

## Flood Disaster Response Cadre Training in Keliling Benteng Ulu Village, Martapura Barat Sub-District

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### ABSTRACT

A flood is an event where land is submerged due to an increase in water volume. The flood that occurred in RT.05 Keliling Benteng Ulu Village was the worst compared to other RTs, because they live on the edge of the Martapura river and swamp environment. This service activity educates cadres to fulfill basic needs (clean water and sanitation needs, food clothing, temporary shelter, and health services) and provides leaflets/booklets on the stages of flood disaster management in fulfilling the basic needs of the community. The results of the pre and post test evaluation, cadres' knowledge has increased  $\geq 80\%$  regarding flood disaster response and about fulfilling the basic needs of flood disaster management independently (making freshwater fish jerky and instant ginger).

## **INTRODUCTION**

### **Situation Analysis**

Continuous heavy rains for more than a month caused several areas of Banjar Regency to be flooded. Based on the BNPB PUSDALOPS report, six sub-districts were affected by flooding, namely Samarinda Ulu, Astambul, Martapura, East Martapura, West Martapura and Pengaron sub-districts, with water levels varying from 20 cm to 75 cm (BNPB, 2023). Hundreds of old houses in West Martapura sub-district were flooded to a depth of 60 cm because the position of the building was slightly lower than the road, so the water was somewhat dammed. The water can be seen crossing the road towards the Martapura River. Currently, the depth of the water has increased slightly because the flood water from the mountains has receded and continues to flow flooding from below including West Martapura. The area of West Martapura most severely affected by flooding is RT.05 Keliling Benteng Ulu Village, where floodwaters are still inundating houses and roads in RT.05 until March 24, 2023 (Figure 1) (BNPB, 2023). RT.05 of Keliling Benteng Ulu village is located on the banks of the Martapura river and behind a swampy environment. At the time of the flood, all housing units in RT.05 were inundated with water with a height of 20-30 cm (66 families, 184 people, 59 dwellings).

In the flood situation in RT.05, the entire location was still inundated and the only road access (wooden bridge) was cut off (Figure 2). This is because the flooded access led to the isolation of RT.05 residents from other RTs. Prolonged flooding has limited food availability and health access. Areas that are isolated for a long time due to disasters cause people to be unable to do their usual activities, hunger, lack of clean water, property damage and material losses but also experience health problems and diseases (Ibrahim, 2022). The emergence of symptoms of skin disease, diarrhea and anxiety is a problem for residents of RT.05, so screening and health counseling are needed as an effort to prevent early post-flood problems, health is the main thing that must be maintained.

Road access to RT.05 is closed and river access is dangerous, hampering assistance from the government and related agencies, the private sector and volunteers. So it is very important to form a community-based flood disaster management task force. Communities as early actors of disaster management as well as victims of disasters must be able to handle disasters within certain limits so that it is hoped that disasters will not develop to a larger scale, especially the fulfillment of basic needs for flood disaster management. Increasing awareness and flood disaster response from the community, especially those living in disaster-prone areas such as riverbanks, strengthening the ability to deal with disasters, especially cooperation with various parties, developing disaster organizations tailored to local conditions, increasing community knowledge about disasters (Prayitno et al., 2021) by organizing education, training, and counseling both conventionally and modernly (Constitution No.24 of 2007 and Permen RI No.21 of 2008).

Increasing community capacity in disaster response is an effort to minimize the negative impact of disasters independently. The community empowers itself through the active role of cadres or youth organizations can move in improving community preparedness to become local resources to improve public health status because of their potential such as young age, energetic, easy to absorb information so that they have the potential to become flood disaster response cadres (Nugraha et al., 2021; Wicaksono et al., 2022). Preparedness in flood disaster response is closely related to knowledge of the main indicators to measure community preparedness for flood disasters. Knowledge of flood disasters is the main reason for a person to carry out protective activities or existing preparedness efforts (Rahmawati et al., 2022; Yari et al., 2021).

The results of discussions conducted by the PkM team in RT.05 Keliling Benteng Ulu village with the head of RT.05 and RT.05 cadres, obtained information that heavy rainfall and the overflow of the Martapura river caused flooding in RT.05 and lasted for a long time. During this situation the community was isolated and to provide food the residents worked together to make a public kitchen to help residents with makeshift logistics, because no assistance came directly to RT.05 such as logistics, medicines and other health services. Many residents suffered from hunger and itching, due to the lack of food and drinks and the absence of medical supplies. There was no direct flood disaster assistance to RT.05 because transportation to the scene was dangerous and difficult to pass during the flooding of the Martapura River. Information obtained from RT cadres showed that none of the cadres had participated in socialization and training on flood disaster response. They do not know the fulfillment of basic needs for flood disaster management in the health sector and there is no media in the form of leaflets/booklets regarding operational standards for fulfilling the basic needs of the community in handling flood disasters at the RT level. Flood disaster response can increase awareness and guide the community related to disaster management early or even as early as possible (Handayani, 2022). This is where the role of higher education is needed. Disaster management research and service institutions can be effective and efficient if carried out based on the application of appropriate science and technology. For this reason, it is necessary to contribute thoughts from experts from LPPM involving lecturers and students to help community problems related to flood disaster management, especially those related to health problems. With the collaboration of RT.05 cadres of Keliling Benteng Ulu village with the PkM team, it is expected to transfer knowledge and skills to fulfill the basic needs of flood disaster management.

### **Partner Problems**

Partner problems raised to be followed up through PKM activities based on direct discussions with partners, namely RT 0.5 cadres, several problems were formulated, namely:

- (1) There is no RT unit unit for flood disaster response.
- (2) There is no education and training for RT cadres so that they can carry out flood disaster management, especially residents in RT.05.
- (3) There is no education and training for cadres on meeting the basic needs of flood disaster management independently.
- (4) There is no media in the form of leaflets/booklets regarding the stages of fulfilling the basic needs of flood disaster management.

### **IMPLEMENTATION AND METHODS**

The program involves RT.05 cadre partners of Keliling Benteng Ulu village, West Martapura sub-district, universities, namely LPPM Lambung Mangkurat University and involves lecturers in Biomedicine, Parasitology, Ethics and health law, and Nutrition Science (members of emergency 88 / disaster response)) Undergraduate Medical Program, Faculty of Medicine, Lambung Mangkurat University. The method that will be used in this community service activity is five stages of activity starting from the preparation stage, socialization, implementation (education and training), monitoring, long-term evaluation.

#### **Preparation Stage**

1. Internal coordination, carried out by the team for conceptual, operational implementation planning as well as the duties and responsibilities of each member.
2. Coordination with RT heads and RT cadres of Keliling Benteng Ulu Village.
3. Brief coordination with partners for types of activities.
4. Licensing of activities to the head of Keliling Benteng Ulu Village.

#### **Socialization**

Socialization of activities to partners to inform them about the activity program, its benefits and objectives directly at RT.05 Keliling Benteng Ulu Village.

#### **Implementation**

1. Theoretical explanation of the structure of a simple unit for flood disaster response with leaflet media.
2. Theoretical explanation and training on flood disaster response at the RT level using leaflet media.
3. Theoretical explanation and training on basic needs fulfillment (making freshwater fish preserves and instant ginger) with leaflet media.
4. Evaluation of implementation by looking at the increase in knowledge and skills of target partners in terms of pre-post test results. The analysis used is the Paired Sample T-Test with a confidence level of 95%.

## Monitoring

By always boosting the knowledge and skills of partners after the implementation of activities (1 month after the explanation of the theory and skill training). The form of monitoring is by providing a questionnaire to find out the extent of the effectiveness of education and training that has been provided last month, as well as obstacles or obstacles while carrying out this activity.

## Long-term Evaluation

The PKM team will continue to communicate with partners about activities that have taken place and provide solutions if there are obstacles in conveying the information to the community.

## RESULTS AND DISCUSSION

PKM activity "Flood Disaster Response Cadre Training in RT. 05 Keliling Benteng Ulu Village" was carried out in July 2023. The main activities in this PKM are the formation of flood disaster management units, education and training on flood disaster response, education and training on fulfilling basic needs (health food) independently, and distribution of leaflets. The cadres were very enthusiastic about participating in the entire series of activities because they had never previously received education and training on flood disaster response and independent fulfillment of basic needs (health food). After the presentation of the material and demonstration of the stages of flood emergency response (pre-disaster preparation, helping flood victims, how to perform basic life support, management of electrocution victims and snake bite victims). Followed by discussion activities between cadres and resource persons for things that are still unclear.

To determine the level of success of the activities carried out, a pre-test (before providing material) and post-test (after providing material) was conducted to the cadres. The results are listed in Table 1.

**Table 1. Results of Pre-Post Test Knowledge Questionnaire for Flood Disaster Response Cadre Training in RT.05 Keliling Benteng Ulu Village, Martapura Barat Sub-district, Banjar Regency**

No	Respondent Initials	Pre Test	Post Test	Description
1	AL	50	70	Improved
2	MW	25	75	Improved
3	MJ	45	70	Improved
4	HH	60	75	Improved
5	SR	55	85	Improved
6	R	55	75	Improved
7	H	60	85	Improved
8	SL	70	95	Improved
9	J	75	95	Improved
10	SP	75	100	Improved
11	AF	60	75	Improved
12	T	75	75	Improved
13	N	45	90	Improved
Average Increased		55.8	81.9	Increased

Based on table 1, the average post test score of cadres has increased from the pre test score. The respondents' pre-test average of 55.8 increased to 81.9 in the post test.

**Table 2. Percentage of question topics answered correctly in the pre and post test**

No	Topic Question	Mean Pre Test Correct	Mean Post Test Correct
1	Flood disaster response	63.1%	83.1%
2	Making freshwater fish jerky	46%	80%
3	Making instant ginger	51%	82%

Table 2 shows that after being given education and training, the cadres' knowledge increased to  $\geq 80\%$  regarding flood disaster response and about independently fulfilling basic flood disaster food needs (making freshwater fish jerky and instant ginger). Furthermore, the normality test of the respondent's knowledge score data was carried out before conducting a difference test.

**Table 3. Data Normality Test**

Part	Frequency Distribution	Sig. Test Type	Description
Pre-Test	13	0.38	Normal
Post-Test	13	0.06	Normal

The data normality test showed that the pre and post test data were normally distributed (sig. value  $\geq 0.05$ ) so that the difference test was conducted with the Paired Sample T-Test Test. Based on the results of the Paired Sample T-Test Test with a confidence level of 95%, there was a significant difference in cadre knowledge before and after education (p-value = 0.02 < 0.05). With this PKM, a flood disaster management unit was formed in RT. 05 with a decree signed by the head of Keliling Benteng Ulu Village. The cadres were given education and training on operational standards for flood disaster response at the RT level, making fish preserves in the form of freshwater fish jerky, and making instant ginger as a drink for immunity. With the knowledge and skills gained, the cadres were able to convey the knowledge back to the community of RT. 05 so that it can then be implemented as an effort to prevent and manage the impact of flooding.

Information delivery was carried out using lecture, practice, and question and answer methods. The service team directly demonstrated how to perform basic life support (BHD), make freshwater fish jerky, and make instant ginger. Information delivery was also supported by leaflet media distributed to each cadre. The leaflets were made with an attractive appearance and easy to read. Efforts to overcome the impact of flooding need to always be coordinated with various parties, this is in line with what was stated by Irawanto (2023) coordination needs to be carried out in providing assistance to avoid duplication of assistance from the community to communities affected by flooding, communication, education and information are highly recommended to provide assistance so that no one gets duplicated assistance and there are people who do not get any help at all.

Communities in the RT, 05 area must be able to act appropriately and effectively when flooding occurs. The community must be prepared and know what to do in flood emergency response efforts before any assistance from the government (Ernalina et al, 2023) (Gustini et al, 2021). So that flood-affected communities need to have knowledge about flood emergency response efforts in order to minimize the impact caused. The existence of counseling or education can affect the level of community knowledge about flood disasters and community attitudes in dealing with flood disasters (Mas'ula, 2019).



**Figure 1: Demonstration of Basic Life Support (BHD)**

Fulfilling food needs independently also needs to be done by the community to prevent and overcome food limitations due to flooding. Due to the difficult access to food distribution during floods, food becomes scarce. Whereas flood victims need a lot of energy from food (Hafid et al., 2022). Therefore, making food preservation in the form of freshwater fish jerky can be done by the community. Before a flood occurs, the community can make fish jerky and store it so that later it can be consumed during a flood.



**Figure 2: Drying process of freshwater fish jerky**

Floods can also cause disease due to a damaged environment, lack of sanitation, and decreased immunity (Rizka et al., 2023). In the aftermath of a major flood, bacteria and viruses increase in spread, which can cause illness in flood victims (Chandra E, 2023). By making herbal instant drinks from ginger, people can consume them during floods to maintain body immunity. Many studies have proven that ginger rhizomes contain high nutrition to improve health and body immunity. Ginger contains active chemical compounds, such as gingerol, zingerol, shogal, zingiberin, sineol, and others that have the main function as an immune booster and antimicrobial (Purnomo A, 2023).



**Figure 3 : Instant Ginger Powder Result**

## CONCLUSIONS AND RECOMMENDATIONS

PKM activities for Flood Disaster Response Cadre Training in RT. 05 Keliling Benteng Ulu Village has been held according to the compiled activity plan. The results of this community service activity are the formation of a flood disaster response RT unit, increasing the knowledge and skills of cadres in RT. 05 Keliling Benteng Ulu Village regarding flood disaster response and fulfilling basic food needs independently. In addition, the result of this activity is a leaflet on the operational standards for fulfilling the basic needs of flood disaster management..

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