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ABSTRACT

Floods are the most common natural disasters that hit Indonesia. Flood can threaten and disrupt the lives and livelihoods of community groups. Disaster losses can be reduced if the community has the capacity to manage the threats that occur. This study aims to analyze and map the community's capacity to reduce flood risk. The method used in this study is a survey method with quantitative descriptive data processing. The population in this study is the community in the East Martapura District, Banjar Regency, South Kalimantan Province. Based on BPNP 2021 data, the number of people affected by the 2021 flood disaster is 275,906 people. Samples were taken using the Lemeshow formula as many as 100 respondents spread over 20 villages using simple random sampling technique. The instrument used in this study was a questionnaire. The results showed that the level of community mitigation capacity in East Martapura District was mostly at the high level of mitigation capacity, which was 70.5% of the community, most of the preparedness capacity was at the moderate level, which was 73.75% of the community, and the survival capacity was mostly entered at a low level of 73% of the community. Based on the overall capacity assessment, the level of community capacity is mostly at the moderate capacity level, which is 38.08%, while those included in the low capacity level are 31.75%. Only 28.08% of the people are included in the capacity level level. In conclusion, the capacity of the community as a whole is mostly at a moderate level.

KEYWORDS: mapping, capacity, risk, disaster, flood

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I. INTRODUCTION

Law Number 24 of 2007 states that a disaster is an event or series of events that threatens and disrupts people's lives and livelihoods caused, both by natural factors and/or non-natural factors as well as human factors, resulting in human casualties, environmental damage, property losses. objects, and psychological effects. One of the natural disasters that have a major impact on health is flooding.

Floods are the most common natural disasters that hit Indonesia. The National Disaster Management Agency (BNPB) noted that there were 487 flood events from January 1 to April 19, 2021. Throughout 2018-2020, South Kalimantan has experienced 73 floods. Entering the beginning of 2021, rain with moderate to high intensity occurred in the South Kalimantan region causing flooding in several districts (BNPB, 2021). At the time of the flood incident in early 2021, the Governor of South Kalimantan issued an emergency response status for floods, landslides, cyclones, and tidal waves in South Kalimantan Province, which means the state of the disaster that has occurred has threatened and disrupted the lives and livelihoods of a group of people/communities(BNPB, 2021).

Based on BNPB data, South Kalimantan floods, at least 11 districts/cities were affected. Banjar Regency is one of 11 regencies/cities affected by floods in South Kalimantan Province. Some areas of Banjar Regency are lowlands that are passed by several rivers with hydrographic conditions that are strongly influenced by rainfall. As a result, some areas are always inundated (29.93%) and some (0.58%) are periodically inundated. Based on these geographical conditions, Banjar Regency experiences flooding every year. Broadly speaking, three sub-districts in Banjar Regency which always experience periodic flooding events, namely Martapura District, East Martapura District, and Pengaron District (Afdhalia F & Rizki Oktariza, 2019).

The impact of floods in South Kalimantan in 2020 resulted in 24 people dying, more than 100 thousand people being displaced, more than 600 thousand people being affected, resulting in damage and material losses of Rp. 1.127 Trillion (BNPB, 2021). The impact of these losses is called disaster risk. The greater the disaster occurs when the community has a lower level of ability than the level of threat that may occur to it. A threat becomes a disaster if the community is vulnerable, or has a capacity lower than the level of the hazard, or even becomes one of the sources of the threat. So it is necessary to make efforts to reduce risk (Prihananto FG, 2020). According to Nikelsen (2009), disasters can be reduced if the community and the higher social system that work on it do not have the capacity to manage the threats that occur to them.

Law No. 24 of 2007 concerning disaster management requires disaster management to be carried out in a decentralized manner by involving the widest possible community participation, starting from the initial stages of the program (identification, analysis, implementation of work plans, monitoring and evaluation) to the final stage where the program will be handed over completely to the local community (Prihananto FG, 2020).Capacity refers to all the strengths, attributes, and resources available within a community, organization, or society to manage and reduce disaster risk and strengthen resilience (UNISDR Terminology, 2017).Community capacity in reducing flood risk consists of mitigation capacity, preparedness capacity, and survival capacity. The existence of community capacity in disaster management is also a form of preparedness which is an important element of pro-active disaster risk reduction prevention activities, before a disaster occurs (LIPI, 2006).

Mapping is very necessary as an effort to analyze and describe a case as well as community capacity in flood prevention efforts. Mapping is needed to facilitate the provision of information so that appropriate control efforts can be made so as to reduce the impact of floods that occur.

II. RESEARCH METHODOLOGY

The method used in this study is a survey method with quantitative descriptive data processing. The population in this study is the community in the East Martapura District, Banjar Regency, South Kalimantan Province. Based on BPNP 2021 data, the number of people affected by the 2021 flood disaster is 275,906 people. Samples were taken using the Lemeshow formula as many as 100 respondents spread over 20 villages using simple random sampling technique. The instrument used in this study was a questionnaire. The instrument used in this study was a questionnaire. Before conducting the research, the questionnaire was tested for validity and reliability to measure the level of validity of a measuring instrument. Data analysis was used to determine the distribution and frequency of each observed variable. The data analysis used in this study is to describe how the community's mitigation capacity, readiness capacity, and survival capacity, as well as the level of community capacity in general are obtained from the average value of the capacity dimension. After obtaining the average value of the community capacity level, mapping was carried out in each of the villages in the East Martapura area, Banjar Regency that was affected by the flood.

III. RESULTS AND DISCUSSION

Community capacity in reducing flood risk consists of mitigation capacity, preparedness capacity, and survival capacity. The results of this study are as follows:

1. Community Mitigation Capacity

The research results based on the dimensions of community mitigation capacity are as follows:

Table 1. Frequency Distribution of Community Mitigation Capacity

Village Name	Community Capacity Level (%)		
	Low	Moderate	High
Akar Baru	0	25	75
Akar Begantung	0	40	60
Antasan Senor	0	25	75
Antasan Senor Ilir	0	80	20
Dalam Pagar	0	0	100
Dalam Pagar Ulu	0	0	100
Keramat	0	20	80
Keramat Baru	0	20	80
Mekar	0	0	100
Melayu	0	12.5	87.5
Melayu Ilir	0	20	80
Melayu Tengah	0	0	100
Pekauman	0	100	0
Pekauman Dalam	0	20	80
Pekauman Ulu	0	20	80
Pematang Baru	0	0	100
Sungai Kitano	0	100	0
Tambak Anyar	0	0	100
Tambak Anyar Ilir	0	20	80
Tambak Anyar Ulu	0	0	100
Average	**0**	**24.5**	**70.5**

Based on the results of the research conducted, it can be seen that the level of community mitigation capacity in East Martapura District is mostly included in the high mitigation capacity level, which is 70.5% of the community. As for what is included in the level of moderate mitigation capacity of 24.5% of the community. The results showed that no village had a low level of mitigation capacity. This shows that public knowledge about flood disaster mitigation in community-based risk reduction efforts is good.

The community's mitigation ability in an effort to overcome risks based on field findings shows that the community already understands related to flood prevention efforts, namely through reforestation / reforestation, besides that the community will also choose a safe place if they get an early warning of a flood, prepare flashlights or similar lighting to cope with power outages. when a flood disaster occurs, make evacuation/rescue routes from flooding, and help children, pregnant women, the elderly and disabled people leave their homes to a temporary safe place. However, other mitigation efforts such as being active in activities/training related to flood disaster management and the construction of embankments using concrete walls to prevent water from entering settlements have not been carried out optimally and have not been considered important by the community.

Public knowledge about mitigation is not the final step to deal with disasters, but as a first step to reduce the risk or loss caused by disasters. The initial and important step in implementing mitigation is a full understanding of the nature of the hazard to be faced (Prihananto, 2020).

2. Community Readiness Capacity

The research results based on the dimensions of community readiness capacity are as follows:

Table 2. Frequency Distribution of Community Readiness Capacity

Village Name	Community Capacity Level (%)		
	Low	Moderate	High
Akar Baru	0	100	0
Akar Begantung	0	100	0
Antasan Senor	50	50	0
Antasan Senor Ilir	25	75	0
Dalam Pagar	40	60	0
Dalam Pagar Ulu	0	100	0
Keramat	60	40	0
Keramat Baru	0	100	0
Mekar	100	0	0
Melayu	25	75	0
Melayu Ilir	20	80	0
Melayu Tengah	0	20	80
Pekauman	0	100	0
Pekauman Dalam	0	100	0
Pekauman Ulu	20	80	0
Pematang Baru	20	80	0
Sungai Kitano	0	100	0
Tambak Anyar	0	100	0
Tambak Anyar Ilir	25	75	0
Tambak Anyar Ulu	60	40	0
Average	**22.5**	**73.75**	**4**

Based on the results of the research conducted, it can be seen that the level of community readiness capacity in East Martapura District is mostly in the moderate readiness capacity level, which is 73.75% of the community. This shows that the community's knowledge about the community's preparedness capacity in dealing with flood disasters as an effort to reduce community-based risk is quite good.

As for those included in the level of low readiness capacity as much as 22.5% of the community. The results also show that only 4% of the community is included in the high level of readiness capacity. Preparedness in dealing with disasters is an activity related to community vulnerability. Based on field findings, it shows that the community already

understands related to disaster preparedness, among others, by storing the telephone numbers of the family, PLN/ PDAM/ nearest health workers and prioritizing the evacuation of the elderly/ the elderly. However, there are also people who prefer to stay at home when there is information that flood waters are increasing.

The capacity for preparedness in this study relates to the ability of the community or group to face the threat of a disaster that occurs. Community capacity in the context of disaster risk reduction is expected to be carried out in a sustainable manner. Therefore, we need a policy that is used as the basis for the formation of community groups that are empowered to face the threat of disaster. A high level of preparedness shows the ability of the community to understand disaster risk, so that they are able to prepare themselves in the event of a disaster. The ability to prepare for this is very important because it is part of preventive or preventive actions before a disaster against severe or major risk conditions immediately or after a disaster (Prihananto, 2020).The role of the community in achieving the goals of disaster risk reduction as stated in the Regulation of the Head of the National Disaster Management Agency Number 1 of 2012 should also be taken into account. This is because the role of the community is one of the objectives stated in the disaster risk reduction policy.

3. Community Survival Capacity

The results of the study based on the dimensions of community survival capacity are as follows:

Table 3. Frequency Distribution of Community Survival Capacity

Village Name	Community Capacity Level (%)		
	Low	Moderate	High
Akar Baru	50	50	0
Akar Begantung	80	20	0
Antasan Senor	25	50	25
Antasan Senor Ilir	100	0	0
Dalam Pagar	100	0	0
Dalam Pagar Ulu	100	0	0
Keramat	60	40	0
Keramat Baru	20	20	60
Mekar	100	0	0
Melayu	75	12.5	12.5
Melayu Ilir	60	20	20
Melayu Tengah	80	0	20
Pekauman	100	0	0
Pekauman Dalam	60	40	0
Pekauman Ulu	100	0	0
Pematang Baru	100	0	0
Sungai Kitano	40	60	0
Tambak Anyar	100	0	0
Tambak Anyar Ilir	60	20	20
Tambak Anyar Ulu	50	0	50
Average	**73**	**16**	**9.75**

Based on the results of the research conducted, it can be seen that the level of survival capacity of the people in East Martapura District is mostly included in the low survival capacity level of 73% of the community. As for those included in the moderate level of survival capacity of 16% of the community. The results also show that only 9.75% of the people are included in the high level of survival capacity. This shows that the community's survival capacity in dealing with flood disasters based on coping strategies is still not good.

Adaptation strategies have the level of actors in a social condition. According to Twigg (2004), coping strategies are defined as the implementation or application of indigenous knowledge of the community in dealing with hazards and threats based on experience that has been owned and acquired from generation to generation, as a habit or behavior of the community in an effort to reduce the risk of disasters and reduce the impact caused by disasters. disaster. Coping strategies of local communities in dealing with disasters are divided into economic, social, structural and cultural coping strategies.

Based on the results of the field findings, it is shown that there are still a few people who have a high survival capacity in structural coping strategies. Structural coping strategy is a coping strategy that is focused on physical development and application of technology that aims to reduce losses due to disasters and minimize the risk of disasters. The people of East Martapura Sub-district still have not made efforts such as preparing tools to hold houses from collapsing during floods and not many are involved in building and preparing evacuation sites.

4. Community Capacity Level Assessment

The results of the study based on the level of total community capacity are as follows:

Table 4. Frequency Distribution of Community Capacity Level

Village Name	Community Capacity Level (%)		
	Low	Moderate	High
Akar Baru	16.67	58.33	25.00
Akar Begantung	26.67	53.33	20.00
Antasan Senor	25.00	41.67	33.33
Antasan Senor Ilir	41.67	51.67	6.67
Dalam Pagar	46.67	20.00	33.33
Dalam Pagar Ulu	33.33	33.33	33.33
Keramat	40.00	33.33	26.67
Keramat Baru	6.67	46.67	46.67
Mekar	66.67	0.00	33.33
Melayu	33.33	25.00	0.00
Melayu Ilir	26.67	40.00	33.33
Melayu Tengah	26.67	6.67	66.67
Pekauman	33.33	66.67	0.00
Pekauman Dalam	20.00	53.33	26.67
Pekauman Ulu	40.00	33.33	26.67
Pematang Baru	40.00	26.67	33.33
Sungai Kitano	13.33	86.67	0.00
Tambak Anyar	33.33	33.33	33.33
Tambak Anyar Ilir	28.33	38.33	33.33
Tambak Anyar Ulu	36.67	13.33	50.00
Average	**31.75**	**38.08**	**28.08**

Based on the results of the research conducted, it can be seen that the level of community capacity is mostly at the moderate capacity level, which is 38.08%, while those included in the low capacity level are 31.75%. Only 28.08% of the people belong to the high capacity level.

5. Community Capacity Mapping

There are 20 villages located in East Martapura District. The following is a mapping of the distribution of community capacity levels in dealing with flood disasters in East Martapura District based on each village in the sub-district (Figure 1). Based on the map of the distribution of community capacity in dealing with flood disasters above, it shows that all villages have varying levels of capacity, even though the village area is located on the riverbank and often experiences floods. The village capacity level is mostly included in the moderate level, namely 10 villages (50%). While those included in the low level were 4 villages (20%). Meanwhile, the village capacity level, which is mostly high level in dealing with disasters, is only 2 villages, namely Melayu Tengah Village (66%) and Tambak Anyar Ulu (50%).

The results of the study also show that there are villages where there are no people who have high capacity, namely Pekauman Village and Kitano River. Community capacity is the understanding and ability of the community to deal with disasters that can threaten safety consisting of mitigation capacity, preparedness capacity, and survival capacity. The capacity of the community in this community-based disaster risk reduction program is measured by the accumulated value of the mitigation, preparedness and survival indicators.

Capacity in the concept of disaster risk reduction is analyzed as the relationship of the strengths of these types of resources by various risk groups and the whole system and structure of society that can increase or decrease capacity in dealing with threats. So community capacity can be defined as a form of effort to defend themselves from the threat of a disaster. So to be able to become a resilient community, an ability to deal with disasters is needed (Dyah R. Hizbaron, et al, 2018). Because the community is the main party affected when a disaster occurs, having quality capacity and potential is a must in dealing with a disaster.

Figure 1. Distribution Map of Community Capacity

IV. CONCLUSION

Community capacity can be defined as a form of effort to defend themselves from the threat of a disaster. Based on the results of the study, the community in 20 villages in the East Martapura District, most of the people have a high level of mitigation capacity, moderate community readiness capacity and low survival capacity. The overall community capacity assessment is mostly at a moderate level. The map of the distribution of community capacities shows various capacities even though the village area is on the riverbank and often experiences floods.

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