

Education on Disaster Mitigation and Social Participation among Vocational School Students in Pangkep Regency

Received: September 2023

Accepted:

September 2023

Published:

December 2023

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Abstract

Acquiring knowledge about flood mitigation is highly beneficial for students, as it equips them with a valuable skillset to assist others. This study aims to achieve the following objectives: (1) Evaluate the delivery of flood disaster mitigation education among students of SMK Muhammadiyah Pangkep Regency. (2) Examine the impact of disaster mitigation knowledge on the level of social engagement among students at SMK Muhammadiyah Pangkep Regency. The research methodology employed is quantitative, utilizing a survey-based technique. The study was conducted in SMK Muhammadiyah Pangkep Regency. The study population consisted of vocational students, and a stratified selection procedure was employed to choose a sample of 67 individuals from class IX and class X. The data collection methodology employed questionnaires and document analysis. Methods of data collecting involving the use of surveys and the examination of documents. Data processing techniques involve the manipulation and organization of data, whereas data analysis refers to the examination and interpretation of data. In this case, frequency tabulation using percentage approaches is used to analyze the data, and the results are described in a descriptive manner. The study found that the instruction on flood disaster mitigation implemented in students of SMK Muhammadiyah Pangkep Regency was in line with the teaching guide. (2) Disaster mitigation knowledge has a positive influence on the level of social participation among students of SMK Muhammadiyah Pangkep Regency, as it equips them with the necessary information and abilities to assist others. Students have encountered floods, and the skills and knowledge they acquired have enhanced their understanding of flooding. These consequences highlight the necessity for customized and community-led tactics in managing disasters, ultimately leading to a community that is more resilient and prepared for disasters.

Keywords: Education, Disaster Mitigation, Social Participation, Vocational School Students.

INTRODUCTION

Pangkep Regency has geographical, geological, hydrological and demographic conditions that allow disasters to occur, whether caused by natural factors, non-natural factors or human factors. Disasters that occur result in human casualties, environmental damage, property losses, and psychological impacts. One type of natural disaster is flooding. According to BNPB, flooding is the most serious disaster in Indonesia. Floods occur due to above-normal rainfall, rising seas, and human actions such as improper land use, dumping garbage into rivers, building settlements in floodplains and so on. BNPB of South Sulawesi province stated that Pangkep Regency is one of the regencies that has a high flood disaster vulnerability in South Sulawesi. It is recorded that this flood always occurs every year and always harms residents. Rice fields with rice crops are submerged, fish in ponds are carried away by floods, bridges and roads are damaged and so on.

Based on Law No. 24/2007, one of the strategies for disaster risk reduction is through the development of disaster resilient villages/kelurahan with community-based disaster risk reduction

efforts (PRBBK). A Disaster Resilient Village is a village or *kelurahan* that has the ability to recognise threats in its area and is able to organise community resources to reduce vulnerability and at the same time increase capacity to reduce disaster risk. Through the Disaster Resilient Village, BPBD Pangkep Regency provides disaster education to the community through disaster mitigation activities, mapping of disaster risk areas and types of disasters, prevention activities, preparedness, emergency response, and recovery from disaster threats. In its implementation, this disaster education involves organizations, other government agencies in training. To reduce losses caused by disasters, it is necessary to create disaster mitigation plans, plan evacuation routes, and improve capabilities in emergency response management as well as guide the community in disaster loss reduction measures.

Another effort taken by the local government is to introduce flood disaster mitigation to school children and is carried out in stages and on a scheduled basis. Education about disaster mitigation is socialised with the aim that the younger generation understands what flooding is and the possible anticipatory steps they can take to reduce disaster risk. After they understand, the next step is to involve the community in the mitigation as a form of social participation. The success of an activity is also influenced by community participation. Community participation plays an important role in the sustainability of community-based programmes (Angriani et al., 2018; Natasya widyasari, 2020).

Education on flood disaster mitigation must be carried out continuously to each generation. This is done as a capital asset in building individual and community vigilance. In particular, flood disaster mitigation must be memorized by young people because flooding in Pangkep has reached a detrimental and worrying stage. With mitigation, at least the younger generation will think of the right solution to the floods that they are subjected to every year. Looking at the background description of the problem, the author sets the objectives of this research as follows: (1) Analyse the implementation of education about flood disaster mitigation in students of SMK Muhammadiyah Pangkep Regency. (2) Analyse the effect of disaster mitigation knowledge on social participation in students of SMK Muhammadiyah Pangkep Regency.

Flood Disaster

Definition of Disaster According to Law No. 24/2007, a disaster is an event or series of events that threaten and disrupt people's lives and livelihoods caused by natural and/or non-natural factors as well as human factors resulting in human casualties, environmental damage, property losses, and psychological impacts. Disaster is a confluence of three elements, namely, disaster threat, vulnerability, and capability triggered by an event. According to (Quarantelli, 1988), a disaster is an event that occurs in a space and time, which can endanger the people who live and can disrupt their livelihoods. Disasters can produce losses in the form of human casualties, material or environmental if the disaster exceeds the community's ability to cope without external assistance. According to (Anriani et al., 2019; H. Halim et al., 2019), flood disaster is the inundation of land due to river overflow due to heavy rain or submissions from other areas located in higher places..

According to The United Nations Office for Disaster Risk Reduction (UNISDR), hydrometeorological disasters are disasters related to hydrological and meteorological processes (hydrological cycle, rain, *sehun*, and air humidity). The resulting disasters are floods, droughts, tornadoes, and tidal waves. Based on Law Number 24 Year 2007, the types of disasters include: (1) Natural disasters are disasters caused by an event or series of events caused by nature, including

earthquakes, tsunamis, volcanic eruptions, floods, droughts, hurricanes, and landslides. (2) Non-natural disasters are disasters caused by non-natural events or series of events, including technological failure, modernisation failure, epidemics, and disease outbreaks. (3) Social disasters are disasters caused by events or series of events caused by humans, including social conflicts between groups or communities, and terror.

The classification of natural disasters based on their causes can be divided into three types (Harifuddin Halim, 2018; Setyowati, DL., Nana Karida Tri Martuti., 2016), namely: (1) Geological natural disasters are natural disasters due to forces originating from within the earth or endogenous forces, such as earthquakes, volcanic eruptions, and tsunamis. (2) Climatological natural disasters are natural disasters that occur due to weather and climate factors, such as floods, storms, flash floods, tornadoes, and natural fires. (3) Extra-Terrestrial natural disasters are natural disasters that occur in outer space, such as meteor impacts.

Disasters can also be classified based on their regional scope, namely: (1) Local disasters are disasters that affect neighbouring or nearby areas only. For example, disasters that occur due to human negligence such as fires, terrorism, chemical leaks, and so on. (2). Regional disasters are disasters that affect various natural disasters. (3) International disasters are natural disasters that occur in a wide area. For example, earthquakes, tsunamis, hurricanes, and so on. According to (Puturuhi, 2015) flood disasters can be classified based on water sources, mechanisms, positions, and based on aspects of the cause..

Based on the source of water, floods can be classified into three, namely: (1) River Floods are floods that occur due to overflowing river water. (2). Lake Flood is a flood that occurs due to overflowing lake water or a broken dam. (3). Tidal Sea Flood is a flood that occurs due to storms and earthquakes.

According to Puturuhi (2015) based on the mechanism of flooding, flood disasters can be classified into two, namely: (1). Regular floods are floods caused by a very large amount of runoff that exceeds the capacity of existing drainage. (2). Irregular floods are floods caused by tsunamis, tidal waves, or dam collapses. (*dam break*).

Floods can be divided into two based on the source of the flood to the area inundated, namely: (1) Local floods are the result of localized rainfall. (2) Flash floods are the result of propagation from upstream areas in a catchment area. Ferad (Puturuhi, 2015) also states that the causes of flooding can be classified into four, namely: (1) Floods due to long rains. With the capacity of the river owned by the river, it will eventually exceed its limits so that runoff water will flow into the low-lying areas on the left and right of the river. (2) Flooding due to snow drifts. This flood occurs because of the flowing snow pile and the increase in air temperature above the snow layer. Snow flow will flow quickly when accompanied by rain. (3) Flash floods are caused by high intensity rainfall in places with steep topography in the upper reaches of rivers. Flash floods have great destructive power and are dangerous. (4) Flooding due to tides at the mouth of a river or at the confluence of two rivers. If there is a large amount of rain at the same time in the upstream area, it will result in the overflow of river water in the downstream area, and accompanied by storms in the ocean or coast, it will have a major impact. The flood that occurred in Pangkep Regency was a river flood due to the overflow of the Pangkep River. Based on the mechanism of occurrence, it is a normal flood. Flooding in Pangkep Regency occurs due to long local rainfall so that with its capacity, the Pangkep River is unable to accommodate and eventually overflows into the area on the left and right of the river.

Disaster Mitigation

Mitigation is a series of efforts to reduce disaster risk, both through physical development as well as awareness and capacity building to deal with disasters (Law No. 24/2007). In disaster mitigation there are four important things, namely: (1). Information and maps of disaster-prone areas for each type of disaster (2). The existence of socialization to increase public understanding and awareness in the face of a disaster (3). Knowing how to save themselves, what to do and avoid during a disaster (4). The regulation and arrangement of disaster-prone areas to reduce the threat of disaster

McEntire (2001) states that to reduce losses caused by disasters it is necessary to create disaster mitigation plans, plan evacuation routes, and improve capabilities in emergency response management as well as guide the community in disaster loss reduction measures.

The stages of disaster management according to BNPB can be described as follows:

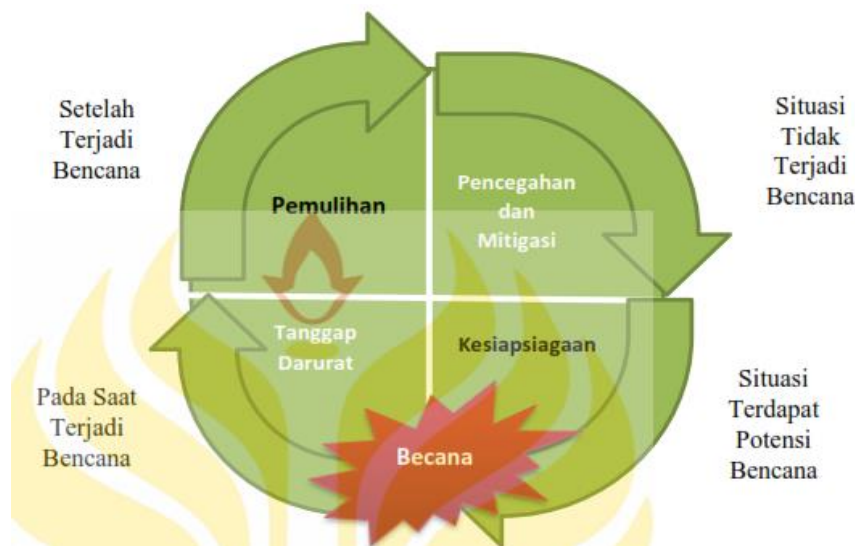


Figure 1. Stages of disaster management

Disaster prevention is the effort to eliminate or reduce the threat of disaster. (1) Mitigation is an effort to reduce disaster risk through physical development as well as awareness and capacity building in the face of disaster threats. (2) Preparedness is an effort to anticipate disasters through proper organisation and steps. (3) Emergency response is an activity carried out during a disaster to deal with the adverse effects caused. (4) Recovery is a series of activities as an effort to restore to its original condition, both the condition of the community and the environment affected by the disaster by means of rehabilitation.

Das (2002) believes that the emphasis on prevention and preparedness is in the pre-disaster period. This requires linkages between communities in disaster-prone areas and various institutions, professionals, bureaucracies, and policy makers. There is a need for hazard mapping and analysis, hazard monitoring, disaster risk assessment, and strengthening in disaster preparedness.

Pre-Disaster Mitigation

F. Aksa (2020) states that one of the natural disasters with the greatest impact due to climate change is flooding. Floods are the result of the sudden release of very large volumes of water, for example from dam breaches, tidal influences, or due to the influence of extreme rainfall. According to (Herdiansyah et al., 2020; Matunhay, 2022), disaster mitigation measures consist of two, (1). Structural mitigation is the act of physically reducing disaster risk. Forms of structural mitigation include: (a) Making infiltration wells that can minimize flooding because when it rains heavily the water will seep into the infiltration wells. (b) Improving drainage such as culverts to collect water so that it does not overflow into the surrounding area. (c) Dredging of rivers to reduce siltation. (2). Non-structural mitigation is disaster risk reduction measures related to policies, awareness building, knowledge development and regulations. Forms of non-structural mitigation include: (a) Socialisation of certain flood-related groups to the community to participate in minimizing flood disasters. (b) Socialisation in the process of dredging rivers. (c) Socialization of building arrangements so that they do not interfere with surrounding waterways.

According to BNPB, there are several activities that need to be carried out in pre-flood disasters, namely: (1) Knowing the warning terms related to flood hazards, such as Alert I to Alert IV and what steps should be taken. (2) Knowing the level of vulnerability of where we live, whether it is in a flood-prone zone. (3) Knowing ways to protect our homes from flooding. (4) Knowing the channels and pathways that flood water often travels through and what impact it has on our homes. (5) Making preparations for evacuation, including understanding evacuation routes and higher ground. (6) Talking to family members about the threat of flooding and planning a meeting place if family members are scattered. (7) Knowing what assistance can be provided if a family member is affected by flooding. (8) Knowing the special needs of family members and neighbours when affected by flooding. (9) Make preparations to live independently for at least three days, e.g. preparation of disaster preparedness bags, provision of food and drinking water. (10) Know how to switch off water, electricity and gas. (11) Considering flood insurance. (12) When it comes to property and possessions, make a record of your possessions, document them in photos, and keep the documents in a safe place. (13) Keeping various important documents in a safe place. (14) Avoid constructing buildings in flood-prone areas unless there are efforts to strengthen and elevate the building. (15) Pay attention to dangerous things when in contact with flood water such as electricity. (16) Participate in setting up refugee camps and public kitchens. (17) Get involved in the distribution of aid. (18) Using clean water efficiently (Muhari, 2023),.

Disaster Education

Disaster education is the habituation of the community to be alert and alert to disasters that occur which is a solution to reduce the impact of disasters (Setyowati, DL., Nana Karida Tri Martuti., 2016). With a picture of a community that cares, knows, and understands things related to disasters, it will form a "disaster-aware community". Disaster education is an effort so that people living in disaster-prone areas can actively participate in minimising the impact of disasters by conveying things related to knowledge, understanding, skills, and concern about disasters. In its implementation, disaster education can be implemented through formal, non-formal and informal education. The implementation of disaster education can involve the community or certain groups in the community such as religious leaders, community leaders, women activists, youth, journalists, or community organisations. The active involvement of the community in

disaster education will form community-based disaster management. Community-based disaster management is the main pillar for the success of disaster education programmes. So that it will increase the community's experience in understanding, experience, skills, concern, and also build community awareness in responding to matters related to disaster (Arifin et al., 2021).

Importance of Disaster Education in Disaster Risk Reduction

The embodiment of the concept of disaster risk reduction is contained in Law Number 24 of 2007. Where humans have the most important role in mitigating disasters, both through structural mitigation efforts and non-structural mitigation. Taking disaster risk reduction measures aims to reduce vulnerability and increase the capacity of an area exposed to disasters, which ultimately has an impact on improving the welfare of the community in an area that has a high risk of exposure to disasters. Law No. 24/2007 requires people from various elements, such as the government, the private sector, the business world, mass organisations, community leaders, communities, and other parties to build cooperation in disaster risk reduction efforts starting from pre-disaster, during disasters, and post-disaster. According to Baytiyeh (2017), the impact of recurrent disasters on vulnerable urban communities has caused various damages. However, disaster education by prioritising mitigation and preparedness has proven effective in minimising the impact of recurrent disasters in urban communities. Community-based management is an effort to reduce community vulnerability or increase community capacity, so that people are able to help themselves and their groups in the face of a disaster (Setyowati, DL., Nana Karida Tri Martuti., 2016).

Community Participation in Disaster Mitigation

The definition of participation according to Bahri et al., (2019) participation is participation in an activity, where it can be carried out by a person or group of community members. The definition of participation in (Siahaya et al., 2016) is:

1. Participation is voluntary community contribution without participation in decision-making.
2. Participation is the sensitisation of people to accept and respond to development projects.
3. Participation is voluntary involvement by the community in determining its own change.
4. Participation is the active participation of people or groups in taking initiatives and exercising their freedom to do so.
5. Participation is an agreement between the community and the staff who prepare, implement and monitor the project, in order to obtain information about the local context and social impacts.
6. Participation is the involvement of people in the development of themselves, their lives and their environment.

Participation is very important in the sustainability of a programme in the community. As stated by several experts, community participation in the Disaster Resilient Village Programme must exist. So that the programme can run in accordance with the objectives that have been set. As stated by (Box et al., 2016) that community participation can contribute positively to government decision-making by increasing the community in decision-making and by increasing the likelihood of success of implementing decisions.

According to Desportes et al., (2016), there are five levels of community participation from lowest to highest, namely:

1. Information, which is receiving information about what is being planned;
2. Consultation, offering opinions, being a good listener to provide feedback but not being involved in the implementation of the ideas;
3. Deciding together, i.e. providing support for ideas, choices and developing opportunities needed for decision-making;
4. Acting together, i.e. not only participating in decision-making, but also being involved in establishing partnerships in the implementation of activities; 5;
5. Supporting independent community initiatives, where local groups provide funding, advice and other support to develop an agenda..

According (Iskandar et al., 2019), the types of participation are as follows.

1. Direct participation in activities that are physical and face-to-face;
2. Participation in the form of money and goods. Participation in the form of money and goods should come from within the community itself. If external contributions are needed, they should only be temporary and used as bait;
3. Participation in the form of support;
4. Participation in the decision-making process;
5. Representative participation, by giving trust to community representatives who sit on organisations or committees..

According to (Siahaya et al., 2016), there are four forms of community participation, namely:

1. Thoughts, the community participates in contributing ideas or ideas in the planning process.
2. Labour, involving the community actively in carrying out and participating in an activity.
3. Skills: the community is involved in activities that emphasise skills.
4. Property, a form of community participation by using money and objects to achieve something desired.

Of all the forms of participation that have been expressed by experts, the form of participation that tends to fit this research is the form of participation according to Pasaribu and Simandjuntak. This is because the forms of participation expressed by Pasaribu and Simandjuntak have represented the activities in the Disaster Resilient Village Programme. This is confirmed in (Angriani et al., 2018) research in their article entitled Community Participation in the Mulyodadi Disaster Resilient Village Programme in Bantul Regency in 2018.

METHOD

Research Design

The research approach used in the study "Education on Disaster Mitigation and Social Participation among Vocational School Students in Pangkep Regency" is a quantitative research approach. Quantitative research is a systematic empirical investigation that seeks to gather numerical data and analyze it statistically to understand and describe the relationships and patterns within a specific population or sample. In this study, the researchers collected quantitative data using structured questionnaires and conducted a documentary analysis to address the research objectives and answer research questions related to disaster mitigation education and social participation among vocational school students.

Population and Research Sample

The location of this research is SMK Muhammadiyah Pangkajene, Pangkep Regency. The population of this study were all students of SMK Muhammadiyah Pangkajene Pangkep Regency. The sample of this study were all students of class VII, and class VIII of SMK Muhammadiyah Pangkajene Pangkep Regency using total sampling (Sugiyono, 2019).

Table 1
Title of Table

No	Kelas	Population	Sample
1	Class VII	32	32
2	Class VIII	35	35
	Total	67	67

Sumber: Arsip SMK Muhammadiyah Pangkep, 2022

Data Collection Techniques and Sources

The data collection techniques used in this study are:

- Questionnaires, namely data collection through the distribution of a list of questions to respondents.
- Observation in this study is an observation of disaster preparedness-based learning activities.
- Documentation is the collection of data and information through existing records, books, literature and the like related to school culture. The information obtained can support the data needed in analysing research problems.

Research Data Analysis

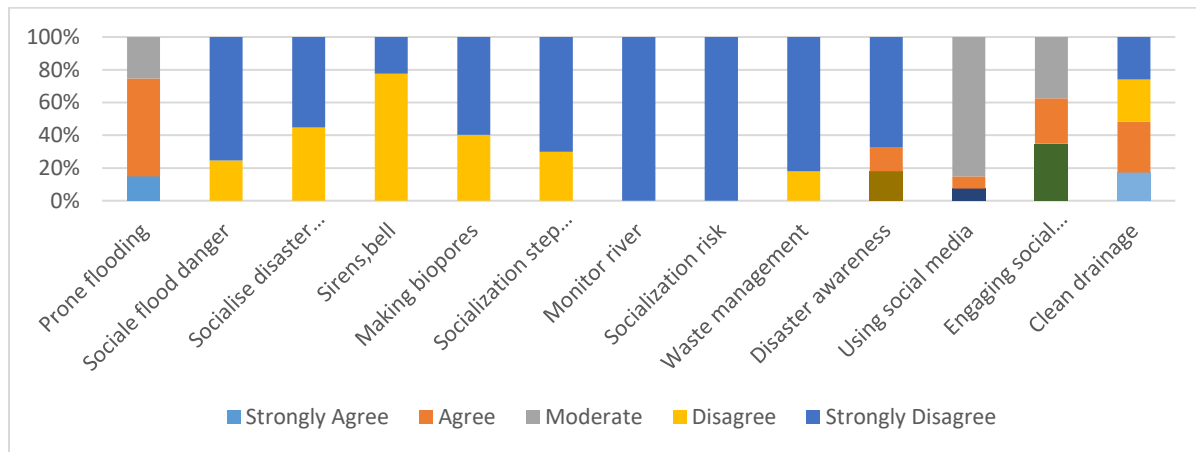
In quantitative research, there are several stages carried out in order to analyse the research, namely:

- Collecting all questionnaire data.
- Tabulating the data by scoring the questionnaire items.
- Perform descriptive analysis of the questionnaire results.
- Writing and compiling research reports.

FINDINGS AND DISCUSSIONS

1. Implementation of education on flood disaster mitigation for students of SMK Muhammadiyah Pangkep Regency

Graphic 1. Implementation of education on flood disaster mitigation, 2023.



The data presented in graphic 1 sheds light on the preparedness and awareness of residents in the flood-prone Pangkep area concerning disaster mitigation and related efforts by both the government and the community. The findings from the survey can be summarized in several key aspects. Firstly, the majority of respondents (59.70%) acknowledged that the Pangkep area is prone to flooding. This recognition is distributed among those who strongly agree (14.92%), those who agree (59.70%), and those who maintain a neutral stance (25.37%) on the subject. However, the data indicates a significant lack of confidence in the efforts of the government and related institutions to socialize the dangers of flooding. All students surveyed admitted that these institutions do not effectively communicate the threats posed by flooding in the area. A majority (77.61%) strongly disagreed with the government's socialization efforts, while an additional 25.37% simply disagreed, indicating a collective perception of inadequate information dissemination.

The use of sirens, bells, or loudspeakers by government or authorized institutions as sources of disaster information also received a negative response from the students. A substantial portion (77.61%) disagreed with this approach, and 22.38% strongly disagreed. Furthermore, the activity of making biopores for groundwater infiltration was unanimously deemed unimportant by the respondents. All students surveyed disagreed (40.29%), with an additional 59.70% strongly disagreeing, suggesting that this practice is not considered a priority in the flood-prone area.

In terms of steps to be taken before a disaster occurs, a majority of students (70.14%) strongly disagreed with the need for socialization efforts by the government or authorized institutions. This sentiment reflects the belief that the local community possesses extensive experience in responding to floods, rendering such socialization unnecessary. The presence of pickets to monitor river water volume/discharge was met with unanimous disapproval from all respondents (100%), highlighting its perceived lack of relevance in the area. Similarly, when it comes to disaster risk socialization, all students (100%) strongly disagreed with the need for government and authorized agencies to provide such information. This suggests that residents rely on internet-based information and do not see the need for additional socialization efforts.

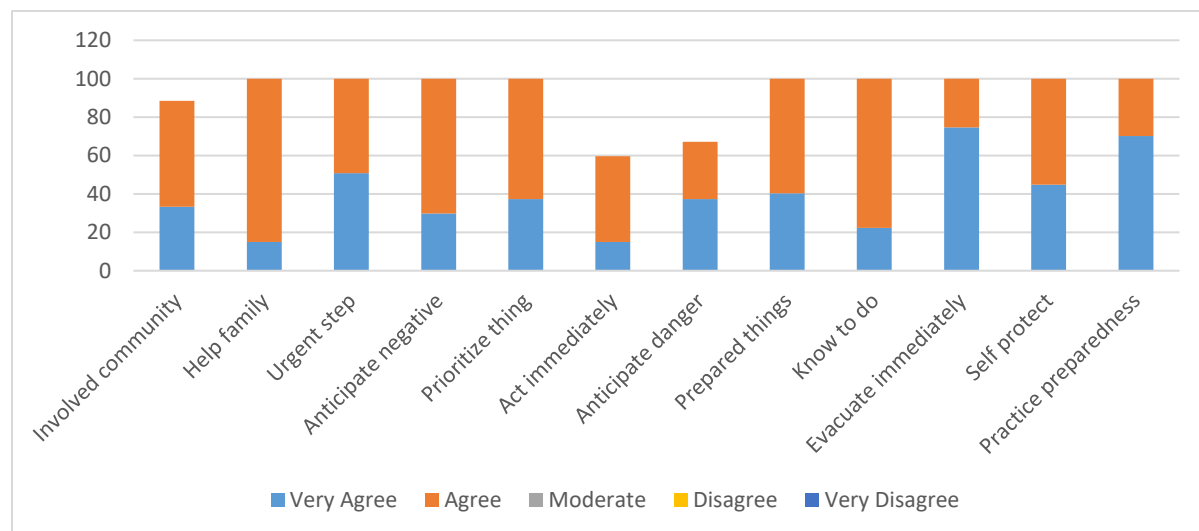
Waste management practices, such as separating organic and non-organic waste and recycling, were also considered unimportant by the residents. The majority (82.08%) strongly disagreed, while 17.91% disagreed, indicating that waste management is not a priority for the

community. Regarding the introduction of a disaster awareness culture through media, responses were mixed, with 67.16% strongly disagreeing, 14.92% disagreeing, and 17.91% strongly agreeing, reflecting varying attitudes toward this approach. The utilization of social media for disaster education received a primarily normal response, with 85.07% indicating a neutral stance. Only 7.46% agreed or strongly agreed with this approach. Finally, in terms of engaging in activities that utilize social media for disaster education, more than half of the respondents (67.16%) disagreed, suggesting that they indirectly share related news and information rather than actively participating in such initiatives.

The data highlights a complex landscape of perceptions and attitudes among residents in the Pangkep area regarding disaster mitigation and preparedness. While there is recognition of the flood-prone nature of the region, there is skepticism about the effectiveness of government and community efforts in addressing these challenges. The findings underscore the importance of tailoring disaster mitigation strategies to the specific needs and preferences of the local population.

2. The impact of disaster mitigation knowledge on social participation in students of SMK Muhammadiyah Pangkep Regency

Graphic 2. The impact of disaster mitigation disaster mitigation, 2023.



The data from the survey reveals insightful perspectives among students regarding their preparedness and response to flood disasters. The survey encompasses various aspects of flood response, showing a comprehensive understanding of students' attitudes in such situations.

A significant portion of the students (67.55%) showed positive engagement in the community during flood disasters, with 33.33% strongly agreeing and 55.22% agreeing on their involvement, reflecting a high level of community engagement in flood-prone areas. This

engagement extends to family support during floods, with all respondents indicating they help their family, split between 14.92% who strongly agree and 85.07% who agree.

When it comes to taking urgent steps in flood disasters, the response was unanimous, with 100% of students agreeing, evenly split between strong agreement (50%) and agreement (49.25%). This indicates a universal acknowledgment of the importance of immediate action during such emergencies. Similarly, students displayed a proactive approach in anticipating negative outcomes in floods, with 29.85% strongly agreeing and 70.14% agreeing on this aspect.

Prioritization during flood disasters is another key area where students showed a positive response. 37.31% of students strongly agreed, and 62.62% agreed on prioritizing certain aspects during floods. However, responses varied when asked about immediate action upon flood signs, with 14.92% strongly agreeing, 44.77% agreeing, and 40.29% having a neutral stance.

Anticipating the dangers of flooding also saw a positive response, with a total of 67.16% of students responding positively (37.31% strongly agreeing and 29.85% agreeing). Preparedness for early flood warnings was evident as well, with 40.29% strongly agreeing and 59.70% agreeing on being prepared for such warnings.

The survey also highlighted the students' knowledge and actions during floods. A majority, 22.38% strongly agreed, and 77.61% agreed, indicating they know what to do during a flood. This high level of awareness and preparedness is further emphasized in their attitudes towards evacuation. A significant majority (74.62%) strongly agreed on immediate evacuation during floods, with 25.37% agreeing. This readiness extends to family protection, where 19.40% strongly agreed, and 80.59% agreed on saving family members immediately during a flood.

Regarding using evacuation routes, 37.31% agreed, and 62.68% had a neutral response, suggesting a varied understanding or availability of these routes. When asked about immediate evacuation in floods, a large majority (74.62%) agreed, with 25.37% stating a neutral response. Students also showed a high level of self-protection awareness during floods, with 44.77% strongly agreeing and 55.22% agreeing to protect themselves immediately.

Lastly, the practice of flood disaster preparedness was evident among the students. A significant 70.14% agreed, and 29.85% strongly agreed on practicing preparedness for flood disasters, highlighting the effectiveness of disaster education and community engagement in such areas. Overall, the data reflects a commendable level of awareness, preparedness, and proactive response among students in the face of flood disasters.

Discussion

The findings of this study carry significant implications for disaster management and preparedness in the flood-prone Pangkep area. The recognition by over half of the respondents that the region is prone to flooding underscores the importance of raising public awareness as a foundational step towards building a resilient community. However, the study reveals a notable gap in the effectiveness of government and institution-led efforts to communicate the dangers of flooding, indicating a need for improved information dissemination strategies and community engagement initiatives.

Moreover, the negative response to traditional methods like sirens, bells, or loudspeakers for disaster information suggests the necessity of exploring alternative and more effective communication channels that resonate with the community. The unanimous disagreement with the

importance of biopores for groundwater infiltration emphasizes the need to align flood mitigation strategies with the community's priorities and preferences.

The residents of Pangkep have encountered flooding ranging from the typical flood level to the catastrophic level. The flood resulted in numerous losses, including both physical and intangible losses. Given their extensive expertise, it appears that they do not require governmental establishments dedicated to managing floods. Furthermore, Pangkep's surroundings are classified as a rural region, characterized by a lower population density and fewer buildings compared to metropolitan areas. Consequently, the risk of floods, which poses a threat to the daily lives of community members, is significantly reduced. Therefore, it remains feasible for them to take action at any given moment in order to limit the impact of floods and minimize their adverse consequences by actively engaging the general population. This aligns with the conclusions drawn by (Arifianto et al., 2009; Bahri et al., 2019) regarding the significance of community engagement in addressing shared issues.

While the community's confidence in its flood response capabilities is commendable, it also highlights the importance of disaster education efforts that focus on enhancing existing knowledge and skills rather than introducing entirely new concepts. The unanimous rejection of river water volume monitoring suggests that resources could be redirected to more pressing needs. Furthermore, the unanimous disagreement with the need for disaster risk socialization by government and authorized agencies highlights the community's reliance on alternative information sources, such as the internet, indicating an opportunity for authorities to leverage digital platforms for timely and accurate disaster-related information dissemination.

The lack of interest in waste management practices underscores that residents do not view this as a pressing concern at present. Lastly, the mixed responses regarding the introduction of a disaster awareness culture through media suggest the need to tailor awareness campaigns to specific demographics within the community.

this study's implications emphasize the necessity of community-driven disaster management strategies that address communication gaps, enhance existing knowledge, and harness digital platforms to foster a culture of preparedness and resilience in the flood-prone Pangkep area. By addressing these implications, authorities and organizations can better support and empower residents to mitigate the risks associated with flooding in the region effectively.

CONCLUSION

This study provides valuable insights into the education of students in the flood-prone Pangkep area regarding disaster management and preparedness. The findings highlight several key points that warrant attention from policymakers, disaster management authorities, and community stakeholders.

One major issue is that there is a widespread recognition among residents that the Pangkep area is prone to flooding, indicating a fundamental awareness of the environmental risks they face yet this awareness is not necessarily accompanied by a sense of preparedness or confidence in the existing disaster management efforts. Hence, there is a notable gap in the effectiveness of government and institution-led initiatives to communicate the dangers of flooding and engage with the community. This communication gap calls for a reassessment of information dissemination strategies, with an emphasis on engaging directly with residents and addressing their specific concerns.

The community's self-reliance and confidence in its ability to respond to floods are evident, as indicated by the unanimous belief that they already possess extensive experience in flood response. This self-reliance is a valuable asset but should be complemented by ongoing disaster education efforts that enhance existing knowledge and skills.

The education on flood disaster mitigation for students of SMK Muhammadiyah Pangkep Regency is facilitated by the use of an educational resource that imparts functional information and practices to help them and others in need during a flood. The acquisition of disaster mitigation information among students of SMK Muhammadiyah Pangkep Regency has a profound influence on their social engagement. Armed with this knowledge and skillset, they are able to assist their families and others in mitigating the adverse consequences of flooding.

Furthermore, the study underscores the potential for leveraging digital platforms, such as social media, as tools for disaster education and information dissemination. While there is room for improvement in this area, the presence of respondents who see value in social media engagement highlights its potential as a channel for community resilience-building.

Overall, the implications of this study emphasize the need for tailored and community-driven disaster management strategies. These strategies should focus on enhancing communication, addressing specific community concerns, and leveraging digital platforms to foster a culture of preparedness and resilience in the flood-prone Pangkep area. By heeding these insights, authorities and organizations can better support and empower residents to mitigate the risks associated with flooding, ultimately contributing to a more resilient and disaster-ready community.

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