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Women's Role In Post-Disaster Recovery in South Merapi Slopes

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Abstract. The purpose of this study is to examine the role of women in post-disaster recovery in the southern slopes of Merapi. The study population is women in the slopes of Merapi. The sample of research was taken by purposive counted 33 respondents. The research variables include socioeconomic as well as demography and the role of women on the slopes of Merapi in post-disaster recovery. Quantitative data analysis is applied to analyze primary data and secondary data related to female sociodemographic variable, qualitative is done by data reduction, presentation, and verification. The results showed that women in South Merapi Slope were doing domestic and public work after the disaster, even when the disaster of domestic work was done in the refugee camp. Post-disaster social activities are conducted with the guidance of the government through the relevant institutions, especially when in evacuation. Economic activity is disrupted when disaster strikes, post-disaster women begin to pioneer economic activities such as raising livestock, managing agricultural land for immediate replanting, opening stalls and trading, and searching for sand and stones for additional income. Post-disaster social activities in new housing environments as a means of post-disaster recovery by strengthening inter-individual and community groups

1. Introduction

Indonesia has 130 active volcanoes, Merapi is one of the most active volcanoes that has an effusive (not explosive) eruption type almost continuously and explosively every four years. The big eruption of Merapi in October and November 2010 killed 339 people [1]. Merapi has crowded slopes, including women and children as vulnerable communities. Merapi has crowded slopes, including women and children as vulnerable communities. The population of Indonesia reached 254.9 million people. BPS data shows that the male population reaches 128.1 million while women are 126.8 million people [2]. Women are an important potential to be involved in disaster recovery, looking at similarly equal numbers of male and female population.

Women according to their domestic tasks are more vulnerable to disasters because they have to protect themselves, their children, and their elderly parents. Post-disaster women should be given widespread access to recovery, since they must recover not only themselves but all household members need women's participation in the recovery process. [3], women's vulnerability in disasters everyone can be equally exposed to hazards, but women and have different levels of vulnerability and access to resources, and have else developed different coping skills. Women's involvement in disaster recovery is crucial to women's duties in the domestic and public sphere. Women slopes of Merapi have a toughness in the face of disaster because since the beginning of information about Merapi has



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been obtained. [4], it also occurs in rehabilitation and reconstruction in which women involvement is quite significant. In short, from disaster risk reduction in all phases (pre-disaster, on disaster, or post-disaster), women also have an essential role in each cycle of the phase of disaster risk reduction.

Women according to their domestic tasks are more vulnerable to disasters because they have to protect themselves, their children, and their elderly parents. Post-disaster women should be given widespread access to recovery, since they must recover not only themselves but all household members need women's participation in the recovery process. [3], women's vulnerability in disasters everyone can be equally exposed to hazards, but women and men have different levels of vulnerability and access to resources, and have therefore developed different coping skills. The role of women in disaster recovery is crucial to women's tasks in the domestic and public sphere. Women slopes of Merapi have a toughness in the face of disaster because since the beginning of information about Merapi has been obtained. [4], it also occurs in rehabilitation and reconstruction in which women involvement is quite significant. In short, from disaster risk reduction in all phases (pre-disaster, on disaster, or post-disaster), women also have an essential role in each cycle phase of disaster risk reduction.

[5], the substantial economic effects of disasters on women's working lives complicated and expanded their lives in life and social structures. Women have domestic and public duties, the Merapi disaster in 2010 has changed the lives of residents in Merapi Slope including changing the pattern of domestic and public activities of women in Glagahmalang. Residence in residential remains relatively narrow for rural households who initially have a home-based home and a large yard. The condition of adjacent houses, not soundproof and without yard, women are required to meet daily needs at home, cooking, doing activities that do not disturb the comfort of neighbors, and still serve both inner and born husbands [6]. Domestic activities in occupancy are still adjusted to current huntap conditions, as well as public activities ie social activities and post-disaster economic activities are also changing. Post-disaster, agricultural land can not be used for agricultural activities due to closed lava erupted.

Women then look for sand and stone eruption of Merapi as a source of income. Changes in domestic and public activities into consideration of an important part of concern in disaster recovery activities conducted by women in the post-disaster eruption of Merapi in 2010. Women can play an active role in disaster recovery by placing women with equal access to men. Women should be given the opportunity to obtain trainings organized by government and related institutions to have knowledge and skills in disaster recovery. [4], the role of women in post-disaster recovery, at emergency response period, women play an important role in public kitchen by being active in cooking and deciding the nutritious foods that will be cooked in order to make the evacuee stay in healthy. During the rehabilitation of the trauma, they have the important role to get advice to the people. Community-based social activities based on disaster recovery are beginning to involve women to play a role in post-disaster recovery. [6], post-disaster recovery, activities that can be developed are women groups, whether they are economic (cooperative, social), social (Posyandu), or religious (study groups). Women can be mobilized to engage in economic activities by trading, training to make handicrafts such as making souvenirs, doormats, and even starting to mine sand and stone. The strengthening of families to collectively rise from the impact of disasters.

Community-based social activities based on disaster recovery begin to involve women, so women can play a role in post-disaster recovery. [6], post-disaster recovery, the activities that can be developed are women's groups, whether they are economic (cooperative, social), social (Posyandu) or religious (study groups). Women can be mobilized to engage in economic activities by trading, conducting training to make handicrafts such as making souvenirs, doormats, and even starting to mine sand and stone. The strengthening of families to collectively rise from the impact of disasters.

Post-disaster counseling and training is conducted to enable women to play a role in post-disaster recovery. Post-disaster recovery is oriented to organize economic and social life in order to adjust immediately to new conditions resulting from disasters. The post-disaster recovery phase requires the participation of all levels of society including the role of women as the most vulnerable

groups in the event of a disaster. Women should be involved in any recovery activity from planning, implementation to evaluation monitoring.

2. Research Methods

The study population is women who have married and reside in the research area. Samples taken by purposive sampling as much as 33 respondents. The research variables include socioeconomic as well as female demography on the slopes of Merapi Selatan and characteristics of disaster recovery. Primary data in the form of sociodemographic characteristics of women and the role of women in post-disaster recovery, secondary data in the form of information and data related to research obtained from relevant agencies. Primary data collection in the form of quantitative and qualitative data is divided into two stages: primary data collection to obtain quantitative data and primary data collection to obtain data that is qualitative with the understanding that the distinction is not done exclusively, is quantitative and qualitative [7]. Analysis of research data is divided into quantitative data analysis and qualitative data. Quantitative descriptive data analysis is used to analyze primary data and secondary data related to female sociodemographic variables. [8], qualitative data analysis is done by data reduction, presentation and verification.

3. Description of Research Area

The research was conducted in Glagahmalang, Glagahardjo, Cangkringan, Sleman DIY (see Research Location Map). Hamlet Glagahmalang more than half the hamlets covered in volcanic lava when Merapi eruption occurred November 2010. Type of soil in Glagahmalang is regosol, andosol, alluvial and litosol, with climate type in this region is type C according to the classification of rainfall Schmidt and Ferguson [9]. Glagahmalang including buffer zone, the water that is located and flowing in the area not only for people in Merapi Slope, but for people in Yogyakarta and surrounding areas. Glagahmalang is part of the Merapi region, has a diversity of resources utilized for various public interests. The result of eruptions in the form of sand and stone used by the community for the source of income.

Currently Glagahmalang Hamlet residents occupy Glagahmalang Huntap with socio-economic life almost the same as before the eruption of 2010. Post-Disaster women Lereng Merapi help make a living by doing farming, raising, trading, taking sand and stone to meet household needs. Women undertake domestic tasks and social activities. Women's social activities are being carried out by women to maintain their relationships between neighborhood, village, sub-district and mutually reinforcing levels among women for post-disaster recovery. The activity of delivering school children and going to the market for household needs is a routine activity of women in Glagahmalang, Slope of South Merapi. Women slopes of Merapi have a dynamic of domestic and public activities both productive and socially societal post-disaster eruption in 2010. Various activities carried out by women on the slopes of Merapi as a post-disaster recovery effort from the trauma of the disaster. Post-disaster recovery activities involving the role of women are conducted with a variety of activities including recovery for economic, social, and psychological strengthening.

4. Characteristics of Women of Merapi Slope

Characteristics of women The slopes of Merapi are described based on livelihoods, education, income, and skills courses related to post-disaster recovery. Emerson and Morrow in Masson Le Virginie. 2015, who are considered most vulnerable to disasters? Poor and low-income households, Single-parent households, Socially isolated households, Recently arrived residents, immigrants and, foreigners, Senior citizens, children and young people, People with a disease or a mental or physical disability, Undocumented residents; refugees; war veterans, Indigenous populations and subordinate ethnic groups, Institutionalized populations; homeless residents.

Table 1. Characteristics of Women

No	Livelihood Women of Slopes of Merapi	f	%
1	2	3	4
1.	Farmers (Crop and Livestocks)	17	51,5
2.	Private employee / country	1	3,03
3.	Take sand and rock	9	27,27
4.	Merchants	4	12,12
5.	The other work	2	6,06
Women Income (IDR)		f	%
1.	less than 1000. 000	7	21,21
2.	1 000. 000 – 2 000. 000	19	57,57
3.	More than 2 000. 000	7	21,21
Education		f	%
1.	Graduated Elementary School	3	9,09
2.	Graduated from Junior High School	15	45,45
3.	Graduated from Senior High School	14	42,42
4.	Ever Lecturing in Higher Education	1	3,03
Courses And Skills Following		f	%
1.	Cooking, sewing, and dressing courses	15	45,45
2.	Following the Disaster Course	33	100
3.	Following Entrepreneurship	11	33,33

Source: Primary Data 2017

Women on the slopes of Merapi have livelihoods as farmers or 51.5 percent. The availability of agricultural land for farming and livestock raises opportunities for economic activities to develop well in the research area. Women who have main activities looking for sand and rock as the main source of income reached 27.27 percent. Women slopes of Merapi with income between 1000 000, - up to 2 000 000,- rupiah per month reached 57.57 percent. Merapi slopes women all work to earn a living, so women are economically independent with a source of income.

Women's education dominated high school graduation reached 87.87 percent. Post-disaster women follow courses and skills organized organizations and institutions, all women disaster courses. Women's strong desire to have understanding and skills when facing disasters encourages women to attend disaster courses. Women's work-related duties are 45.45 percent, occupying second place after disaster. [10], post disaster aid and investments generally undermine women's collective capacity to surmount day-to-day problems adversely affecting the economic base of women. In such a situation generally support systems such as child care, schools, clinics, public transportation and family networks are disrupted or destroyed, resulting in an increased domestic work.

5. Women Role in Post-Disaster Recovery of Merapi Eruption 2010

Therefore, resolving the problems of environmental hazards was directly linked to drawing up relocation plans. However, after understanding the complicated relation the community formed with the hazardous site, the studio recognized that an effective strategy for eliminating environmental vulnerability may in fact increase economic vulnerability. In this respect, a natural hazard acts as a catalyst where the intricately linked issues of vulnerabilities are brought to the surface [11] . Post-disaster recovery of Merapi 2010 involves women in relation to aspects of environmental improvement, reconciliation / conflict resolution, socio-economic recovery of culture, recovery of

groundwater and fresh water availability, and improved sanitation availability. Asset-related recovery involves restoration of yard land, wetland, moor land, livestock, possession of valuables, motor vehicles, savings or deposits, and recovery of old-age benefits. The physical, social, and mental restoration of women on the slopes of Merapi involves physical / health recovery, relationships with relatives, relationships with neighbors, relationships with friends, organizational / institutional reconstruction, and social activities. Recovery-related sources of income that involve women include assistance / capital assistance and business assistance, assistance in the fulfillment of clothing, food, shelter and education. [10], securing food, water and fuel are key community concerns, which are predominantly taken care of by women. This is essential to ensure effective disaster reduction policies. If some decision-making is shifted emergency relief and aid processes particularly disadvantage women who must organize food provision, shelter, and child and family care according to chaotic aid-delivery systems and entitlement procedures that rarely take their work or opinions into account.

Table 2. The Role of Women in Post-Disaster Recovery

No	The Role of Women in Post-Disaster Recovery	f	%
1	2	3	4
1.	Environmental improvement	33	100
2.	Reconciliation / Conflict resolution	9	27,27
3.	Recovery of socio-economic culture	23	69,69
4.	Recovery of transportation facilities	7	21,21
5.	Recovery of Groundwater and Water Supply	21	63,63
6.	Recovery of Good Sanitation	15	45,45
7.	Etc		
Role of Women In Post Disaster Recovery Related Housing And Assets		f	%
1.	Land Recovery	33	100
2.	Yard Rice Field Recovery	33	100
3.	Land Recovery Stable	33	100
4.	Livestock Restoration	4	12,12
5.	Recovery of Mastery of Valuable	23	69,69
6.	Goods Motor Vehicle Recovery	2	6,06
7.	Recovery of Savings or Deposits	11	33,33
8.	Recovery of Old Age Guarantee	3	9,09
Role of Women In Physical Recovery, Social Relations, and Mental		f	%
1.	Physical / health restoration	17	51,51
2.	Mental / Traumatic Recovery	9	27,27
3.	Recovery Relation With Relatives	3	9,09
4.	Restoring Relations With Neighbors	3	9,09
5.	Restoring Relationships With Friends	1	3,03
6.	Organizational Restoration / Institutional	18	54,54
7.	Recovery of Social Societal Activities	19	57,57
Role of Women in Recovery of Revenue and Fulfillment of Needs		f	%
1.	Obtaining Assistance / Capital Assistance	33	100

2.	Obtain Mentoring / Business Assistance	27	81,81
3.	Getting Help Needs Clothing	3	9,09
4.	Obtaining Food Aid	17	51,51
5.	Get Help on Housing Repair	9	27,27
6.	Obtaining Educational Aid	23	69,69

Source: Primary Data 2017

[12], post-disaster recovery efforts include repair of damaged transportation facilities, mental rehabilitation, evacuation infrastructure development, drainage and sanitation systems, logistics and emergency schools, land tenure recovery, capital grants and trainings. The role of women in post-disaster recovery reaches 100 percent on environmental improvement, restoration of yard land, paddy fields, and moorlands. All female respondents received mentoring or capital assistance and 81.81 percent of women obtained business assistance. The role of women is 69.69 percent seen in the socio-economic recovery of culture and the restoration of the mastery of valuables, women are involved in the recovery of the availability of clean water, and the recovery for educational assistance. Women are engaged in a thorough post-disaster recovery, although the percentage of women's role in post-disaster recovery is evident in strategic livelihoods. Women's role is very good for environmental improvement and water supply, recovery in asset control, and recovery for educational assistance. Women from the slopes of Merapi more than 50 percent pay attention to the recovery of health and social activities, post-disaster these two aspects are important to note for the continuity and comfort of life and community.

Women play a greater role in the strategic aspects of their establishment, such as environmental improvements and water supply, recovery in asset control, and recovery for educational assistance. Mrs. Dwiyanti pointed out how important it is to save their household members from the impact of the disaster by paying attention to it

... the improvement of the environment and the availability of clean water is my concern to ensure that all household members can live a normal life in the aftermath of the disaster ...

Women secure assets as a source of household income such as yard land, rice fields, and moorings, and valuables. Post-disaster women seek to immediately recover the economy so that household needs can be met safely. Ibu Sumirah took the initiative to immediately restore their household economic assets to make sure their household needs were met well after the disaster.

... the source of income and assets to sustain household needs is my priority to recover quickly after the disaster...I am making repairs and re-management so that the yard, paddies, and moorland fields can soon produce results...I take advantage of assets that can sustain household needs...with household economic hope soon recovered after the disaster ...

Women of the slopes of Merapi are concerned with the needs of all household members from restoring the environment and their basic needs from clean water, food and clothing. Education for their children is of primary concern after their basic needs are secure, so women seek help for children's education as did Kartini's mother

... after the source of income and assets to sustain the needs of the safe households ... the concern about children's education ... is my priority...searching for the closest school in accordance with my child's education...even though I have to pick up the shuttle as it is a bit away from the huntap...I am delivering school children ... transportation common difficult to get ...they have to school well ...

The role of women on the slopes of Merapi in post-disaster recovery can be seen from their activities throughout life from the restoration of the environment, the recovery of assets, to the recovery of children's income and education.

6. Discussion and Conclusion

[3], women's vulnerability in disasters everyone can be equally exposed to hazards, but women and men have different levels of vulnerability and access to resources, and have therefore developed different coping skills. Vulnerability is the exposure and susceptibility of any person to losses and/or possible harm (Physical, Mental, Psychological, Social, and Biological). Major indicators of vulnerability are loss of assets, entitlements, social exclusion, and physical or psychological exploitation. Post-disaster recovery is done in order for women and communities to return to normal lives, such as when there has not been a disaster. Recovery is done through the improvement of the environment of the disaster area, the improvement of public infrastructure and facilities, the provision of community home improvement, psychological social recovery, health services, socio-economic recovery, restoration of security and order, the restoration of the functions of the institution and government, and the restoration of the function of public services. Post-disaster recovery by involving all elements of society is no exception for women in order for economic, social and cultural activities, the establishment of public order, and the rise of women's role in all aspects of life in post-disaster areas.

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