

Abstrak 5

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Women Awareness to Physical Environment in Reducing Risk of Disaster in Yogyakarta

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Abstract

This paper aims to examine the awareness of women to the physical environment, especially to their house, which is associated to building construction, the selection of furniture, provision of emergency equipment, the arrangement of space and furnishings, and the provision of emergency facilities as supporting aspects of disaster risk reduction. This study employs a descriptive approach that involving 83 women as respondents which are randomly selected in the three disaster-prone areas consist of major volcanoes flooding, and earthquake areas. Main data was collected by distributing the questionnaire and was descriptively analyzed to obtain the women overview regarding disaster risk reduction activities by carrying out their house and equipment. The result explains the views of women in the three disaster-prone areas which can be described as follows: 1) women have high awareness to undertake the provision of emergency equipment, to plan evacuation routes, and to arrange spatial lay out of their houses as the most important step to reduce the risk of disaster; 2) women have less awareness of the importance of the selection and arrangement of sturdy furniture and house construction. It can be concluded that women are more concerned with the "soft" rather than a "hard" physical environment to be treated in their house to reduce the risk of disaster.

Keywords: woman awareness, physical environment, disaster-prone area, Yogyakarta

CHAPTER I INTRODUCTION

A. Background

Today, family resilience as the smallest unit in society becomes one of important aspect in the context of disaster risk reduction (PB National Coordination Board, 2007; Wardaya, 2010). Understanding of the disaster, the impact occurred, the ability to reduce the risk of, and ability to cope with disasters will be internalized within each individual if they become an everyday experience. Within the family -a place where individuals have a strong attachment for a blood bond would be the most effective unit to raise awareness about the importance of disaster risk reduction activities, especially for vulnerable groups. However, the profile of family resilience to disasters still needs to be mapped since lack of information about that (Person, 2010; Wardaya, 2010). In order to describe the profile of vulnerable groups, especially those

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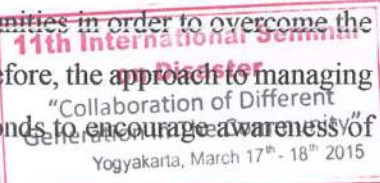
who live in disaster-prone areas affected by volcanoes, floods, and earthquakes, this study is done to get an idea of how the women as a vulnerable group understand to reduce disaster risk.

Disaster resilience can be measured by how much the ability of individuals completing the disorder and minimize potential damage that may occur. Response may encourage individuals to anticipate, react, and take heed to create a sense of physically security as well as socially (DIDF, 2010; ISDR, 2007). Disaster risk reduction activity is that aims to establish resilience and security that can be provided by the social as well as the physical environments. This study aimed to clarify the understanding of women towards activities to reduce risk of disaster especially with regard to physical environment - in this case their house.

B. Community Participation in Disaster Risk Reduction

Indonesian government provide recommendations in formulating mitigation program in Indonesia which includes the following principles (National Coordination Agency, 2002): 1) disaster mitigation should be integrated into the development process; 2) focus not only in mitigation but also education; 3) appropriate with the social, cultural and local economy; 4) emphasized how to increase the capacity of communities to make decisions and help themselves to build their own; 5) using resources and local funds; 6) to study the safety house construction for economically weak segments of society; 7) learn the techniques residential remodel; 8) studying the land use to protect people living in disaster-prone areas; 9) easy to be understood and followed by the community.

It emphasizes that the community becomes very important role person in efforts to prevent the risk of disaster. Community is not seen as an object, but the subject of disaster management especially in the process of disaster risk reduction. Relevant to the realization of decentralization and regional autonomy in which the disaster management authority is the responsibility of the region, the central government began to increase the ability of local governments and communities in order to overcome the problem of disasters in their respective territories. Therefore, the approach to managing disaster risk reduction becomes important and corresponds to encourage awareness of each person to reduce hazards and vulnerability.



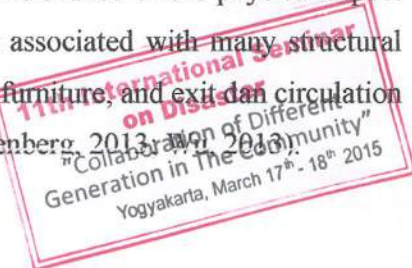
C. Indicator of Disaster Resilience

Disaster risk is defined as a result of interaction between the hazards to the level of vulnerability (Jenal, 2010). Hazards is that the variables are fixed as a result of the dynamics of natural processes, whereas the level of vulnerability is the dependent variable that can be increased or decreased depending on the family's ability to cope with disasters. To reduce the risk of disaster, the dependent variable should be increased by reducing vulnerability and increasing capabilities.

Therefore in the concept of family resilience disaster preparedness each family is required to be able to: 1) identify the various threats that exist in the region; 2) reduce the potential threats and vulnerabilities that may occur in its territory; and 3) improve the ability independently to face any threat (PB National Coordination Board, 2007; Jenal 2010; Wardaya, 2010). So a mother who has a central role in realizing the standby family resilience required to understand the hazards, vulnerability, the risk of disaster, and trigger factors (PB National Coordination Board, 2010; Jenal, 2010). Management of risk reduction can only be implemented optimally if any member of the community can reduce the risk of disaster by knowing the overall potential hazards, level of vulnerability, disaster risk, and trigger.

D. House Arrangement

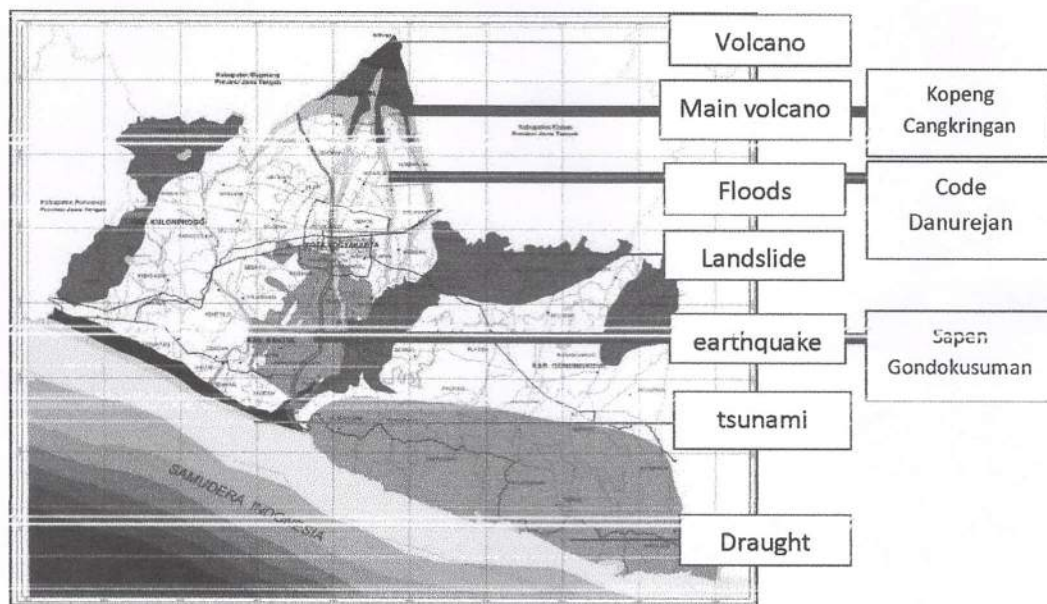
Physical aspect becomes one of the determinant factors in the natural disaster risk reduction activities mainly due to the impact of that on social conditions as well as physical condition. And vice versa social conditions and physical conditions may affect the disaster resilience (ISDR, 2010). The physical aspect can be defined as any condition of the quantity and quality of the environment that embodies human activities include landscape, facilities and infrastructure built environment, the form of the house and layout, and exit (Snyder, 1991). The relevance of the physical aspect especially related to disaster risk reduction will be associated with many structural building resilience, house shape and spatial layout, furniture, and exit dan circulation that provides easy access to evacuation process (Stenberg, 2013, 2013).



CHAPTER II RESEARCH METHOD

A. Research Approach

This study employs a descriptive approach that involving 83 women as respondents which are randomly selected in the three disaster-prone areas consist of major volcanoes, flood, and earthquake areas. The study was designed as a case study in three districts in the region includes Cangkringan Sleman, Sapen Gondokusuman, Code Danurejan. The number and categories of respondents did not set out to make a generalization.



Picture 1. Research Location

B. Collecting and Analizing Data

Main data was collected by distributing the questionnaire and was descriptively analyzed to obtain the women overview regarding disaster risk reduction activities by carrying out their house and equipment. Questionnaires were developed to get the opinion of mothers in disaster risk reduction through physical engineering includes: 1) the construction of buildings; 2) the selection of safe and sturdy furniture; 3) emergency equipment; 4) the arrangement of rooms in the house; 5) emergency facilities; and 6) evacuation equipment.

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CHAPTER III RESULT AND DISCUSSION

A. Description of Respondent

This descriptive study was conducted in three regions in the province to explore and identify the views of mothers in disaster risk reduction, especially through physical environmental engineering as a form of prevention, preparedness, and response to disaster risk reduction in the region of volcanic eruptions, earthquakes, and floods. The number of respondents are 83 people in each region are as follows:

Table 1. Number of respondents in each disaster area

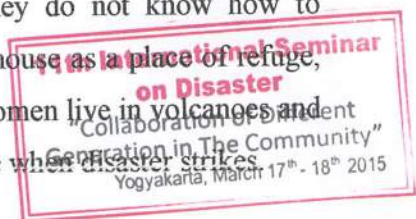
Disaster category	Location	Number of respondent
Main volcano	Kopeng Cangkringan	24
Floods	Code Danurejan	32
Earthquake	Sapen Gondokusuman	27
Total respondents		83

Table 2. Occupation of respondents in each disaster area

Occupation category	Kopeng (volcano)	Code (floods)	Sapen (earthquake)
Informal labour	0	5	0
Farmer	5	0	0
Informal merchant	0	7	1
House wife	9	13	15
Informal worker	1	5	5
Public worker	0	1	0
Private worker	3	0	0
Informal breeder	2	0	0
Teacher	0	1	3
Others	4	0	1

B. Opinion of Women in Engineering House and Furniture

Opinion of respondents on house construction as the physical aspects that need to be engineered to reduce the risk of disasters in three areas tend to be similar. The majority of responden understand that the age of the building will affect the strength of the building, even though they do not automatically repair and participate in retrofitting process. Likewise, respondents understand that the building needs to be sturdy build, although the respondents admitted that they do not know how to strengthen the construction of buildings. In regard to the house as a place of refuge, only a minority of respondents who agreed it, especially women live in volcanoes and floods prone areas. So they need a shelter outside the house when disaster strikes.



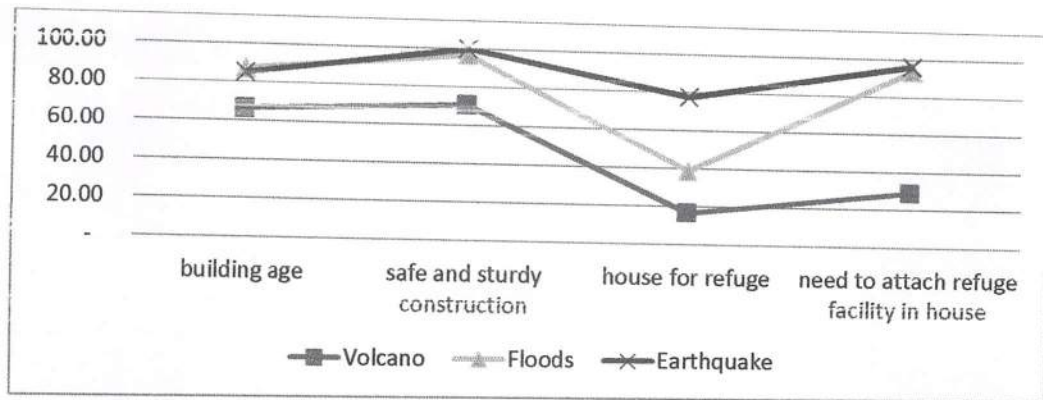


Diagram 1 Respondent opinion on needs to building construction

Respondent tend to have similar opinion on the provision of safe and sturdy furniture as the physical aspects that need to be engineered to reduce the risk of disaster. The majority of respondent understand that the furniture in the house needs to be made with safe and sturdy materials, and most respondents consistently do so at their house. In regard to the ability of the furniture to be used to protect the human body in disaster was also agreed upon by the respondent.

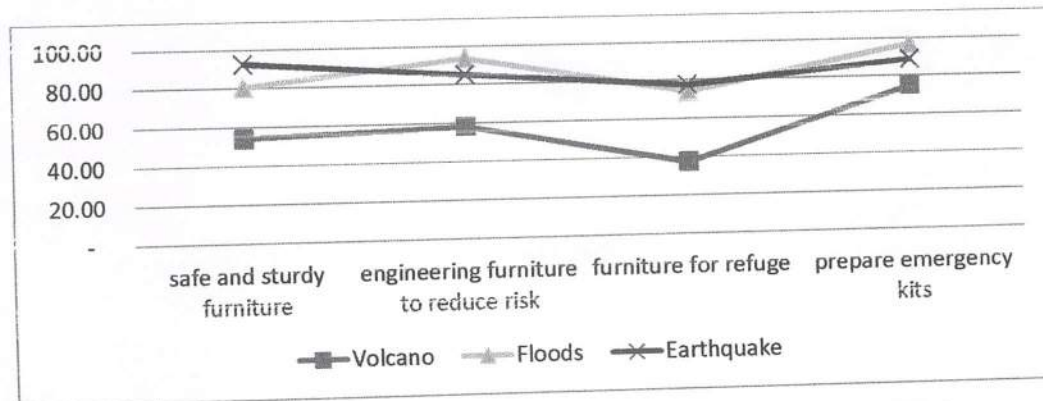


Diagram 2 Respondent opinions on needs giving safety and sturdy furniture

Respondent opinion on the need to create a simple room arrangement and ease of movement and evacuation in disaster as the physical aspects that need to be engineered to reduce the risk of disaster disaster in three areas tend to be the same. The majority of respondent understand that house needs to be arranged in a simple, providing for emergency exit from each room, and put the furniture to facilitate the evacuation process. The interesting thing, though the majority of respondents

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understand that it is necessary to provide evacuation equipment, but most of them do not apply it at their house.

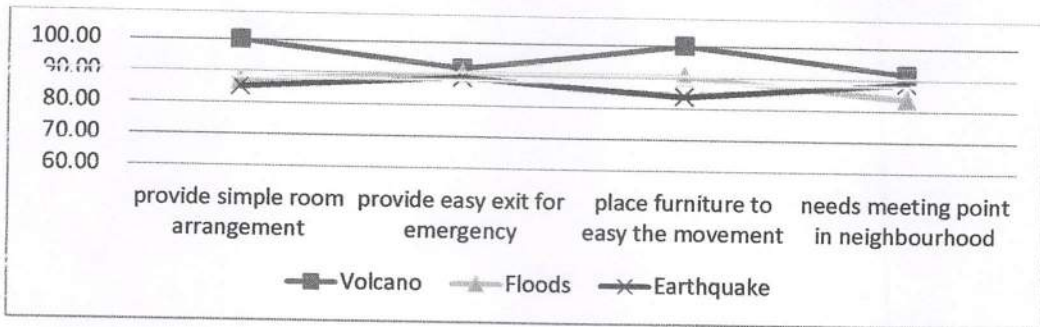


Diagram 3 Respondent opinions on needs to create simple spatial arrangement

C. Discussion

Although the percentage of respon in each aspect is different but the views of respondents to the physical aspect as facility to reduce disaster risks tend to be similar. Most respondents agreed that disaster risk reduction can be engineered through the arrangement of space in the house, the provision of evacuation routes, and emergency supply kits. Then the selection of sturdy and safe furniture and building the house in strong construction is the next choice for respondent. It can be seen that the furniture and building construction has not been a priority for respondents to be engineered to reduce the risk of disaster. It showed that respondents pay more attention to the “soft” rather than “hard” physical aspect of environment. To measures in an emergency rescue, the respondents understand how to perform themselves but do not see that facilities outside the house can be used to help in emergency.

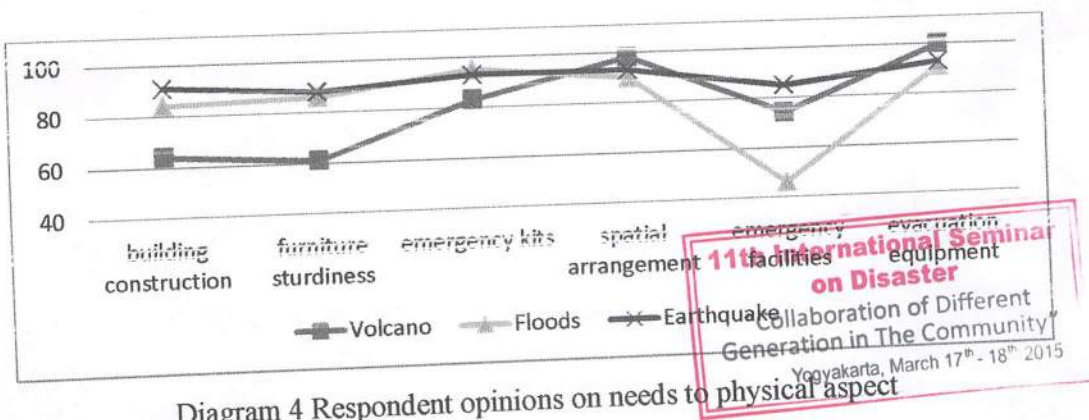


Diagram 4 Respondent opinions on needs to physical aspect

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Activity to reduce disaster risk through spatial planning and provide evacuation route becomes the highest choice to do. While the selection and arrangement of sturdy furniture becomes the lowest choice. There is a bit ambiguous when the responden attempts undertake spatial planning as an important activity to reduce disaster risk is not balanced with the arrangement of furniture that will further support the evacuation ease and avoid the incidence of collapse or fall of furniture when disaster strikes.

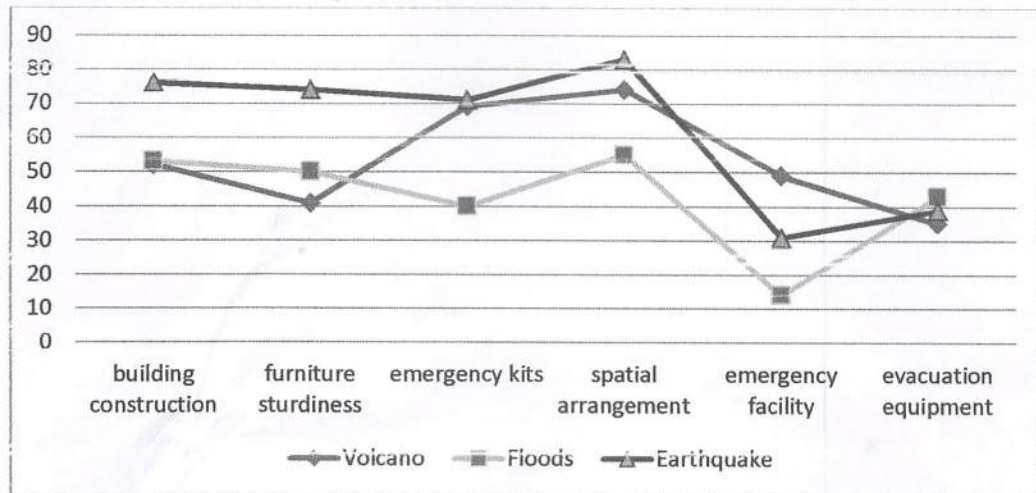


Diagram 1 Respondent activities in reducing the risk based on physical aspect

CHAPTER IV CONCLUSION

1. Respondent have high awareness to undertake the provision of emergency equipment, to plan evacuation routes, and to arrange spatial lay out of their houses as the most important step to reduce the risk of disaster, while they have less awareness of the importance of the selection and arrangement of sturdy furniture and house construction. It shows that women are more concerned with the "soft" rather than a "hard" physical environment to be treated in their house to reduce the risk of disaster.
2. In general the activity of the preparation of evacuation in an emergency conditions showed the lowest activity compared with the activity to reduce the risk by precautionary measures. It shows that the available physical facilities can not be fully utilized by the respondent to rescue themselves in disaster.

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