

## IMPROVING THE QUALITY OF UNDERSTANDING OF KAMPUNG WARNA-WARNI RESIDENTS TO DISASTER

Sumi Lestari<sup>1</sup>, Intan Rahmawati<sup>2</sup>, Muhammad Rosyihan<sup>3</sup>, Muhammad Afif Alhad<sup>4</sup>

<sup>1234</sup>Lecturer at Psychology Department, Brawijaya University, Indonesia

<sup>1234</sup>Institute for Research and Community Service, Brawijaya University, Indonesia

[lestari.sumi@ub.ac.id](mailto:lestari.sumi@ub.ac.id)

### Abstract

The residents of the Kampung Warna-Warni (Colorful Tourism Village) do not yet have a cognitive map of disaster. There has been a disaster simulation but it has not been integrated, so residents are still not ready for a disaster. The residents of Kampung Wisata Warna-Warni do not understand the disaster as a whole, are still limited to definitions and have not provided innovative actions in strengthening understanding. Several approaches can be taken in order to increase resident's awareness about disaster preparedness. One of the approaches used is the cognitive aspect approach, namely increasing people's understanding of natural disasters. Increasing people's understanding can be done through various activities, one of which is counseling. Extension is carried out by providing information to residents related to knowledge of disasters including the causes of disasters, disaster impacts, countermeasures that can be done, what should be done when a disaster comes, and recovery after a disaster. The ultimate goal of this serving doctoral program is to increase understanding and change people's behavior through a cognitive approach. The expected behavior after this program is implemented is related to awareness of disaster preparedness from residents because the location where residents live is on the riverbank. It is fully realized that the intended behavior change cannot happen instantly, therefore it requires commitment and consistency in implementing the program so that the expected results can be achieved maximally.

**Keywords:** Disaster, Quality of Understanding, Colorful Village

### Introduction

Kampung Warna-Warni is a tourist village with the theme of visual tourism which is located on the banks of the Brantas River. This location causes the Kampung Warna-Warni to have the potential to be hit by a flood. Based on information from residents and observations, floods occur every year and residents do not yet have awareness of disaster preparedness. According to local residents, floods can occur every year when the rainy season comes with high rainfall, especially if there is an abundance of water flow from Batu City, which is located on a higher ground than Malang City. This fact makes residents always anticipate every time the rainy season comes.

One of the managers of Kampung Warna-Warni explained that when the rainy season arrives, the Regional Disaster Management Agency (BPBD) always provides information to residents of Kampung Warna-Warni regarding the high rainfall that occurs in Batu City. This information for the residents of Kampung Warna-Warni is very important because it can serve as an early warning system for potential flooding so that residents can prepare themselves well. When the researchers asked several residents questions regarding the role of BPBD Malang City in disaster preparedness, they explained that there had never been a disaster preparedness simulation held by the BPBD for residents living in Kampung Warna-Warni.

Some disaster alert signs have actually been installed at several points, but according to residents, these signs do not have an important role in disaster preparedness, and some residents do not even know

about the disaster alert signs and also their functions. There are only one evacuation route sign and its existence tend not to be clearly visible, while the gathering point signs are at the location where every flood comes it always sinks. So, it is true that residents say that the signs of disaster alert are not functioning properly.

The residents of Kampung Warna-Warni really understand the impact of living on the banks of the river, therefore they build houses at a certain height with the aim that when the floods come, their houses will not be affected by the flood water. Nevertheless, it is important for residents to have knowledge about disaster preparedness, including how to save themselves from the dangers of disasters that occur. Several parties must be involved including BPBD, community members, and other related agencies in the context of disaster preparedness and disaster impact prevention efforts.

Based on the results of the research that has been done, it is concluded that the residents of Kampung Warna-Warni do not have a cognitive map of the disaster, so that until now there has been no solution that can be found. Several approaches can be taken in order to increase resident awareness about disaster preparedness. One of the approaches used in this service doctoral program is the cognitive aspect approach, namely increasing people's understanding of natural disasters. Increasing people's understanding can be done through various activities, one of which is counseling. This counseling is carried out by providing information to residents related to knowledge of disasters including the causes of disasters, the impact of disasters, the countermeasures that can be done, what to do when a disaster comes, and recovery after a disaster.

The ultimate goal of this serving doctoral program is to increase understanding and change people's behavior through a cognitive approach. The expected behavior relates to awareness of disaster preparedness because the location where the residents live is on the riverbank. It is fully realized that the intended behavior change cannot happen instantly, therefore it requires commitment and consistency in implementing the program so that the expected results can be achieved maximally.

### **Research Method**

The technique of implementing the 'doctor serve' activity focuses on increasing the understanding of the residents of Kampung Warna-Warni about disasters. This is done considering that Kampung Warna-Warni is a settlement located in a disaster-prone zone. Every year this village experiences a flood disaster even though this village has a tourist village icon, the people have low awareness of disasters that endanger their lives. Therefore, it is important to provide counseling to increase understanding and simulations related to disasters in their village. The target of this doctoral service is to focus on educating the residents of Kampung Warna-Warni.

Partners in serving doctoral activities are the person in charge of Kampung Warna-Warni (chairman of the Rukun Warga) and are expected to contribute and participate in supporting, mobilizing and motivating residents to participate in training activities to increase understanding of disasters so that when a disaster occurs, the community is able to anticipate, save themselves, and others and also able to recover by providing social support to fellow residents.

This doctoral service activity was carried out in Jodipan Colorful Tourism Village (KWJ) Malang, this place was chosen because this village is a tourist village which is one of the icons of Malang city and at the same time has a high risk of natural disasters in the form of floods and landslides and also non-natural disasters in the form of gadget addiction. The 'doctor serve' activity was held on May 5, June 2, June 29-30, and July 6-7, 2020 at the Colorful Tourism Village of Jodipan Malang. The following is a detailed explanation of the 'doctor serve' activities in Jodipan Colorful Tourism Village (KWJ).

## Result and Discussion

### Results of the 'Doctor Serve' Activity Analysis

The number of participants who took part in this study was ten people with details as shown in Table 1. All participants were female because the study took place during the day when their husbands were working. The majority of participants acted as housewives of various ages.

**Table 1.** Participant Demographic Profile

Name (Initial)	Age	Gender	Job
NS	55	Woman	Small Trader
SA	32	Woman	Housewife
NI	35	Woman	Housewife
MM	33	Woman	Small Trader
AH	43	Woman	Housewife
IN	51	Woman	Housewife
EN	34	Woman	Housewife
AA	50	Woman	Small Trader
ST	32	Woman	Housewife
RA	41	Woman	Housewife

### Quantitative Analysis

All participants followed a series of pretest – posttest design quasi-experimental research procedures consisting of pre-test, treatment, and post-test. In the pre-test stage, participants answered eight questions with multiple choice answers about disaster. At the treatment stage, participants received a booklet containing disaster literacy that must be studied for one week. In the post-test stage, the participants answered the same eight questions as during the pre-test. The results of the analysis using paired samples t-test can be seen in Table 2 which shows that there is a significant difference in the mean value between the pre-test and post-test scores. These findings indicate that the provision of treatment in the form of a booklet containing disaster literacy can be said to be effective in increasing citizen knowledge about disasters.

**Table 2.** Results of Paired Sample T-Test Analysis

Variable	Pre-Test		Post-Test		t	ρ
	M	SD	M	SD		
Disaster Knowledge	5.90	1.197	7.40	0.699	-4.392	0.002

### Qualitative Analysis

This Doctoral Service activity began with distributing questionnaires, which was then followed by distribution of disaster literacy booklets. Because this community service activity was carried out during the Covid-19 pandemic, the form of counseling provided was the provision of booklets about disasters based on the results of the understanding map of adults living in the service location. This psycho-education provision is carried out with the target of (1) adult men and women, (2) who have become residents of Jodipan village before turning into a Colorful Tourism Village, and (3) having experience of disasters. The determination of these characteristics is carried out as a disaster knowledge step based on

the results of cognitive maps.

Before doing psycho-education, the community service team had previously collected data qualitatively using an open questionnaire on 10 informants. From the interview results, several themes were obtained that led to the understanding of the residents living in the Kampung Wisata Warna-Warni as a disaster-prone area. To answer the aim of this dedication, the Doctor of Serving team conducted three analysis processes. First, knowing what was experienced by the residents of the colorful village before and after becoming a tourist village. Second, how to map the understanding of the colorful villagers. Third, a synthesis of what residents' experience. The following are the results of the analysis based on the point of view of informants who live in disaster-prone areas.

**Table 3.** Pre-test and Post-test results

Initial	Kind of disaster		Cause		Effort	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
EN	Floods, landslides, forest fires	Forest fires, landslides, floods	Lack of awareness of protecting the surrounding environment	Lack of awareness and responsibility for the environment	Maintain and care for the environment well, obey the established regulations	Implement government programs well
AA	Floods, landslides, tsunamis, earthquakes, forest fires, corona, tornadoes	Floods, landslides, tsunamis, earthquakes, forest fires, corona, tornadoes, outbreaks, conflicts, volcanoes	Man-made, nature is not balanced	Human behavior that destroys nature	Caring for nature (reforestation, not throwing garbage in the river)	Behavior protecting the environment, mutual respect between sara
ST	Floods, earthquakes	Floods, landslides, earthquakes	Lack of hygiene awareness	Man-Made	Obey the rules and protect the environment	Planting trees, maintaining environmentally conscious behavior
NS	Floods, fires, earthquakes	Earthquakes, landslides, floods, tornadoes, volcanoes	There is no balance between nature and human life patterns	Man-Made	Regulate the balance of nature, maintain the pattern of daily life	Increase awareness of protecting the environment
RA	Landslides, floods, forest fires,	natural, non-natural, and social	Unbalanced natural and human	Man-made and natural changes are	Maintain cleanliness and	Maintain environmentally conscious

	epidemics	disasters	behavior patterns	not balanced	environmental sustainability	behavior, respect between sara
MM	Floods, fires, landslides	Floods, landslides, earthquakes	Man-Made	Man-Made	Disposing of trash in its place, not burning the forest	Maintain environmentally conscious behavior
NI	Tribal conflicts, fires, earthquakes, epidemics	Fires, earthquakes, landslides, terrorism	Unbalanced natural conditions	Unbalanced natural conditions, disrespect between ethnicity, religion, race, and inter-group relations	Having awareness of the importance of maintaining the balance of nature	Have an awareness of protecting the environment, mutual cooperation
IN	Flood, corona	Landslides, fires, epidemics, earthquakes	Throwing trash in the river	Man-Made	Protecting the environment	Take care of the environment and behave clean
AH	Landslides, floods	Floods, landslides, earthquakes	Man-Made	Man-Made	Plant Trees	Be aware of protecting the environment
SA	Floods, fires, landslides	Floods, fires	Man-Made	Changes in the weather	Community service keeping clean	Community service

### Discussion

The results of this doctoral service show that socialization and counseling using the booklet method is effective in increasing community knowledge and understanding as a form of disaster mitigation or preparedness.

Increased understanding of disaster mitigation knowledge can be carried out by conducting outreach and counseling with various methods and approaches with the aim of educating the public to be ready and prepared to face natural and non-natural disasters. These activities are in line with the efforts made by BNPB that socialization and counseling efforts related to disaster preparedness are very important to reduce the risk and impact of disasters physically, psychologically, and materially and socially (Sulistyaningsih, 2011). Providing socialization and outreach in the form of education and literacy to the community related to disasters such as the definition of disasters, types of disasters, disaster-prone age, impacts to preventive efforts in the form of disaster mitigation (Herdwiyanti and Sudaryono, 2013).

The process of outreach and counseling is provided in order to increase people's understanding as a form of disaster preparedness or mitigation to make it more optimal. Therefore, it is necessary to involve various lines and groups as well as ages and even sexes, with the consideration that disaster victims can befall any gender and any age (Hidayati, 2012). This is confirmed by Haifani (2008) which states that in optimizing disaster management it is necessary to involve various groups of people including the role of women in disaster mitigation. This is because in several past natural disasters, women are present and available as subjects in disaster risk management. This effort can be started with increasing understanding, knowledge, capacity building, or skills as well as technical and material support from the government so that the risks and impacts of disasters can be minimized.

Increased understanding of knowledge as a form of disaster mitigation, including in the disaster management section. Disaster mitigation is a step or effort to reduce the impact or risk of a disaster. Several forms of disaster mitigation include physical (structural) mitigation, namely efforts to tackle disasters physically and non-physical (unstructured) mitigation, namely efforts to overcome disasters as a form of non-physical reduction and minimizing disaster risk by means of counseling, socialization, and education and mitigation literacy disaster to the community (Triatmdja, 2010).

Based on Law no. 24 of 2007 concerning disaster management, disaster management is a dynamic, sustainable and integrated process in improving the quality of efforts and actions as a form of analysis of disasters, prevention or mitigation, preparedness, early warning, emergency response, rehabilitative, and constructive. This situation can be implemented, prepared, and carried out by involving the government, private sector and the community to work hand in hand in completing joint tasks in the mission of becoming a disaster-prepared community (Hertanto, 2009). Several policies related to disaster management as a form of preventive, mitigative and disaster preparedness include: a). the existence of policies related to preventive action as a form of disaster management such as reforestation, not throwing garbage in rivers and so on; b). the existence of a government institution that deals specifically with natural and non-natural disasters such as BNPB; c) the identification of institutions that emerge in the community that deal specifically with disasters that can be synchronized with activities or programs provided by BNPB so that activities from government agencies to the community level can be coordinated properly; d). provide counseling and outreach to local communities to understand the situation and geographical conditions of inhabited land, in order to be able to identify the threat of disasters that will occur.

Community-based disaster management is a form of effort to increase the capacity or reduce community vulnerability in dealing with disasters. Vulnerability that occurs in society has different magnitudes according to the characteristics of the hazard. The magnitude of a disaster is an accumulation of various disaster threats, for example sensitive natural conditions or landslides, flood-prone areas and other dynamic pressures. The following are some of the objectives of community-based disaster management, including: a). Increase awareness, understanding and community preparedness in the face of disasters, b). Creating an evacuation flow or map when a disaster occurs, c). Strengthening and increasing the skills or skills of the community in dealing with disasters, by synergizing with various parties, d). Forming and developing disaster organizations in the regions or communities, e). Increase disaster literacy in society in order to create disaster resilient communities (Purnomo and Sugiantoro, 2010).

Rahmat (2015) explains that disaster management is an agenda that includes prevention planning both before, when it occurs, and after a disaster, which is known as the disaster management cycle. Several objectives of disaster management include reducing casualties, material, main infrastructure, and

loss of economic resources and suffering of disaster victims. Disaster management will be effective if good disaster management is carried out, which requires four main concepts, namely hazard conditions, comprehensive, integrated, and community preparedness (Purnomo and Sugiantoro, 2010). These four things are manifested in the disaster cycle, namely the process of disaster management including pre-disaster, mitigation and preparedness as well as when a disaster occurs in the form of emergency response and post-disaster response in the form of rehabilitation and reconstruction. Preparedness is a form of disaster management process, as an effort to reduce or minimize risks and impacts before a disaster occurs.

## **Conclusion and Suggestion**

### **Conclusion**

The conclusions in this doctoral service include:

- a) Increase the knowledge of the colorful tourism village community in Jodipan, especially women related to disasters as a form of disaster preparedness.
- b) Increase the understanding of the colorful tourism village community in Jodipan, especially women regarding disasters as a form of disaster mitigation.
- c) Increase disaster literacy among residents of the colorful tourism village of Jodipan, especially for women.
- d) Increase awareness of the importance of knowledge about disasters in residents of colorful tourism villages, especially women.

### **Suggestion**

Suggestions for doctoral service activities carried out in colorful tourism villages include:

- a) Requires similar activities with different age levels or developmental periods, for example in children, adolescents and adults.
- b) To the residents of the Colorful Tourism Village, to be involved in socialization and counseling activities provided by any party related to policies so that the residents of the colorful tourism villages become resilient villages against natural and non-natural disasters.

## **REFERENCES**

- Anderson, L. W., & Krathwohl, D. R. (2001). *A Taxonomy for learning, teaching, and Assesing : A Revision of Bloom's Taxonomy of Educational Objectives*. New York : Addison Wesley Longman, Inc.
- BNPB. (2018). *Data Informasi Bencana Indonesia*. (Artikel Web). Diakses di <http://dibi.bnpb.go.id/dibi/>.
- Emosda, Lela, & Fadzlul. (2014). *Mengkonstruk Pemahaman Masyarakat Peduli Bencana Alam Banjir*. *Jurnal Pengabdian Masyarakat*, 29 (3), September, 21- 29.
- Herdwiyanti, F., Sudaryono. (2013). *Perbedaan Kesiapsiagaan Menghadapi Bencana Ditinjau dari Tingkat Self-Efficacy pada Anak Usia Sekolah Dasar di Daerah Dampak Bencana Gunung Kelud*. *Jurnal Psikologi Kepribadian dan Sosial*, 2 (1), 136-141.
- Hidayati, D. 2012. "Akses dan Keterlibatan Perempuan dan Laki-laki Dalam Penanganan Bencana"

dalam Pengelolaan Bencana Berbasis Gender: Pembelajaran Dari Gempa Bantul 2006. Editor Deny Hidayati. Jakarta: PT Dian Rakyat dan PPK-LIPI.

Hertanto H (2009), Manajemen Bencana Berbasis Masyarakat, Media Indonesia dalam <http://maysandi.blogspot.co.id/2012/04/manajemen-bencana-manajemen-bencana.html>.

Nugroho. C. (2007). Kajian Kesiapsiagaan Masyarakat Dalam Mengantisipasi Bencana Gempa Bumi Dan Tsunami Di Nias Selatan. MPBI. UNESCO. 153617ind.pdf. Diakses pada tanggal 7 Juli 2020.

Purnomo.H dan Sugiantoro.H. (2010). Manajemen Bencana Respon dan Tindakan terhadap Bencana. Yogyakarta: MedPress.

Rahmat. A (2015). Menejemen Bencana. Tersedia dalam <http://web.iaincirebon.ac.id/ebook/moon/SocialWelfare/Disaster/Manajemen%20dan%20mitigasi.pdf>

Rinaldi. (2009). Kesiapan Menghadapi Bencana Pada Masyarakat Indonesia. Jurnal Penelitian Psikologi, 14 (1).

Sulistyaningsih, W. (2011). Pemulihan Anak Pasca Bencana: Pelibatan Komunitas untuk Hasil Intervensi yang Efektif. Fakultas Psikologi Universitas Sumatera Utara.

Santrock, J. W. (2014). Psikologi Pendidikan. Jakarta: Salemba Humanika.