

Social and Benefits Cost Disclosure of Post Earthquake and Liquefaction Mitigation in Sigi District

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Abstract:-This purpose of this research is to reveal the social benefits and costs felt by the communities affected by earthquake and liquefaction mitigation in Sigi Regency. This research is a type of qualitative research using the ethnomethodology method as a way to understand how the social benefits and costs are felt by the community after earthquake and liquefaction disasters. Data obtained by conducting in-depth observations and interviews in person and by telephone for 4 months, as well as documents, and conducting literacy reviews from various sources. The results showed that in analyzing social benefits and social costs, we looked at the aspects of economic losses, physical losses, psychological losses, and social losses. Disasters cause social losses in terms of destroying the order of life in society where victims experience psychological problems due to loss of property, loss of residence, loss of family, and loss of meaning in life. Behind that disaster also has social benefits, namely the creation of emotional bonds in the form of mutual help and spiritual benefits. The existence of disaster mitigation is expected to be an effort to reduce disaster risk, both through physical development as well as awareness and increased capacity to face disaster threats.

Keywords:- Ethnomethodology, Liquefaction, Social Benefits, Social Costs, Disaster Mitigation.

I. INTRODUCTION

In 2018, Indonesia experienced very deep sorrow, namely the earthquake, tsunami, and liquidation in Central Sulawesi. The Palu earthquake occurred on September 28, 2018, at 18.22 WITA with a magnitude of 7.4 SR. This earthquake caused a strong shaking and resulted in a tsunami that hit the city of Palu, which is in the bay of Palu, as well as the liquefaction that occurred, one of which was in Sigi Regency. The liquidation that occurs in Sigi Regency is the emergence of mud from the ground which causes the collapse of buildings and trees. This liquefaction phenomenon also causes the land to move where houses seem to be walking and colliding with each other.

With regard to the various vulnerabilities faced by post-disaster households which may affect their level of welfare, various efforts will emerge as strategies for survival and recovery from post-disaster conditions. In general, at the

beginning of the crisis due to a disaster, strategies for survival and restoring livelihoods will depend on the number of assets, access, capacity and activities of each individual / household (Retno, 2016; Baiguni, 2007).

When activities that give rise to social costs and benefits determined from the losses and specific contributions are identified, then the impact on humans can be calculated. To measure a loss requires information about the main variables, namely time and impact. Some events that generate social costs take several years to have an effect. In terms of measurement, it is important to determine the length of this time. long-term impacts should be given different weights from short-term impacts. People can be affected economically, physically, psychologically and socially by various disadvantages. To measure these social costs, it is necessary to identify these losses and quantify them.

This study aims to reveal the amount of benefits and social costs that have been felt on the communities affected by the disaster (earthquake and liquefaction) in SigiRegency .

II. THEORITIVAL REVIEW

A. Social Exchange Theory

Social exchange theory is a theory in social science which states that in a social relationship there are elements of reward, sacrifice and benefit that influence each other. This theory explains how humans perceive our relationships with others according to the human self-perception of: the balance between what is given into the relationship and what is excluded from the relationship, and the type of relationship that is carried out.

Homans (1910-1989) who is a thinker of "A Theory of Elementary Social Behavior " which underlies his thoughts on the exchange of behavior. *Reciprocytes* (reciprocity) are a central concept of Homans' theory. Homans limits his analysis to the micro-sociological level. Social exchange theories also share some of the same assumptions about the nature of social interactions. These social exchange theories are based on the principle of elementary economic transactions and social interactions are similar to economic transactions. (Poloma, 2007).

In social exchange theory emphasizes the existence of a consequence in exchange, both in the form of material rewards in the form of goods and spiritual in the form of praise. The theory of Homans exchange rests on the assumption that people engage in behavior in order to gain reward or avoid laws. For Homans, the basic principle of social exchange is " *distributive justice* ", namely the rules that say that a reward must be proportional to the investment. The well-known proposition in connection with this principle states that someone in an exchange relationship with another person will expect a reward received by each party in proportion to the sacrifice that has been incurred.

The higher the sacrifice, the higher the reward and the profit received by each party must be proportional to the investment. The higher the investment, the higher the profit. The essence of social exchange theory is that a person's social behavior can only be explained by something that can be observed, not by a mentalistic process (*black-box*). All theories influenced by this perspective emphasize the direct relationship between observed behavior and the environment.

B. Social and Benefit Cost

Benefit is something that is useful. The benefits of social is the benefit of production or consumption of a product for society as a whole. Social benefits themselves mean all positive non-financial impacts received by stakeholders and the company. Meanwhile, financial benefits are in the form of money, whether received directly or indirectly, by the company and its stakeholders. Cost is the sacrifice of economic resources measured in units of money, which has occurred, is occurring or is likely to occur for a specific purpose. Social costs are costs related to social accounting including: environmental costs, employee costs, product costs, and community costs. So that it can be said that the cost of employee welfare will increase job satisfaction will affect employee productivity and will have implications for the company's ability to create income.

C. Disaster Liquidation and Mitigation

Melting of land or likuefaksiground (English : soil liquefaction) is a phenomenon that occurs when soil saturated or rather saturated lose strength and stiffness as a result of stress, such as vibration of an earthquake or change other tensions suddenly, so that the solid ground transformed into a liquid or heavy water.

The phenomenon of liquefaction is related to land failure, so the impact that can be caused by liquefaction is the destruction or damage of buildings on the land that is experiencing liquefaction. More broadly, liquefaction can "drown" and "bury" an area as happened in JonoOge Village, Sigi Regency, Central Sulawesi.

In disaster mitigation, the initial identification steps include: First, evaluation of geological conditions. Second, evaluate the seismic condition. And, third, evaluate the condition of the ground water table. Concrete efforts in the form of coordination and synchronization of data between institutions must be initiated to obtain an accurate picture of the three conditions mentioned above, so that the safety and interests of the community and development assets can be protected from liquefaction. The party that has the main authority and responsibility to realize these concrete steps is the government, through its related institutions / agencies.

III. RESEARCH METHODOLOGI

This research method is qualitative with an ethnomethodological approach. This approach directly shows the setting and the individuals in that setting as a whole, individuals within very holistic boundaries (Furchan, 1992). Harold Garfinkel as the originator of the ethnomethodology theory sees social facts as something fundamental in social life. Ethnomethodology of everyday human conversations. Ethnomethodology puts the study of everyday human activities on the basis of common sense. The reality of common sense and human daily existence is of practical importance in social life. practical interests are then contrasted with scientific (theoretical) interests.

The research locations were in the two villages that had the greatest impact after the earthquake, namely JonoOge Village, SigiBiomaru District and Sibalaya Village, Tanambulava District. The two villages are located in Sigi Regency, Central Sulawesi Province. Researchers will conduct research around temporary housing areas (huntara) to determine the benefits and social costs that have been felt by the community. Sources of data can be revealed through observations by recording data regularly using field notes. Question development is done in verbal form, interactive social and dialogue. In connection with this, types of data can be divided into words and actions, written data sources, photos, and so on. Determination of respondents or informants in this study was selected purposively and determined by snowball or snowball techniques. Snowball sampling technique is a method for identifying, selecting and taking samples in a network or continuous chain of relationships. In studying daily activities agreed upon with members of the Garfinkel group (1967), three stages of analysis were established. The first stage is the search for indexicality, the second stage is reflexivity that underlies practical action, and the third stage is the achievement of contextual actions that can be analyzed.

IV. RESULT

Therefore, the use of qualitative methods in research can produce a more comprehensive study of a phenomenon. The background is where researchers were born and raised in the city of Palu. This is the main reason why this research was appointed. As a person who was born and raised in Palu, of course, you have felt an earthquake and left you with bitter memories when a disaster occurred. Even though at that time the researchers were not in Palu City when a very powerful earthquake occurred, both parents, siblings, relatives, and relatives were in Palu. At the time of the devastating disaster, researchers were worried, sad, and confused about contacting them, due to network and communication cuts, making it very difficult to find out where relatives were.

The socio-economic life of the community is constantly changing. These changes in people's lives are very natural social phenomena, because every human being has different interests and activities. Based on the phenomenon of social phenomena in the field, it is found that the pattern of changes in the social structure occurs not only due to modernization factors but from natural factors such as earthquakes.

The social benefit and cost analysis does not only measure the feasibility from the commercial aspect, but also measures the feasibility from the social feasibility aspect. In this research, the analysis of social benefits and costs is measuring, including, and comparing all the benefits and costs of a public project or program related to the study (Field, 2002). People can be affected economically, physically, psychologically and socially by various disadvantages. To measure this social cost it is necessary to identify the losses and quantify them.

A. Social Benefit : “PaluKuatPaluBangkit”

Disasters cause both moral and material losses in the midst of society, cause mental degradation of the community, psychological disorders and casualties. The earthquake and liquefaction of 28 September 2018 that occurred in Palu, Central Sulawesi, of course, still remain in our minds, especially as a bitter memory for the residents who experienced it firsthand. No one expected it, given the geographical location of Palu City which has the status of a bay. But it turned out that the bay caused a tsunami due to the very strong force of the earthquake. The tsunami occurred due to the shifting of the PaluKoro fault which crosses the middle of the sea in Palu Bay. Thus the disasters that occur in hammer are earthquake, tsunami, and liquefaction.

PaluKuatPaluBangkit, this sentence is a motivation for residents of Palu City, Central Sulawesi, to immediately rise after being hit by the earthquake, tsunami and liquefaction disasters on September 28, 2018. Disasters not only cause harm, but can provide social benefits to the community can be seen that the mosque which is standing near the temporary shelter (shelter) has been rebuilt by Pak

Wahid with the community members in mutual cooperation. They work together so that they can return to carrying out their obligations as religious people. According to the observations of researchers, disasters not only cause losses but can bring social benefits, one of which is the embracing of residents so they can rise again from problems.

Another respondent by Ms. Ima said that the people of Sigi in JonoOge village are trying to get back up by working hand in hand, sharing and helping each other. According to the observations of researchers, the earthquake, liquefaction and tsunami disasters resulted in many still experiencing prolonged stress and even experiencing a receipt that could hinder their interactions with one another. However, the residents did not let the situation get worse. They keep trying to get back up together from this difficulty.

The existence of equality of fate has made an increasing attitude of help and strengthened brotherhood in Palu City, especially Sigi Regency. Losing property, land of work, and relatives tells of deep wounds. Another benefit that is felt is spiritual benefits, namely one's relationship with God. Disasters not only tell stories of sorrow, but they make a person aware of the presence of YMK God. That all these events are His power and a trial for His servants, whatever they want will happen with His power and greatness. So it can be seen that the interest of the residents around the shelter was moved to build the mosque again.

B. Economic Impact

The liquefaction disaster that occurred in Sigi Regency, occurred as a result of a 7.4 magnitude earthquake centered in Donggala, Central Sulawesi. The liquefaction disaster also resulted in a completely paralyzed economic activity, where the loss of hundreds of hectares of agricultural land, plantations, livestock, trade facilities, household industries, as well as damage to tourism sites, were all gone.

Based on BPS data from Central Sulawesi Province, it is known that the total population of JonoOge Village in early 2018 was around 2,262 people consisting of 56% men (1,262 people) and 44% women (1,000 people). Before the liquefaction, the population who had livelihoods was 84% (1,892 people), where the average population of JonoOge Village worked as farmers. The rest, namely 16% pursue other professions, namely as traders by 4% (97 people), drivers by 0.5% (13 people), labor by 4.8% (109 people), civil servants by 2% (47 people), TNI at 0.3% (6 people), POLRI by 0.4% (10 people) and self-employed at 4% (88 people).

Based on the results of the interview with the respondent Mr. Wahyu as the head of the JonoOge Village Huntara, it can be seen that the victims are now continuing to live in various professions considering the loss of farmland that used to be their livelihood. According to the researchers' observations, it is very clear how the conditions of the victims in the location of this study are, how they must struggle to continue living

with their families. The economic condition that must be started again from the beginning, considering the livelihoods of those who have been swallowed up by the liquefaction, damaged by the earthquake, even lost due to moving / moving land. Respondent's confession, Pak Wahid himself, had suffered losses of approximately 5 billion, due to the loss of the building shop he had built with great difficulty. The building shop that was his only source of income had been destroyed and was gone. Now, he rebuilt the building with great effort so that his building shop can stand back right next to the shelter.

Another badly affected village is Desa Sibalaya Selatan. In Sibalaya Village, only an earthquake occurred. This village was severely damaged, and this village was designated as an area in Zone ZRB 4 (Red Zone). Economic paralysis also occurred due to the 7.4 SR earthquake. The main livelihoods of the family before the disaster were agriculture, plantations, forest products, livestock, trade / services (teachers, health workers, etc.). As a result of the earthquake, a lot of damaged agricultural land can no longer be used, besides the damage to various infrastructure has temporarily disrupted economic activity.

From the results of interviews with respondents, namely Mr. Sofyan, who works at the South Sibalaya Village Office in the data collection section, it can be seen that now the victims of the liquefaction disaster have risen to improve their economy in various ways. For those who still have land left, they will plant crops that can be easily grown and can be harvested quickly to sell, for example, rice or commonly called chili. Meanwhile, those who have lost their agricultural land are trying to find work outside their area, such as being construction workers or shop employees. According to researchers' observations, reviving the economy in the Sigi area is done in various ways. They must continue to rise from the problems they face in order to survive in this difficult situation. Use the remaining agricultural land for resale or look for work that can generate money in order to survive.

Economic losses from the earthquake, liquefaction and tsunami disasters cannot be avoided. It can be seen from the results of interviews that there are damage to community-owned business buildings, losses to home industries, MSMEs, and the tourism sector. When a disaster occurs, the victims are very difficult to evacuate because each of them saves himself, either the community or medical personnel. According to researchers' observations, this disaster had a very severe impact, especially on the economy of the Sigi people. The disaster will reduce labor absorption, household income, and reduce state tax revenue which results in a decrease in government revenue, and a decrease in the value of existing production due to the destruction of existing facilities and infrastructure in Sigi Regency.

C. Destruction of Buildings and Infrastructure Due to Earthquake and Liquefaction

Sigi Regency recorded 3,147 households, 10,612 units were severely damaged, 3,739 families were moderately damaged 6,280 units, 9,237 families with minor damage were 13,144 units, and 302 lost houses. (Data Source: Central Sulawesi Provincial BPBD Office).

According to Pak Sofyan, some of the residents of South Sibalaya Village still want to stay back to stay at their house. According to them, his house was the only treasure left so they didn't want to leave it. Meanwhile, some other residents choose to live in a shelter (temporary shelter) or stay at their family / relative's house.

The residents of JonoOge Village chose to live in the Huntara because of the condition of the houses that were not left due to being destroyed by liquefaction. According to the respondent, IbuLma, they have no other choice because their assets have been used up due to the disaster. Now they are waiting for clarity regarding the permanent housing assistance promised by the government.

Natural disasters inevitably cause damage and losses. Scarcity of goods (basic necessities), damage to infrastructure, and loss of human resources are some of the factors of loss that occur after a disaster. As a result of the earthquake and liquefaction, physical damage occurred significantly with the worst impact on land transportation infrastructure. Land transportation, whether private, freight transportation, or people, has also been devoured by liquefaction. The total loss and damage caused by transportation was IDR 3,853,506,461,749 (data source: BPBD Office of Central Sulawesi Province).

In Sigi Regency, water resources infrastructure suffered quite severe damage and losses after the earthquake and liquefaction. In general, the damage occurred to the water source originating from the Gumbasa River through the irrigation channel so that the water did not flow to the residents' farms. In addition, there was a scarcity of clean water after several days of the earthquake and liquefaction.

Physical losses also occur in telecommunications infrastructure and electrical energy. The communication cable was cut due to falling electric poles, causing power outages and disconnection of telecommunication lines. Initially the telecommunications network experienced a breakdown, but it gradually recovered after repairs were made (where the electrical power unit was switched to the operators' electric generators). This caused a total blackout throughout Palu City. Broken roads and damaged airstrips made it difficult to access aid to Palu. How many days after the disaster, PLN officers have tried to repair the power cable so that the electric energy returns. As a result of the absence of a post-disaster telecommunication network, it made the situation even more difficult.

According to researchers' observations, the collapse of the electric pole and the break of the existing cables made the lights go out. This was caused by the earthquake and liquefaction that occurred in Sigi Regency. This is one of the reasons that can make victims experience trauma considering how gripping the situation was at that time. Many residents divorced with their relatives, especially their children, because each of them fled to save himself. Some of them even died in the rubble but were not known by their families. All because the electricity and telecommunications networks were cut off instantly, so the atmosphere was very tense in the dark. Moreover, the residents who were buried alive were swallowed up by liquefaction.

D. Psychological Impact

From the results of interviews with respondent Ibu Ima, it can be concluded that the Sigi community is still experiencing trauma, both adults and children. It can be seen from the condition of Ima's mother who is often shocked when she hears the sound of a truck passing the road in front of her house or one of her children who does not want to return to live in Palu. The disaster was very lasting and even vividly remembered in the memories of children who experienced earthquakes and liquefaction. According to the observations of researchers, now the Sigi community has revived even though they have to coexist with this still very difficult situation. The trauma from earthquakes and liquefaction is still often felt, especially in children. In addition to trauma, the community also still has very deep sadness and wounds due to the disaster where they lost their loved ones, lost property, lost their homes, lost the meaning of life, and were surrounded by feelings of uncertainty for the future.

E. Social Impact

Changes that are very fast in every aspect of community life bring complexity to problems and challenges. In analyzing social losses, researchers try to analyze from the side of health, education, religion, culture, etc. relating to the condition of the community affected by the disaster.

The earthquake and liquefaction have caused damage to health services, such as hospitals, puskesmas, pustu, and other health services. The damage to medical equipment and medicines meant that the evacuated victims could not be treated quickly. One respondent named Pak Daris told about his situation when the earthquake occurred, where the late Pak Daris's wife had to experience a fracture due to a shift in the hinge while trying to pull it out of the crush of the ground and collapsed buildings. According to researchers' observations, the defect or fracture experienced by the late wife of Pak Daris is a health value that can be analyzed in terms of social costs for social losses. Where the declining health value due to the disaster resulted in a loss in the social structure.

The damage to health service facilities made it difficult for victims to be evacuated to be given first treatment. As a result, several victims had to be flown via Hercules plane to be

given treatment at the nearest hospital outside Palu City. Now, health facilities are in the form of Community-Based Health Efforts (UKBM), in Sigi Regency 172 villages have been formed with 10 units of care puskesmas and 9 units of non-inpatient puskesmas.

The earthquake and liquefaction also left the infrastructure in the education section destroyed. As a result, students have to study in emergency tents. This raises problems for existing student interest in learning. Students will feel uncomfortable because they are still overwhelmed by the existing trauma.

Damage and losses caused by the earthquake and liquefaction also affected houses of worship in Sigi Regency. The ruins of the house of worship in JonoOge village are now left. Some people pray in the emergency tents that have been provided. Of course being in an emergency tent in this situation sometimes makes the situation uncomfortable in worship. This has motivated the shelter community to rebuild houses of worship, one of which is a mosque. Another social disadvantage is in the cultural field. The occurrence of earthquakes and liquefaction certainly affects the fabric of society where cultural events are disrupted and cultural objects are damaged.

F. The Role of the Government and NGOs (Non-Government Organizations) in Handling Earthquake and Liquidation Disaster in Sigi Regency.

Government support through the distribution of resources is needed to improve conditions after the earthquake. Right after the end of the emergency phase, the district and provincial governments through BPBD and in collaboration with other relevant agencies directly provided assistance to victims of goods, food, clothing and money even though the assistance was very limited in amount and it was of the nature of helping not to replace the financing of damaged buildings. As a result, some of the funds received from this financial assistance are used by them to fulfill their daily needs in temporary shelter locations and for savings which can be used as financial capital to explore or restore their livelihoods at a later date. In addition, assistance by the government includes huntara (temporary housing) and huntap (permanent housing), grants, stimulant funds, and life insurance.

Disasters create a lot of costs, namely the fulfillment of food and clothing for victims in evacuation, operational costs such as recovery and searching for corpses, destruction costs of around Rp. 600,000,000, costs for PPE and hospital equipment, mobilization of emergency items, and fulfillment of clean water. The government provides assistance in the form of temporary shelter (temporary shelter) and Huntap (permanent housing), stimulant funds, relocation funds, life insurance, and grief compensation. In the field of education, the Ministry of Education and Culture (Kemendikbud) continues to collect data on education units, educators and

education personnel, as well as students affected by disasters in Central Sulawesi (Central Sulawesi). The Ministry of Education and Culture has allocated IDR 246.5 billion for disaster management in Central Sulawesi. In addition to assistance for the construction of emergency schools, the budget was also allocated for assistance in the form of special allowances for teachers affected by disasters in Central Sulawesi, as well as recovery of learning activities. (<https://edPendidikan.kompas.com/read/2018/10/12/22364601/kemendikbud-allocate-rp-2465-billion-for-disasters-hammer-donggala-page=all>).

If viewed from the economic cost, these losses are enormous. The government has provided billions of rupiah in aid in the disaster reconciliation stage which is expected to help the victims to rise from their situation. The impact of the earthquake, liquefaction, and tsunami disasters in Central Sulawesi can be seen in the following table.

Tabel 6.2 Recapitulation of Damage and Loss Assessment Post-Earthquake and Liquefaction of Central Sulawesi Province

NO	SEKTOR/ SUBSEKTOR	NilaiKerusakan (Rp)
1	Ekonomi	4.354.116.624.068
2	Pemukiman	7.146.414.161.000
3	Infrastruktur	4.672.567.671.814
4	Sosial	1.918.596.195.625
5	LintasSektor	361.898.938.243

NilaiKerugian (Rp)	Total KerusakandanKerugian (Rp)
1.900.058.603.224	6.254.175.227.290
1.657.083.226.000	8.803.497.487.000
1.44852.149.829	5.817.419.821.642
86.922.347.484	2.005.518.543.109
17.840.222.400	379.739.160.643
TOTAL	23.260.350.139.685

(Source : BPBD Prov. Sulawesi Tengah)

From the table above, it can be seen that the economic costs arising from the earthquake, tsunami, and liquefaction that occurred in Palu, Sigi, and Donggala. Careful and accurate assessment of post-disaster needs covering both physical and human aspects. The total damage and losses reached IDR 23. 260,350,139,685 consisting of the economic, residential, infrastructure, social and cross-sectoral sectors. As for what is meant by the economy, namely in agriculture and plantations, home industry and MSMEs, and tourism. The residential sector includes housing and its environment. The infrastructure sector includes transportation, water / irrigation resources, post and telecommunications, water and sanitation, and energy. The social sector includes health, education, religion and culture.

Not only being encouraged by the government, various NGOs, both local and international, also work together to help improve the lives of citizens. Trauma-healing assistance was also provided to help children get rid of their trauma. There is also assistance such as logistics, emergency tents, public kitchens, and kitchen utensils. The assistance of medics and volunteers also helped Palu through its difficult time.

IV. DISCUSSION

Natural disasters can come anytime and anywhere. In disaster construction, there is a meaning of social benefits that arise from the perspective of the community, namely the awareness of mutual help and mutual cooperation. Building mosques and other places of worship is carried out by the people of Sigi Regency so that they can return to congregation. In addition, the attitude of embracing each other in helping others is also shown in the post-disaster community where if seen backward, the caring attitude towards others has faded.

Disaster will affect social order and structure. Gordon (2003) explains explicitly that a disaster event will break the bonds (*debonding*) in the social structure of a society. The breakdown of the social structure ties occurs in visible social relations as well as in *hidden social relations*. In plain view, the damage to the social ties of the social structure is for example the separation of family members during the evacuation process.

Apart from the cause as the beginning of its presence, the perception of a disaster can also be found in its impact. The impact or result of a disaster can be in the form of death, mental damage, disability, loss of property, or in the form of damage to social structures and social processes, such as production systems, division of labor, social norms and roles, national and international politics, as well as in the form of expectations, motivations and views. (Blaikie, 2002: 298)

There are several meanings that emerge from the informants' perspective in the construct of social costs in natural disasters. This meaning arises from several factors of perceived loss. Social costs in terms of economic losses where disasters affect the decline in production and loss of labor and damage the tourism sector. The community lost agricultural land and plantations as a result, many people had to find work to support their families. Damage to home industries, building shops, and umkm also affected the decline in production, resulting in decreased productivity of the community. The meaning of social costs can be seen from the difficult circumstances that people have to feel when they have to struggle to rise from the trauma caused by the earthquake.

Losing one's property, husband, wife, children, and other relatives causes deep wounds. The victims on average still experience trauma and fear of the looming disaster that will come back. Some survivors also feel uncomfortable. The victims' longing for life as before were always remembered. This cannot be just eliminated and replaced, so the victim must rise up and be sincere in all of this.

One of the strategies for rehabilitation and reconstruction of the Central Sulawesi Province BPKB is disaster mitigation. Mitigation means a series of efforts to reduce disaster risk, both through physical development and awareness and increased capacity to face disaster threats. This is done to reduce the risks and impacts caused by disasters on communities living in disaster-prone areas.

In this study, there is a social exchange theory which states that in social relationships there are elements of reward, sacrifice and benefit that influence each other. This theory explains how humans perceive our relationships with others in accordance with these human self-assumptions. As was felt by the informants regarding the existence of social relations in the form of a helping attitude, more concern for others, and an attitude of mutual cooperation that has come to life in the community around the shelter. Social exchange theory in which there is a reciprocal relationship between individuals that influence each other.

From this research, according to the researcher, there is a balance between the social costs felt by the community and the economic costs arising from the disaster. When viewed from the perspective of society, the social costs felt by the victims are so great that it may be difficult to replace them with money. The wounds and trauma and grief that exist cannot simply be healed. However, it cannot be denied that in dealing with social costs, there will be economic costs that must be sacrificed. For example, in the fulfillment of housing, both temporary and permanent housing. The economic cost in the residential sector is the main topic where the destruction of people's houses results in residents being homeless. The government then incurs costs both in the form of stimulants, grants, and permanent housing so that the victims are not just neglected.

According to the researcher's view, the existence of unequal government assistance to the community has resulted in unrest. There are still many survivors who have not been touched by assistance, even become unemployed because they have lost their land. The good thing is, the government will again provide socialization regarding what conditions must be met to get assistance while still observing the condition of the community so that Palu City can recover completely.

V. CONCLUSIONS AND SUGGESTIONS

A. Conclusion

When activities that give rise to social costs and benefits determined from the losses and specific contributions are identified, then the impact on humans can be calculated. People can be affected economically, physically, psychologically and socially by various disadvantages. To measure these social costs it is necessary to identify these losses and quantify them.

The economic loss can be analyzed from a number of infrastructures used for livelihoods that are now completely damaged so that many residents have lost their livelihoods, agricultural land, livestock and plantations have been lost due to liquidation. Social costs in terms of physical losses can be analyzed from the damage to residential areas and their environmental infrastructure, transportation, water / irrigation resources, telecommunications, etc. The social costs in terms of psychological losses can be seen from their psychological state. The psychological disadvantages can also be seen from their social interactions. We can analyze social costs in terms of social losses from the value of health, education, religion, social institutions, culture, etc. due to earthquakes and liquefaction.

Disasters provide many benefits to the people, the existence of equality of fate has made an increased attitude of help and strengthened brotherhood in Palu City, especially SigiRegency. Losing property, land of work, and relatives tells of deep wounds. Another benefit that is felt is spiritual benefits, namely one's relationship with God. Disasters do not only tell stories of sorrow, but they make someone aware of the presence of YMK God. That all these events are His power and a trial for His servants, whatever they want will happen with His power and greatness.

Mitigation means a series of efforts to reduce disaster risk, both through physical development and awareness and increased capacity to face disaster threats. This is done to reduce the risks and impacts caused by disasters on communities living in disaster-prone areas.

There is a balance between the social costs felt by the community and the economic costs arising from the disaster. When viewed from the perspective of society, the social costs felt by the victims are so great that it may be difficult to replace them with money. The wounds and trauma and grief that exist cannot simply be healed. However, it cannot be denied that in dealing with social costs, there will be economic costs that must be sacrificed. For example, in the fulfillment of housing, both temporary and permanent housing. The economic cost in the residential sector is the main topic where the destruction of people's houses results in residents being homeless. The government then incurs costs both in the form of stimulants, grants, and permanent housing so that the victims are not just neglected.

B. Suggestions

In research on social benefits and costs, this study suggests the following:

1. For the Government, it is hoped that this research can serve as a suggestion for the government's next steps in disaster mitigation. As well as paying more attention to it and hearing complaints and providing good socialization so that there are no misunderstandings between the government and its people.
2. For further research, it is expected to be involved directly in conducting interviews so that collaboration is formed that involves participants in analyzing and interpreting the social benefits and social costs of everything they see and hear.
3. Future researchers are expected to find and read more reference materials or other literature, so that the results of further research will be better and gain new and useful knowledge.

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