data, researchers use three stages of descriptive analysis: data reduction, data presentation, and conclusion drawing (data verification).

3. Results and Discussion

The research results on several factors shape community resilience to floods in Suli District, Luwu Regency.

3.1. Value factors

This factor in resilience is essential; if community trust is still solid and social networks between good communities and respect for good communities will shape community resilience to floods. [10]. In society, there are such things as the values of togetherness, namely gotong royong. Value factors can influence the formation of community resilience in terms of its ability to manage risk, its ability to adapt, and in meeting food needs.

3.1.1. Provide assistance

As revealed by the informant UR:

"Thank God, all helped. In the event of a dirty flood of tap water. So I went to a neighbor whose house was not flooded to ask for water because the well was clean.

And usually I am also given help from residents in the form of food. If there is a big flood, the residents here also evacuate.” (Interview results on September 27, 2022).

The following informant Ar statement regarding the assistance provided by the community:

“Obviously, when I see that water has come out of the river, I immediately inform the neighbors just in case, which means being reminded to secure their goods. Sometimes I am also asked to help lift the belongings of cousins’ families”. (Interview results on September 30, 2022).

The results of the interview above show that the Suli community can help each other deal with floods in terms of meeting the community’s clean water needs by utilizing their social networks by asking for clean water assistance from neighbours who are not affected by floods even to be given food and also assisting residents who need help to secure their goods. In addition, there is also community cooperation in disseminating information if the water in the river is almost overflowing. The relationship of social resources is said to be good, seen from the community helping each other, including no family ties. If there are good social relations, society will undoubtedly have no cooperation.

This factor increases the capacity of communities to be able to manage floods. Judging from the community’s cooperation to making dikes filled with sand then arranged on the river’s edge to block flooding to settlements and community cooperation who evacuate residents trapped in floods and need help. This enabled the people of Suli to get through the misery caused by the flood disaster. This affects the community’s resilience to adapt to its environment. There is public awareness and concern, so the joint decision to make a simple embankment is an effort by the community to show their creativity by increasing their ability to reduce their vulnerability. Although sometimes the community’s method is less effective if the flood is large, the people of Suli have at least tried to use their creativity in dealing with floods in their area.

The condition of mutual trust between fellow flood victims will certainly ease their burden in dealing with disasters by helping each other. In addition to assistance from fellow communities, there is also assistance from the government and community organizations/institutions. As the SS informant expressed:

“Clean water assistance also comes from communities such as the Muhammadiyah Luwu Youth, there is also assistance from local students here”. (Interview on September 27, 2022).

Social networks in the form of mass media access are useful for them in disseminating information so that there is always assistance from related agencies and from community groups or organizations.

3.1.2. Gotong royong (working together)

The people of Suli always work together after the flood recedes, such as cleaning mosques, offices, streets, sewers, schools, and the banks of the river because if the flood runs out, a lot of garbage is carried away by the flood. The community does this because it has become a tradition for the benefit of their environment so that the practice is indeed formed on the consciousness of the community itself. As Rah informant said:

“Yes, often work together. After the flood the community together cleaned mosques, offices, streets, sewers, schools, especially on the banks of the river a lot of garbage was under the flood”. (Interview results on September 26, 2022).

A high sense of trust can increase the spirit of community cooperation in facing disasters. The community became easier to evacuate their belongings and recover their condition because they received help from fellow residents. In this case, trust forms social security, forming the spirit of facing disasters. So that seeing disasters as not a burden but being able to take positive things such as strengthening community relations, with the values formed in society, the problems that arise can be more easily resolved in dealing with flood disasters.

The results of the above interviews with several informants show that social interaction between flood-affected communities and surrounding communities not affected by floods in the Suli District area at the time of the flood looks well-established and intense. Suli community relations can be said to be good because they are accustomed to helping each other if there is difficulty or when someone needs help, taking care of each other, and reminding each other so that a harmonious atmosphere and relationship between neighbourly life is realized. This is following the concept of Katherine Pasteur that community resilience can be seen in how they can adapt to their environment [11] Likewise, Folke revealed that the ability of the system to continue to learn to adapt prepares mechanisms to deal with risks [12].

The similarity of suffering or feelings of the community's fate due to disasters causes social life to be higher to create social cohesion between them. Because disasters have encouraged people to meet for joint action through the fabric of social solidarity that is built, on the other hand, the spirit of mutual assistance carried out by the people of Suli causes the burden of losses suffered by people affected by floods to be lighter.

Without command, citizens care for each other and provide each other with material and immaterial assistance. The interaction of individuals and community groups when affected by floods has formed a social system of society. Strong relationships are social support that can increase community resilience.

3.2. Economic factors

The economic aspect also affects community resilience. If a community has a livable place to live, the community's income is good, and the community's business runs well and the community's work to meet basic needs does not only focus on one job, then their resilience will be higher and commonly referred to as dual livelihoods [13]

The observations show that the houses of the Suli community at the time of the flood, not all affected by the flood but depending on the magnitude of the flood that comes. People who will build houses are always urged by local governments to elevate their homes to anticipate the impact of flood disasters. The elevation of the house is generally carried out by people who have good economic capabilities. However, for people who do not have the ability to elevate their homes, another way to survive in their homes is done by making a simple embankment at their doorstep.

The economic activity of the Suli community at the time of the flood was considered quite disturbing. This is revealed from the statement of an informant Ar who works as a farmer:

"If there is a flood at home, we can't go out to work. If the flood is big, I fail to harvest due to the destruction of rice fields so that the family's income decreases. So I used to go fishing in Suli Pantai when the crop failed and the flood had receded because many people came out of the pond." (Interview results on September 30, 2022).

Field findings show that if there is a large flood causing Mr. Ar to fail to harvest, but this condition is used by him to make other income by going fishing because many fish come out of his place. If the catch is large, it is usually sold to his neighbors and if the catch is small it is just to eat with the family.

The work carried out by the Suli community in the informal sector whose income is uncertain, such as farmers, construction porters, fishermen, motorcycle taxi drivers, planters, traders, shipping, and some also work as civil servants. It is not uncommon for there to be more than one job done by the community. From the results of interviews with informants, it is known that during floods the main livelihoods of some people are disrupted such as farmers who fail to harvest, fishermen who cannot fish in the sea because of unfavorable weather. To overcome this, there is a strategy carried out by

informants to rise against flood disasters by looking for other alternatives in the form of side jobs, such as building porters, gardening, catching fish because during floods in this region many farmed fish come out of place, and there are also utilizing social networks such as borrowing money from relatives, and frugality means reducing the expenditure of daily necessities.

According to him, their actions aim to cover needs, especially the needs incurred after the flood occurred, in the form of home repair needs and the like. So they look for other alternative jobs as additional income to be used for daily needs and for savings. This is in accordance with the concept of Pasteur (2011), stating that people have more than one job or seek other income during a crisis as a form of community creative effort, so that they are able to face floods and have the adaptability to reduce vulnerability in terms of economy or income.

They are able to adapt by finding other jobs to earn extra income and also set strategies by saving expenses and utilizing their social networks by borrowing money from relatives. The economy of the Suli community varies in meaning that it is uneven so that people who have a good level of income can elevate their place of residence, and people who have less economic conditions/income, can only elevate their place of residence. The income of informants is only enough to meet daily needs and can even be considered less. For this reason, informants have not been able to buy land or build houses in places safe from flooding. So the only choice is to face the flood disaster with existing capital and assets.

3.3. Social factors

Social factors in resilience are an important part of the Suli community. In societies that have education, their level of resilience can be said to be high, while for the elderly and people with disabilities, their level of resilience to disasters can be said to be low [13].

Education is one of the formation of a person's resilience. A person's education affects how he adapts. The results showed that the average informant's formal education was elementary school (SD) and some of them were high school (SMA). To deal with disasters, the use of knowledge, innovation and education is considered important to maintain their safety. This can strengthen community readiness to face disasters so that the response is more effective. The following is the statement of informant Dn:

"My education until high school, what I do if there is a flood comes from my previous experience because it often floods here, I also see on social media, and activities

carried out in Kelurahan/Village about flood disaster knowledge". (Interview results on September 29, 2022).

The results of the interview above and based on field findings data that the highest formal education of informants is only up to Senior High School (SMA), however, the disaster knowledge of the Suli community is formed from their informal education such as:

1. Their experience from year to year affected by floods,
2. Social media and television, able to provide information and understanding about disasters, as well as disaster mitigation
3. Socialization carried out by the government through related agencies.

Socialization of flood disaster mitigation is very important in tackling floods. This socialization is carried out as an effort so that the community can respond quickly and proactively to the disasters that befall them. Disaster knowledge is an effort that should be done by the community from actions before floods, during floods, and after floods. Formal and informal education is very important for every individual. Human resources of Suli District in terms of education are low. With low education, there are not many options to find work, so they become farm laborers or earn below the District Minimum Wage (UMK) standard. However, this low education does not significantly make the people of Suli not to recognize their environment.

In addition to education which affects resilience, it is also influenced by the low elderly population in Suli District. This can be known from the monograph data of the elderly population is lower than the productive age. Similarly, data shows the low number of people with disabilities in the community so that this can shape the resilience of the Suli community. That way, the community needs to understand who are the vulnerable groups in their living environment, and must be helped when a disaster occurs such as children, pregnant women, the elderly, and people with disabilities.

3.4. Agency factors

Institutional factors are institutional aspects that affect the capacity of the community to reduce risk and institutional response to disasters. Institutions also play an important role in disaster mitigation efforts to increase community resilience [14].As for the results of an interview with the head of Suli Village, informant SS regarding the socialization held and policies from the local government in reducing disaster risk, stated that:

“Yes, there has been a disaster mitigation socialization here, and the one who held it was from the Social Service, Tagana is his name. If the rules to reduce the risk of flooding are our children in the village and in the sub-district urge the community not to throw garbage into the river. And be reminded that if you want to build a house, try to give high foundations”. (Interview results on September 27, 2022).

From the results of the interview above, it is known that in Suli District, disaster socialization was held by the Luwu Regency Disaster Preparedness Cadet Social Organization (Tagana) which is a social volunteer from the community who has concerns about overcoming disasters. The formation of Tagana came from the local Social Service. This organization in addition to providing assistance also empowers the community to improve community knowledge and skills through training and counseling activities on floods. This aims to increase the ability and independence of the community to deal with floods through their roles as the main actors in the field when floods occur because local people are more familiar with the area. The efforts made by the government through the Disaster Preparedness Cadet Social Organization are an empowerment activity. The concept of empowerment from Edi Suharto (2010) that empowerment focuses on three things, namely power, capacity strengthening, and independence.

Empowerment is a process to strengthen someone who is vulnerable, weak, and marginalized. Their good participation will result in the ability and power of themselves to actively contribute to improving their social life through strengthening their capacity by utilizing the abilities that exist in them so that independence is formed so as to create a better life. Every human being has the ability to change his life, from those who were not initially able to become capable, not yet empowered to be more empowered, not yet brave to be more courageous. It is better if the community is empowered to participate in making real changes in their lives [15].

In addition, there are policies from local stakeholders to reduce disaster risk by not throwing garbage in the river and urging the community if they want to build a house to try to build a high house foundation because it is known that this area is prone to flooding. The efforts of the Regional Disaster Management Agency of Luwu Regency as the institution that handles disaster problems have also carried out the flood disaster management process from Pre-disaster and emergency response. The following is the statement of Mr. Basir S.Sos as Head of the Preparedness Section of the Regional Disaster Management Agency of Luwu Regency stated that:

“We target disaster mitigation activities at SMP Negeri 1 Suli. This school if flooded must be affected because it is near the river. And we also convey to the community that the post in the event of a flood there are two points at the same Suli sub-district

office in the Suli Grand Mosque because it is a fairly high area'. (Interview results on September 27, 2022).

Based on the interview above, the Regional Disaster Management Agency of Luwu Regency carried out disaster mitigation socialization activities at SMP Negeri 1 Suli because the school is close to the river and if the flood is confirmed to be affected. Also socialized the location of disaster posts located at two points, namely at the Suli Grand Mosque and at the Suli Sub-district Office.

Based on field findings that in the event of a major flood, there is provision of basic necessities to the community in the form of oil rice, clean water, and instant noodles. And there are also early warnings carried out by the sub-district government through mobile cars that inform to be ready and announcements are also made at mosques. Early warnings are used by residents for the next action, namely securing their belongings. With the early warning carried out by the government, it is hoped that it can minimize the impact of flood disasters by securing their valuables. If it is associated with the concept of Pasteur (2011) that one of the ways people can adapt to climate change so that floods occur is the existence of an early warning system. This early warning is a support of the local government, and the use of the community in this regard to increase their resilience. Early warning is important for the community to take further action.

From the results of the interview described above, it can be seen that the government has so far responded well to the flood disaster in the community. Judging from the presence of:

1. Early warnings carried out by local stakeholders and assisted by the community,
2. The existence of basic necessities given to the community when a major flood occurs,
3. The existence of disaster mitigation socialization carried out,
4. The existence of policies from the local government in the form of prohibitions on throwing garbage in the river.

Government support and good cooperation between the government, CSOs, and other communities affect their resilience in efforts to manage disasters, adapt, and meet food needs.

3.5. Infrastructure factors

Infrastructure factors also contribute to the survival of communities in flood-prone areas. If post-disaster infrastructure is well rehabilitated, community resilience will be high [16]. From field findings, that in Suli District, shallow river excavation and drainage were also made by the government. The following is the statement of informant Kos as Head of Rehabilitation and Reconstruction regarding Disaster Management carried out in Suli District:

“In the form of rehabilitation in 2020-2021, we will protect the river banks in Kombong which are around 200 meters long, 4 meters high and currently there is a Suli river normalization plan from the South Sulawesi Provincial Government”. (Interview September 27, 2022).

The results of the interview above revealed that there was the construction of Kombong river cliff protection (2020-2021) and the river normalization plan by the South Sulawesi Provincial Government. Because community resilience cannot be formed just like that, but also requires support and cooperation from the government. However, this also requires support from all levels of society for the government to continue to be active in tackling floods together.

From the results of interviews with some of the informants above, it can be concluded that the infrastructure aspects that make the community survive are the government's responsiveness in improving post-disaster infrastructure so that in the future it will be better in the form of:

1. The existence of river dredging,
2. drainage development,
3. building protection of Kombong River banks.

Five factors that shape the resilience of people in the Suli region to floods are value, economic, social, agency, and infrastructure factors. Based on research that the community resilience process occurs well, this can be seen from the role of various related parties. Public relations in Suli District can be said to be good. People help each other if there are difficulties, take care of each other, and remind each other so as to cause harmony between communities.

An influential resilience factor is also the institution, which plays a role in providing assistance to the community if a major flood occurs which makes the community disrupted in their family's economic search activities and disaster management activities carried out by the government in the form of disaster socialization and early

warning. In addition, post-disaster infrastructure has also begun to improve such as river normalization so that people can feel safe. It aims to reduce disaster risk through physical development, socialization to increase public awareness, and to improve the community's ability to deal with disasters called disaster mitigation.

Disaster management by increasing the knowledge of people who are vulnerable to floods is important. The vulnerable communities are pregnant women, the elderly, disabilities, and children [17]. Community resilience will increase if local institutions also provide support to the community in the form of physical assistance and assistance in the form of knowledge transfer.

According to Dugan & Coles (1991) that resilience is the ability of individuals or communities to recover and bounce back from disappointments, obstacles, and setbacks. Alvord & Grados (2005) define that resilience is a skill, attribute, and ability of individuals to adapt to challenges, difficulties, and deep suffering [7]. In this case, it can be seen the ability of the community to adapt in fulfilling its economy, adapting to floods by utilizing the value factors that exist in the community and the understanding of floods that often occur in their areas that are built from their experiences, through social media, and disaster socialization carried out by agencies and other social institutions and the rehabilitation carried out by the government. For this reason, the Government has an important role in the formation of community resilience.

The grouping of resilience formation in this study is divided into internal and external aspects. The internal aspect consists of value factors (kegotongroyongan system), social factors (education) and economic factors. While external factors consist of external support in the form of government called agency factors, and infrastructure factors. The internal and external aspects of community resilience formation in Suli sub-district are working well. The local government carries out its functions for flood disaster management ranging from providing basic necessities, socializing disaster mitigation, regulations not littering, especially in rivers, early warning, providing emergency response assistance during floods, and implementing rehabilitation and reconstruction in Suli District.

Resilience is how individuals can adapt to the environment after or when faced with adversity. Internal factors are seen from the attitude of mutual help to the community and mutual assistance. This shows that the Suli community still has a sense of empathy for fellow community members. Relationships that are formed based on a sense of trust and mutual help in case of distress without any sense of coercion. Participation and mutual assistance are the keys to the successful functioning of the system.

In addition, formal and informal education also affect the formation of resilience of the Suli community, community preparedness for disasters is formed from their informal education such as experience, social media, television, socialization from the government. Every human being or group has the knowledge and ways to deal with the environment for their survival.

That knowledge is as Local Wisdom of the local community. Knowledge is dynamic, can change, develop and adapt because of the response of society to changes in its environment. Knowledge about disasters is an important aspect of how communities can be resilient. Economic factors also affect the sustainability of one's resilience. When people are disrupted by economic activities due to floods, people then look for temporary jobs and even look for other ways to fulfill the economy such as borrowing money from relatives and saving money.

Apart from internal parties in the formation of flood-prone community resilience, there are also external parties (government). The Suli sub-district government can respond well to the needs of the community. In the form of providing understanding about flood disaster mitigation, providing assistance, and repairing post-disaster infrastructure.

The process of resilience that appears to be visible is from the value factor. The culture owned by the community really helps them recover and rise quickly from disasters, namely mutual cooperation and helping each other if there are difficulties. The length of time settled together so that the people of Suli felt comfortable with their neighborly environment.

The value factor has also become a fairly good internal aspect of the community, in addition to the external aspect (government) which also affects the resilience of the Suli community to flood disasters. Both function, but the most dominant makes the Suli community able to survive because of the culture of mutual help and knowledge/experience formed in dealing with floods in each rainy season. Society can rise faster if both internal and external aspects function properly, rather than just one of them functioning or even both not functioning at all.

4. Conclusion

1. Factors that form community resilience value factors are helping each other, lifting and securing goods to higher ground, reminding each other if the water has almost passed through the river whose signs of flooding have come, providing assistance in the form of basic necessities and clean water working together to clean public facilities, assistance from mass organizations / community social institutions.

2. Social factors, including formal and non-formal education of the Suli community where education affects a person's adaptability. The Suli community gained disaster knowledge or disaster mitigation knowledge from their years of experience in flood land. In addition, this knowledge is also obtained through social media and television, as well as obtained from disaster mitigation socialization activities carried out by the local government. This socialization is carried out as an effort so that the community can respond quickly and proactively to the disasters that befall them. Moreover.
3. Economic factors are by looking for other alternatives in the form of working as construction porters, gardening, catching fish because during floods in this region many fish come out, borrowing money from relatives, saving means reducing the expenditure of daily necessities. Meanwhile, institutional factors are early warning, basic food assistance, disaster mitigation socialization carried out, prohibition of throwing garbage in rivers. Then the infrastructure factor is the dredging of the river, the construction of drainage, the construction of cliff protection on the Kombong River.

References

- [1] De Priester L. An approach to the profile of disaster risk of Indonesia. *Emergency and Disaster Reports*. 2016;3(2).
- [2] Sabir A, Phil M. Gambaran Umum persepsi masyarakat terhadap bencana di Indonesia. *Jurnal Ilmu Ekonomi Dan Sosial*. 2016;5:304–326.
- [3] Smith K. *Environmental hazards: Assessing risk and reducing disaster*. Routledge; 2013. <https://doi.org/10.4324/9780203805305>.
- [4] Dynes RR. *The importance of social capital in disaster response*. 2002.
- [5] Tuti Budirahayu.. Kajian sosiologis tentang kebencanaan kaitannya dengan penguatan dan ketahanan keluarga dalam menghadapi bencana alam [LWSA]. *Talenta Conference Series: Local Wisdom, Social, and Arts*. 2019;2(1):1–8.
- [6] Rijanta R, Hizbaron DR, Baiquni M. *Modal sosial dalam manajemen bencana*. UGM PRESS; 2018.
- [7] Naemi AM. The resiliency, hardiness, life satisfaction and body image in high school female students of Sabzevar. *Woman in Development & Politics*. 2016;14:535–552.
- [8] Magsino SL. *Applications of social network analysis for building community disaster resilience*. Washington (DC): National Academy of Sciences; 2009.

- [9] Creswell JW, Poth CN. *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications; 2016.
- [10] Norris FH, Stevens SP, Pfefferbaum B, Wyche KF, Pfefferbaum RL. Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *American Journal of Community Psychology*. 2008;41(1–2):127–150.
- [11] Pasteur K, McQuistan C. *From risk to resilience: A systems approach to building long-term, adaptive wellbeing for the most vulnerable*. Practical Action Publishing; 2016. <https://doi.org/10.3362/9781780447070>.
- [12] Adger WN, Hughes TP, Folke C, Carpenter SR, Rockström J. Social-ecological resilience to coastal disasters. *Science*. 2005;309(5737):1036–1039.
- [13] Cutter SL, Burton CG, Emrich CT. Disaster resilience indicators for benchmarking baseline conditions. *Journal of Homeland Security and Emergency Management*. 2010;7(1):7.
- [14] Cutter SL, Derakhshan S. Temporal and spatial change in disaster resilience in US counties, 2010–2015. *Environmental Hazards*. 2020;19(1):10–29.
- [15] Abd Hady J, Laubo N, Suhaeb S, Hariani H. The construction a model of the community empowerment to prevention, preparedness and response disaster emergency. *Urban Health*. 2021;:3.
- [16] Hambati H, Yengoh GT. Community resilience to natural disasters in the informal settlements in Mwanza City, Tanzania. *Journal of Environmental Planning and Management*. 2018;61(10):1758–1788.
- [17] Hasan MR, Nasreen M, Chowdhury MA. Gender-inclusive disaster management policy in Bangladesh: A content analysis of national and international regulatory frameworks. *International Journal of Disaster Risk Reduction*. 2019;41:101324.