

The Role of Youth in Disaster Mitigation

Raditya K. Johar¹, and Anastasia P. M. Anggarani^{1,*},
¹STIKES Katolik St. Vincentius a Paulo
Corresponding Author's E-mail: anastasiamartha88@gmail.com

Abstract— Disasters are an event caused by natural, non-natural and human factors that can threaten and disrupt people's lives and their environment. Disaster can be happen anywhere. The city of Surabaya as one of the areas with a high disaster risk index must be aware of the occurrence of disasters. One of the negative impacts caused by a disaster can be reduced by implementing mitigation involving various parties, including youth. Youth as the largest age group and are active individuals do not seem to have a significant part in the disaster mitigation process. Therefore, purpose of this study was to identify roles are played by youth in the disaster mitigation process especially in areas that have a high disaster risk index. This study was a quantitative descriptive study with survey method. Respondents of this study was 170 youth spread throughout the sub-districts Surabaya. The results showed that of the 15 activities/roles that can be carried out in mitigation activities, both active and passive, the most roles performed by adolescents was in sufficient roles. Meanwhile, when viewed from each role performed, out of 15 roles that can be performed by youth activities for the implementation of environmental conservation have the highest average value of 2.8. Based on the results of these studies indicated that the optimization of the role of youth in mitigation actions still needs to be improved. Generally, youth already have basic knowledge related to disasters that they gain knowledge by searching for themselves. Youth are needed to strengthen knowledge, train and facilitate to be more actively involve in disaster mitigation.

Keywords— *Disaster, Mitigation, Youth*

I. INTRODUCTION

Disaster is defined as a condition of serious disruption to the functioning of a community or society at various scales, caused by the interaction between a distress event and conditions of exposure, vulnerability and unpreparedness. This situation can have an impact at least one of the following: human casualties, material losses, losses economy, and environmental damage” [1]. In many disaster situations, the impact caused by disaster events can actually be minimized, by implementation of disaster mitigation

Disaster mitigation is an action taken to eliminate or reduce the impact of hazards and risks through proactive measures taken before a disaster occurs. Mitigation activities can be done in terms of development of the physical environment, raise awareness and increase the ability of communities to deal with the threat of disaster [2]. Activities in disaster mitigation are divided into two types, active mitigation and passive mitigation [3]. Appropriate

and comprehensive mitigation efforts really need to be done, since Indonesia is quite vulnerable to disasters.

Many disaster happens in Indonesia. National Disaster Management Agency were recorded 1549 natural disasters happens in Indonesia during 2020, ranging from hurricanes, floods, landslides, forest fires, waves tides, droughts, earthquakes, and volcanic eruptions [4]. In 2018, to be exact, from August to October, there were several earthquakes that made everyone grieve. Like the earthquake in Lombok, Donggala and the recent one in East Java, precisely in Situbondo in the early hours of the morning. Although there was no potential for a tsunami, there were casualties [5]. Various disaster conditions were predicted to recur in the following years [6], and can be occur in many areas including Surabaya city.

Surabaya as the second largest metropolitan city in Indonesia and capital city of East Java province [7] has a high risk of disaster. In the 2020 Indonesia Disaster Risk Index, Surabaya is ranked 7th in East Java (out of 38 cities) and is categorized as an area with high disaster risk [8]. Various forms of disasters can occur in Surabaya, especially those related to hydrometeorological disasters and predictions of the possibility of an earthquake [9], so mitigation disaster efforts are needed to prepare for disasters and to minimize impact of disaster . Good mitigation actions need to be supported by the participation of individuals in society who are quick to work, adaptable and understand technology [10]. These characteristics are owned by a group of youth.

Numerous study identify young people are citizens aged 16-30 [11] who often face serious impacts when a disaster occurs and they also face difficulties in finding solutions related to unexpected events such as when a disaster situation occurs in their lives, but also has the potential to reduce the risks and impacts of disasters [12]. Generally, the role of youth is very important to minimizing disaster risk. Planning and preparedness efforts in dealing with disasters have been published in a number of previous studies, where the results of the research show that the involvement of young people plays a very important role [13]. Youth characterized by individuals who have flexible thinking abilities, adapt to tough situations, and able to analyze information from various sources to be used in planning and organizing something better, and focused on the specific task [1]. The age group of youth people is the largest

percentage of the age group in Indonesia, where based on data in 2020 the group of young people reaches 14.8% (40 million) of the total Indonesia population [14]. Such characteristics are very suitable to be able to optimize their role in disaster mitigation activities. However, current research has not shown specifically what role youth can play especially in disaster mitigation activities and more specifically in areas that have a high disaster risk index such as Surabaya city. This role of youth actually can be formed by building their capacity in coping mechanisms and their involvement creates trust between them and pave the way for an independent community [15]. Therefore, this study aims was to identify roles are played by youth in the disaster mitigation process especially in areas that have a high disaster risk index.

II. LITERATURE REVIEW

Youth are citizen at the ages of 16-30 years and this age is important in the process of growth and development [11]. Youth people have characters like flexible thinking abilities, adapt to tough situations, and able to analyze information from various sources to be used in planning and organizing something better, and focused on the specific task [1]. Some literature also confirms that young people are an age group that is energetic, dynamic and easy to interaction with other and is a potential resource for the future [16][17]. In various disaster situations, adolescents are one of the groups that are vulnerable to disasters, but on the other hand they are capable and resilient resources in dealing with crisis situations including disasters [17]. A number of study was published the significant of early involvement of youth people in disaster planning and preparedness.

According to the regulation of the BNPB No. 4 2008 [3] as regard the preparation of planning in disaster management, mitigation of disaster can be divided into two categories; active mitigation and passive mitigation. Several roles can be performed by youth in disaster mitigation activities. In active mitigation youth has role to develop a warning signs, give attention to the implementation of regulations on spatial planning related to disaster prevention, basic disaster training, education and increasing public awareness, develop routes of evacuation, involved in the construction of the physical environment related to disaster prevention and reduce the impact of disasters, and protect the environment to avoid disaster risk. In passive mitigation youth has role to Give suggestion/involve develop of laws and regulations, Mapping of problems and vulnerability areas, develop of guidelines/standards/procedures, develop a brochures/posters, identify characteristics of disaster, analysis of disaster risk, involved in disaster response team, and strengthening of social organization in the community.

Several studies conducted showed that some of the activities carried out by youth during disasters both individual and organized. A young woman from England when she saw the unnatural behavior of the sea on the morning of the Aceh tsunami, she convinced more than a hundred people to move away from the beach before the attack a few minutes later [18]. After the Hurricane Katarina

in 2005, a group of young people who are members of the Vietnam American Association of Louisiana takes an active role in evacuation, efforts to provide relief and process of recovery [12]. They also were able to provide information related with safe location of evacuation and food distribution by translation the language. Plan International has organized youth people to apply significant role in their community such as developing maps of risk disaster, developing community emergency plan designs, initiate early warning systems, and how to response, mitigation and develop plans to reducing risk of disaster, among other activities [1].

Research conducted by Pradika (2018) [19] identifies the role of youth in reducing disaster risk in Sleman Yogyakarta during the Merapi disaster. Base on the data, Sleman Yogyakarta as an area with moderate level of disaster risk index [8]. In this study, youth has a role in training, disaster socialization, participatory mapping, disaster simulation, monitoring and communication, community radio, and environmental conservation.

There are two important factors for successful disaster mitigation:

1. Micro element; is the development of human knowledge and awareness, mindset and pattern of life or attitudes in everyday life. Knowledge of disaster was a directly or indirectly factors can be affect the process and outcomes of disaster management [20][21] [22]
2. Macro element; is the development a safe environment for living things as well as the environment itself. For this reason, it is necessary to pay attention to environmental characteristics and natural laws [20] [22]

III. RESEARCH METHOD

This study was a quantitative descriptive study with survey method to identify what roles are played by youth in the disaster mitigation process especially in areas that have a high disaster risk index. The data collection was done with a purposive sampling approach to 170 youth people which are spread throughout the sub-districts of the Surabaya city. Each respondent filled out an online questionnaire survey. The questionnaire used refers to the guidelines from BNPB which explain what activities are carried out in the disaster mitigation process. In this questionnaire, respondents were asked to choose how often they do each role with ranging from never (score 1), sometimes (score 2), often (score 3), always (score 4). The final result of the questionnaire will be categorized into three categories; good role if the score is > 25.61; sufficient role if the score was between 15.87-25.61; and less role if the score is < 15.87.

IV. RESULT AND DISCUSSION

Based on the respondent's characteristic data, it showed that most of the respondents (97%) received information about disaster mitigation and the majority (82.35%) was good knowledge. As well as attitudes, where most (98.8%) of youth people had a positive attitude towards disaster mitigation.

Meanwhile, the role played by youth in disaster mitigation showed that of the 15 existing roles, the most

categories are in sufficient roles 81.2%. The role was highest score is protect the environment to avoid disaster risk role with a score of 2.8.

Table 1 Characteristics of Respondent

Information about disaster mitigation		
Ever	165	97%
Never	5	3%
Environmental conditions for activities		
Safe	150	88.23%
Not Safe	20	11.77%
Level of Knowledge about disaster mitigation		
Good of Knowledge	140	82.35
Sufficient of Knowledge	25	14.7
Lack of Knowledge	5	2.95%
Attitudes		
Positif	168	98.8%
Negatif	2	0.2%

Table 2 Mean Each Roles of Youth

Role	Mean
Give suggestion/involve develop of laws and regulations	1.1
Mapping of problems and vulnerability areas	1.15
Develop of guidelines/standards/procedures	1.15
Develop a brochures/posters	1.48
Identify characteristics of disaster	1.35
Analysis of disaster risk	1.4
Involved in disaster response team	1.22
Strengthening of social organization in the community	1.24
Develop a warning signs	1.21
Give attention to the implementation of regulations on spatial planning related to disaster prevention	1.15
Basic disaster training	1.48
Education and increasing public awareness	1.58
Develop rotes of evacuation	1.2
Involved in the construction of the physical environment related to disaster prevention and reduce the impact of disasters	1.17
Protect the environment to avoid disaster risk	2.8

Table 3 Categories of Role Performed

Categories of Role	Percentage
good role	14.7
sufficient role	81.2
Less role	4.1

Based on the results of the study, it was shown that the score of the roles performed by adolescents was in sufficient roles, when viewed from the level of knowledge of adolescents about disasters, it showed that they had good knowledge and positive attitudes. This is not in line with previous research where knowledge is an important factor to support activities in disaster mitigation. Knowledge of disaster was a direct or indirect factor that affect the process and outcomes of disaster management [23] [24]. In this study, knowledge of youth people related to disasters had not been implemented in their activities. This is possible because they have not been organized to be directly involved in disaster mitigation, the curriculum in schools had not provide space specifically related to disaster mitigation [25]. They gain knowledge by searching for themselves and are not able to implement their knowledge in daily activities so that their role was insufficient. To better assist young people in implementing their roles in disaster mitigation, focus on attracting young people insiders find problems and ways to solve them by using play scenarios (games), and the scenarios which can be adjusted according to age and ability. Another study also give suggestion that provide support and opportunities for young people to take responsibility in emergency situations is very importance [13]. In addition, the research data also shows that most of the respondents (88.23%) feel that their living environment were safe from disasters. This condition also encourages that they do not need to carry out role in disaster mitigation.

V. CONCLUSIONS

In conclusion, the results of the study show that the most role played by youth people was sufficient in carrying out their role in disaster mitigation. Therefore, to maximize the role of youth people in disaster mitigation, they need to be well organized and well trained both in the surrounding environment and in the school environment so that their abilities can be used optimally, especially in disaster mitigation activities. For the next study, it is important to analyze what factors influence the implementation of the role of youth in disaster mitigation, especially in areas with a high disaster risk index

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