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ANALYSIS THE FACTOR OF COMMUNITY POTENTIAL IN FLOOD PREVENTION AND ENVIRONMENTAL BASED DISEASES: A SYSTEMATIC LITERATURE REVIEW

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Abstract

Indonesia is an area that is prone to various types of natural disasters, one of which is flooding. Flooding is an ordinary natural phenomenon, but it will be very detrimental if it threatens the existence of human life. When a disaster occurs, the availability of water becomes very important for daily needs such as drinking, bathing, cooking, washing, it is very difficult to meet in the midst of disasters such as floods. The purpose of this study is to analyze the potential of community knowledge related to clean water management in preventing floods and environmental-based diseases, analyzing the potential of community resources in preventing banjar and environmental-based diseases, analyzing potential risk areas in preventing floods and environmental-based diseases, analyzing community institutions that play a role in flood prevention and environmental based disease. Article searches were conducted on Google Scholar and PubMed with a limited publication date to get up-to-date data and results (2012-2021). The search strategy includes keywords, namely knowledge, risk areas, community resources and community institutions. The results of this study are the knowledge variable is the main factor and is the key to preparedness. The knowledge possessed can usually influence public awareness to be ready and alert in anticipating disasters. Second, the value of the resource mobilization index which is in the almost ready category is an indication of the lack or low capacity of the head of the family in mobilizing their resources during and after the flood occurred. Third, land characteristics tend not to be correlated with the intensity of the flood impact. Meanwhile, land use patterns have a tendency to correlate with the intensity of the flood impact. Fourth, the Government conducts outreach to schools and communities in flood-prone areas. The conclusion is that knowledge is still lacking, and the results of community resources are still lacking and still being developed, and disaster-prone areas are related to flooding, and the results of community institutions have been implemented well.

Keywords: *Floods, SDG's, Environmental Based Diseases, Knowledge, Community Resources, Risk Areas, Community Institutions.*

Introduction

Indonesia is an area that is prone to various types of disasters, including natural disasters. Natural disasters are natural phenomena that can cause environmental damage and destruction which in the end can cause casualties, property losses and damage to developments that have been built so far. One of the natural phenomena that causes huge losses that always threatens several regions in Indonesia is the flood disaster. Floods are an ordinary natural phenomenon, but will be very detrimental if they threaten the existence of human life[1].

In the event of a disaster, the availability of water becomes very important. The need for clean water for daily needs such as drinking, bathing, cooking, washing and so on is very difficult to meet in the midst of disasters such as

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floods. Under normal conditions, the need for clean water is around 10 liters per person per day. During a flood, the PAM water supply is cut off because most of the distribution pumps are submerged, the electricity will also go out and if residents use dug wells, the water from the dug wells mixes with the flood water. So practically only flood water whose quality cannot be used for drinking water. Under these conditions, the community's need for clean water will be disrupted[2].

Data from the Regional Disaster Management Agency (BPBD) of South Kalimantan Province (2018), the total number of disasters in the South Kalimantan Region in 2017 was 381 disasters. Banjar Regency has experienced several floods from 2014, 2015, 2017, 2020 which were very large and caused many problems in the field of public health. Data in 2015 contained eight sub-districts in Banjar Regency and caused 1,742 houses inhabited by 3,949 families to be submerged, in 2017 there were 54 flood disasters and in 2020 there were 6,670 houses affected and 11,269 people displaced and lack of clean water and without water. knowledge about clean water treatment and in Banjar regency[3].

Materials And Methods

Searches were made on Google Schoolar and PubMed with a limited publication date to get up-to-date data and results (2012-2021). The search strategy includes keywords, namely knowledge, risk areas, community resources and community institutions. Overall Journal Results source Google Scholar (915), PubMed (88) N = 1003. Only full-text articles published in English or Indonesian in peer-reviewed journals were selected, with an observational research design and analysis of potential factors of community capacity in flood prevention and environmental disease. A total of 1003 publications had a brief screening by title and relevance, resulting in 88 articles included. Each article title, abstract, and full text were reviewed and assessed for relevance independently by the researchers, yielded 63 included articles. Furthermore, the article is equipped with a manual search through the reference list of the studies taken. In summary, a total of 15 articles were selected as relevant.

Finding And Discussion

Results of Analysis of Potential Community Knowledge Related to Clean Water Management in Prevention of Floods and Environmental Based Diseases

The results of the research of Santi et al in 2020 and Santi et al in 2021, the knowledge possessed affects the attitude and concern of the community to be ready and alert in anticipating disasters, especially for those who live in areas prone to natural disasters. The knowledge and attitudes and preparedness possessed by the community are obtained from the experience of experiencing floods almost every year. This experience provides knowledge about the flood disaster that hit and will affect the attitudes and concerns of the community to be ready to anticipate floods[4].

The results of research by Nur Mas'Ula et al in 2019, the level of relationship between community knowledge and community preparedness for flood disasters is low (0.255). The low level of public knowledge about the types of floods is influenced by the lack of counseling or socialization about disasters carried out by the government, so that people tend to still do not understand the types of floods. The lack of public interest in taking socialization seriously is the cause[5].

The results of Agung Hildayanto's research in 2020 are that people who have good preparedness knowledge are 36.4%, while people who have less preparedness knowledge are 63.6%. And people who have good preparedness attitudes are 46.5%, while people who have less preparedness attitudes are 53.5%. To create a good action for the community in terms of flood prevention, knowledge is needed which is the main supporter of the community in acting. This shows that whatever humans do is strongly influenced by the knowledge they have[6].

The results of research by Aditya Nur Rahma et al in 2019, students know that flood disasters can be prevented. Students and teachers already know that Indonesia is a country prone to flood disasters, therefore students and teachers can reduce disaster risk in their schools which often flood[7].

The results of research by Fatiya Rosyida and Khofifatu Rohmah Adi in 2017, Knowledge about floods and their impacts includes an understanding of flood disasters, the factors that cause disasters caused by humans, and the impact of floods. Students' knowledge related to flood disasters that occur in the surrounding environment, both at school and at home, is not good, this can be seen from their understanding of low flood disasters. They do not know how often their area is flooded in a year and are unable to remember when the last flood occurred and when there was a major flood in the last five years[8].

The results of the research by Dwi Nova Hadi Prasetyo, Rahma Hayati in 2018, the level of knowledge of the youth organization regarding flood preparedness which was tested on 32 people using a pre-test, it was found that an average value of 61.00 was in the high category. This shows that the knowledge of youth organizations in Sawah Besar Village is still not evenly distributed and it is necessary to provide socialization regarding flood disaster preparedness, considering that in Sawah Besar Village there must be floods every year, especially during the rainy season[9].

Result of Analysis of Community Resources Potential in Prevention of Floods and Environmental-Based Diseases

The results of the research by Santi et al in 2020 and Santi et al in 2021 revealed that the resource mobilization index value which was in the almost ready category was an indication of the lack or low capacity of the head of the family in mobilizing their resources during and after the flood occurred. This is due to their lack of skills in terms of first aid, preparedness, evacuation of victims and clean water treatment[10].

The results of Dewi Sartika's research in 2019, this empowerment is an integral part of the community development process, which is carried out by involving the community in the process of planning, implementing, maintaining, and preserving the infrastructure that will be and has been built, placing humans as the subject of development, trying to help the community recognize their potential and develop it to be efficient, strive to improve the quality of humans and society who are productive, creative and able to independently participate in development activities, provide trust, opportunity and flexibility to the community to develop their potential, develop the growth of community participation in the form of energy, thoughts and materials, based on philosophy self-help and community member participation[11].

The results of the research by Yunus Aris Wibowo, Lintang Ronggowulan, Dian Adhetya Arif, Rikki Afrizal, Yaskinul Anwar, Ayu Fathonah in 2019, planning for non-structural river flood flood mitigation in the downstream Comal watershed which consists of regional spatial planning in harmony with land use management in the watershed Comal, detection and prediction of Comal River discharge conditions through resource activities for recording and observing hydrometeorological data, planning for river border area management, disaster literacy in schools and communities, improving communication systems and local wisdom in the community, making evacuation routes, early warning systems and simulations disasters and reforestation and reforestation[12].

Results of Analysis of Potential Areas at Risk in Prevention of Environmental-Based Diseases and Floods

The results of research by Nur Miladan et al in 2018, land characteristics tend not to be correlated with the intensity of the flood impact. Meanwhile, land use patterns have a tendency to correlate with the intensity of the flood impact. In addition, the characteristics of the drainage pavement also tend to be correlated with the impact of flooding. The growth of the built-up spaces in the area around the river basin needs to be limited because the addition of the built-up space is correlated with the risk of the impact of flooding[5].

The results of the research of Mutiara Aisha et al in 2018, the denser a building in the area, the higher the value of physical vulnerability. As the theory expressed by Lisditya, Sartohadi, and Marfai (2012) that the denser a settlement is, the more likely there are houses affected by the disaster, and can cause more victims. Thus, the density of settlements can be used to determine the level of vulnerability in an area[13].

The results of research by Francis A Tarumingkeng, Linda Tondoba, & Rieneke LE In 2017, the administrative areas that were affected and became vulnerable to flooding around the Sario river were 5 Kelurahan which were divided into 6 environmental administration areas, namely 3 environmental administration areas in Sario Subdistrict (Titiwungen Village). South neighborhoods I and II and North Sario Villages III) and 3 environmental administrative areas in Wanea District (Pakowa neighborhoods I, Ranotana Weru neighborhoods I and Tanjung Batu neighborhoods III). The level of vulnerability varies according to the research location, where the very low vulnerability category is found in Tanjung Batu Environment III Village. The low vulnerability category was found in the Titiwugen Selatan sub-district, neighborhood I. The medium vulnerability category was found in North Sario Village III, for the high vulnerability category in Titiwugen Selatan II Village. As well as the very high vulnerability category found in Pakowa I Village. This is due to physical, economic and social conditions in this area which are still inadequate in dealing with the impact of flood disasters such as the lack of green land for water absorption when it rains and the high population causing the location to become flooded. It is easy to be exposed if a disaster strikes[14].

The results of research by Yunus Aris Wibowo, Lintang Ronggowulan, Dian Adhetya Arif, Rikki Afrizal, Yaskinul Anwar, Ayu Fathonah in 2019, the downstream Comal watershed area is very vulnerable in terms of social, economic and physical. facilities and the number of critical facilities. The number of public facilities are buildings that are used as places for community activities such as mosques and schools, while critical facilities are buildings that have a vital role for the community, namely health centers such as hospitals, Community Health Centers (PUSKESMAS) and health clinics. Buildings, especially settlements, are very vital because they are people's residences[12].

Results of Analysis of Community Institutions Playing a Role in Flood Prevention and Environmental-Based Diseases

The results of research by Ahmad Fatkul Fikri et al in 2020, one of the efforts to disseminate knowledge about the

threat of flooding is by the Government conducting socialization in schools and communities with flood-prone areas. The socialization activities are carried out every time the rainy season approaches by utilizing local wisdom, making brochures, billboards, films related to flood disasters and discussions discussing flood risk reduction[15].

The results of research by Chrisdawati Angrelia et al in 2020, the Government has facilitated through efforts to hold simulations, seminars, and training on flood prevention which is expected to be a first aid to the community when they become victims. In addition, the government is also implementing flood disaster management strategies through channel improvement and protection of vegetation. Rivers that are already shallow and dry will soon be dredged deeper and the left and right walls of the river must also be widened and strengthened. All this must be done so that when there is an overflow of water, the water does not spread to the area around the river or to residential areas[16].

The results of research by Bambang Eko Turisno, R.Suharto, Ery Agus Priyono in 2018, the pattern of mangr ove ecosystem management is carried out by involving community participation. Efforts to develop community participation in the management of coastal and marine natural resources including mangrove forests are carried out through various strategies including persuasive, educative and facilitative strategies. Persuasive strategies are carried out in the form of coaching. The strategy implemented will increase public understanding and awareness of the importance of mangrove forests and the ability to manage them, but also empower their socio-economic life which will ultimately improve the welfare of coastal communities[17].

Conclusion

The current study examines various potential factors in the community's capacity. This paper concludes with the following implications. First, the variable of knowledge possessed affects the attitude and concern of the community so that they are ready to anticipate disasters, the result is that owledge is still lacking. Second, it was revealed that the value of the resource mobi ation index which was in the almost ready category was an indication of the lack or low capacity of the head of the family in mobilizing their resources during and after the flood occurred, and the results of community resources were still lacking. and is still being developed. Third, land characteristics tend not to be correlated with the intensity of the flood impact. Meanwhile, land use patterns tend to be correlated with the intensity of the impact of floods and the consequences of risk areas associated with flooding.

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Conflict of Interest: None

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