

# Relocation of Settlements due to Natural Disaster: A Policy Analysis

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**Abstract.** Housing relocation due to natural disasters is one of the realization of disaster mitigation by resettling the disaster victims to a new and safer area. The implementation of relocation must prioritize the interests and needs of the affected society. Besides, the land acquisition of the new housing must be secured in terms of its legal certainty. This study aimed to analyse the policy of the Regional Government of Karanganyar Regency in establishing housing relocation for the disaster victims in Menjing village, Jenawi sub-district, Karanganyar regency. This study was conducted by using a juridical empirical approach. The results suggest that the policy taken by the Regional Government of Karanganyar Regency in implementing the relocation referred to Law No. 24/2007 on Disaster Mitigation in which the relocation process was carried out through a discussion involving the Regional and Village Government as well as the society. The relocation also considered different aspects such as socio-culture, economy, ecology, and effectiveness, so it was not merely based on the technical aspect. The relocation area in Menjing village originally belonged to the Village Government, known as plots of land (*bengkok*) with a right of use.

**Keywords:** Policy, Relocation, Natural Disaster

## 1 Introduction

Indonesia is one of the largest agrarian and archipelagic countries in the world with abundant natural resources. Located in a strategic area with a tropical climate, Indonesia has fertile soil which can be fully utilized for the welfare of the Indonesian people. Despite the abundance of its natural resources, Indonesia is located between two plates and surrounded by the Ring of Fire. Consequently, Indonesia is prone to natural disasters such as volcanic eruption, tsunami, landslide, earthquake, and other disasters. According to the National Disaster Mitigation Agency (BNPB), there has been a relatively increasing number of natural disasters in Indonesia within 2015 to 2019 despite a decrease in 2020. Within the last six years, natural disasters with the most significant number of occurrences were flood (3008 times), cyclone (2972 times), and landslide (2427 times). With regard to the plenty of possibilities for abrupt disasters, the government must be more prepared in terms of prevention and mitigation [1]

There was a ground movement on February 10, 2015 in Menjing village, Jenawi sub-district. Dozens of families living around the location experienced the direct impact. The movement occurred in Jambon village and Menjing village twice on 10th and 11th of February 2015. The movement caused ground cracks in several residents' houses and village roads. This condition prompted a landslide in March 2015. [2] One of the measures taken by the government of Karanganyar Regency was to relocate a number of housings located in the prone area or the affected area to new residential areas. The policy was regarded as an implementation of natural disaster mitigation as regulated in Article 1 paragraph (5) of the Law No. 24/2007 on Disaster Mitigation.

The relocation was carried out by using plots of land, known as *bengkok*, as the new residential area for the victims. The land used for the relocation must have stable structures and pose no risk of other natural disasters. Besides, choosing a new area must consider the sustainability of the society's life and

the balance of the surrounding ecological functions in order to create a safe and comfortable housing which does not harm the surrounding environment or create problems for the society.

## **2 Method**

The Authors used a qualitative approach in this study. This approach interprets a phenomenon narratively by collecting data in a scientific setting. [3] This approach emphasizes the understanding of a phenomenon by collecting data which is further analysed and explained without statistical methods. The results of this study were presented in a descriptive form that explained the real conditions of a phenomenon. The results were written by using scientific interpretation and supported by the data collected from the field and presented narratively by using words and pictures rather than numbers. In short, this study aimed to obtain information and develop it into research results. More specifically, this study used juridical-empirical research. This study can also be regarded as a field research regarding whether legislation was properly implemented. Laws review or examine the existing phenomena, including how they affect individuals' or institutions' legal acts.[4]

This study focused on the policy of the Regional Government of Karanganyar Regency regarding the establishment of land for housing relocation due to the natural disaster which occurred in Menjing village as well as the status of land acquisition of the relocated housing. This study took place in the office of Menjing village head, Regional Disaster Mitigation Agency of Karanganyar, and in the relocated area in Margomulyo. The sources of data in this study consisted of primary, secondary, and tertiary data sources. The primary data was obtained through interviews. The secondary one was obtained from books, articles, and legislation. The tertiary one was obtained from the statistical data of Karanganyar Regency. The data was collected through interviews, observation, literature study, and documentation.

## **3 Result and Discussion**

### **3.1. The Policy of the Regional Government of Karanganyar Regency in Establishing Land Relocation due to the Natural Disaster**

In Article 1 point 5 of Law No. 24/2007 on Disaster Mitigation, it is stated that disaster mitigation is a sequence of measures taken by establishing a policy for the development that is at risk from disasters, prevention activities, emergency responses, and rehabilitation. Since the establishment of Law No. 24/2007, a sequence of disaster mitigation not only focuses on the process of emergency responses, but it also includes the pre-disaster process, emergency responses, and post-disaster process. [5]

According to the Decree of the Minister of Home Affairs No. 131/2003 on the Guidelines for Disaster Mitigation and Management of Evacuees, relocation refers to an activity of locating or resettling evacuees from temporary shelters to permanent places in new locations. The provisions concerning relocation due to natural disaster refer to Article 101 paragraph (2) of Law No. 1/2011 on Housing and Settlement Areas, in which relocation or resettlement as mentioned in paragraph (1) is carried out by moving the affected society from the location that cannot be rebuilt as it does not correspond to the spatial plan, and/or it is prone to disasters which can pose dangers to goods or surrounding people.

The relocation for the affected society is carried out directly since the settled location is at a high risk of disaster. The relocation is chosen as a last measure as there is no possibility to minimize the risk factor, one of which is landslide. [6] Moreover, Erica Harper suggests that relocation or resettlement occurs because the settled residence or land is lost or no longer proper to live in [7].

The procedures of relocation, as regulated in Article 114 paragraph (3) of the Government Regulation No. 14/2016 on the Realization of Housing and Settlement, include:

- 1) Study on space utilization and/or study on land legality;
- 2) Temporary settling for the society living in a slum or disaster-prone area;
- 3) Socialization and public discussion with the affected society;
- 4) Collecting the data of the affected society.

The success of a relocation is also determined by the extent to which the society is involved in all decisions during the process of planning and implementation. There are several factors which influence the relocation process. [8]

- a. Social and cultural aspects, which include social relationships with relatives and neighbours, the existence of public facilities and gathering places for the society, environmental conditions which resemble the prior residence, the existence of legal certainty regarding the status of land and building ownership.
- b. Economic aspect, including the access between the new location and the workplace, job security, and replacement of the damaged land and buildings.
- c. Physical and environmental aspects, which relate to the availability of facilities and infrastructure as well as the geographical conditions of the new location, whether it is proper and safe for settlement.
- d. The aspect of building construction quality, including the choice of new residence, the quality of the building materials used for the construction, and the installation inside the building.
- e. The aspect of decision-making process, in which the society is involved in all relocation processes and good communication between the society and the government.

There were several proposed places in the form of plots of land in three different locations. The details of the location and the considerations taken into account in the discussion on choosing the plots of land used are presented as follows.

Location of the Plots of Land	Results of Discussion and Evaluation from the Regional Disaster Mitigation Agency (BPBD)
Plot of land <i>oro-oro</i> , located in Polan hamlet, Menjing village	This land was too steep due to its location on a hill despite its easy access which is near to the residence.
Plot of land 1, located in Menjing hamlet, Menjing village	This land was a field with a stable condition. This land was also located in a relatively flat area, which made it suitable for residence. However, the access to the location required a bridge because it was located across a big river. Therefore, it pushed up the construction cost.
Plot of land 2, located in Tanggung hamlet, Menjing village	This land was a field with a stable ground condition. There was also a village road which provided access to the location. This land was located in a fairly flat area. Based on the further evaluation from the BPBD and the Volcanology and Geological Hazard Mitigation Center (PVMBG), this land was considered suitable for building the new settlement.

With regard to Article 31 of Law No. 24/2007 on Disaster Mitigation, the realization of disaster mitigation must be based on the following aspects.

- a. Social, economy, and culture;
- b. Sustainability of the living environment;
- c. Significance and effectiveness;
- d. Scope of the area.

The realization of housing relocation due to natural disaster follows Article 114 paragraph (6) of the Government Regulation No. 14/2016 on the Realization of Housing and Settlement, in which the relocation must be based on the following aspects.

- a. Civil rights of the affected society;
- b. Ecological condition of the location; and
- c. Social, economic, and cultural conditions of the affected society.

Determining relocation area is not limited to the consideration of the technical implementation.[9] First, land is an essential capital factor in development and economic activity besides its functions as commercial property and a speculation object.[10] In general people will feel comfortable to live in the place or house where they have lived in for a long time.[11]

Second, the aspect of economy relates to the economic activities of the disaster victims. In determining the relocation area, there must be a consideration regarding whether the workplaces of the affected society are dependent on the affected location. In this case, the workplaces of the society of Jambon hamlet were relatively close to their residence. If the relocation area was located far away, it would be difficult for the society to get to work and meet their daily needs.

Third, in determining the relocation area, the spatial plans must be taken into account, as well. Based on the data obtained from the Central Statistics Agency of Karanganyar Regency, Jenawi sub-district has an average height of 750 meters above sea level. According to the Geological Agency in 2015, Jenawi sub-district was considered to have medium to high potential of land movement. It is also stated in Article 24 paragraph (2) of the Regional Regulation of Karanganyar Regency that the landslide-prone area in this regency covers 1.426 m<sup>2</sup>, and Jenawi sub-district is included in this area. Article 56 paragraph (8) point g states that it is not allowed to develop settlement in an area which is prone to land movement. The land used as the relocation area for the residents of Jambon hamlet was a field which was near to the other residence. The plot of land proposed by the Village and Regency Government was regarded as suitable for housing and settlement based on the considerations from the Volcanology and Geological Hazard Mitigation Center. The land was considered stable and located in a flat area. It was also not steep, so it was safe to be used as a residential area. Determining the relocation area also considered the ecological aspect in which the building construction and all of the related activities were set to provide no damage to the surrounding environment.

Fourth, the Regional Government of Karanganyar Regency also considered the aspect of effectiveness in determining the relocation area for the disaster victims. The first plot of land proposed belonged to the village secretary, which was located across a big river, while the second one was located in a field near the highway. The government considered that the access to the first plot of land was difficult as it required a bridge construction, which increased the cost and took quite a long time. As stated in Law No. 24/2007, the realization of disaster mitigation in an emergency condition also considers the effectiveness of budget and time allocation so that the condition can immediately recover.

Fifth, in terms of the ecological aspect, with regard to the considerations and evaluation from the the Regional Disaster Mitigation Agency (BPBD) and the Volcanology and Geological Hazard Mitigation Center (PVMBG), it was decided that the victims were relocated to the plot of land 2 located in Tanggung hamlet, Menjing village. This land was regarded as the most proper due to its location in a flat area which originally was a field. The location also provided easy access for the residents because it is close to a highway. Thus, social and economic conditions can be secured as the previous ones.

The policy of the Regional Government of Karanganyar Regency in determining the relocation area for the affected society in Jambon hamlet, Menjing village considered diverse aspects and causes which have been examined by the Village Government and the affected society. In an analysis of public policy,

an alternative policy must be considered regarding the impacts or benefits in the future. The relocation for the disaster victims in Menjing village provided the affected society with the best benefits. The society were able to continue to live properly in the new residence. The main problem in disaster mitigation is not the availability of regulations which specifically regulate the issue, but it lies on the implementation of the regulations. [12]

## 4 Conclusion

The policy of the Regional Government of Karanganyar Regency in determining the relocation area for the disaster victims in Menjing village is based on Law No. 24/2007 on Disaster Mitigation and Law No. 1/2011 on Housing and Settlement Areas. The relocation area was determined through discussion involving the Regency Government, Village Government, and the society. The relocation was not only based on the technical aspect, but it also considered socio-cultural, economic, effectiveness, and ecological aspects, as well as civil rights of the victims. Therefore, determining the plot of land 2 as the relocation area in Menjing village was considered appropriate and provided the society with the best benefits.

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