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# COMMUNITY PARTICIPATION IN FLOOD DISASTER MITIGATION IN SOLOK SELATAN REGENCY-INDONESIA

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## ABSTRACT

The purpose of the study was to analyze community participation Solok Selatan in flood disaster mitigation. Type of the study was a descriptive qualitative research with purposive sampling data retrieval method that was, a society that found when the community affected by flash flooding in Solok Selatan. Techniques of data collection were observation, interviews and documentation. Information from the community were reduced, then drawn conclusions of public participation Solok Selatan in the pre mitigation disaster such as: (1) cleaning up their own house, burning garbage, do not throw garbage into the river and wild, (2) planting trees along the river flow, (3) evacuating to higher ground. In short, public participation after the disaster werr working together to improve homes, public facilities, make emergency tents.

**Keywords**: **Participation, Community, Government, Disaster, Flood Mitigation**

## INTRODUCTION

Disaster is an event or series of events that threaten and disrupt the lives and livelihoods of society caused (Hermon, 2015), either by natural factors (Hermon, 2012), factors of non-natural or human factors as the result of human casualties (Oktorie, 2017), damage to the environment (Hermon, 2001; Hermon, 2009; Hermon, 2010, Hermon, 2011), loss of property (Hermon, 2012), and the psychological impact (Act No. 24-year disaster relief 2007 article 1). One form of natural disasters caused by human factor was flood (Hermon, 2014; Hermon *et al*., 2017). Flood disaster is a common disaster in Indonesia. According to Hermon (2014) in geography book of

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natural disasters the factors that led to the catastrophic flooding is: (1) high rainfall intensities, (2) destruction of retention of DAS, (3) fault development planning flow river, (4) was a river, and (5) fault area and development governance and infrastructure of the major cities in Indonesia. Based on these factors, Indonesia will be prone to various kinds of disasters floods. According to BNPB Data also mentioned that among the natural disasters that occurred in Indonesia flood is most good that flash flooding, mud, cold lava floods, flood tide, sea water and flood other (Mean, 2016; Kristian and Oktorie, 2018; Hermon *et al*., 2018; Oktorie, 2018). With various types of floods that have occurred in Indonesia are also influenced by the condition of the region itself. The conditions of the region are frequent flood are usually the area that his topography of the ramps. According to Hermon (2014); Hermon (2016); Hermon (2017); Hermon (2019) vulnerable areas hit by floods are usually located on a flat area, close to the River, located in the basin and in the tidal water of the sea.

Solok Selatan is one of the regencies in West Sumatra will flood-prone. Some areas are vulnerable to catastrophic flooding in Solok Selatan Regency is a sub district of the Pauh Duo, Pagu, and Koto Parik Gadang Diateh. Judging from the condition of the territory of three regions included in the sub district of Muaro Labuh is an area of the valley at the foot of the mountains where the great river basin the river Sapan Aia Angek Pagu, Rod, Bangko, Pulakek and Stem the flow of the river irrigation bara. On Thursday, January 17th, 2019 flash floods have occurred in Muaro Labuh, so that some areas are going through a flood affected. Flash flooding is a great flood that occurs suddenly and lasts only a moment.

Flash flooding generally occurs from the results of high-intensity rainfall with short duration period that causes the discharge of the river rose quickly. From many incidents, mostly preceded the existence of avalanches from the upper reaches of the river, then the avalanche of material and trees clogging a river. The cause of the onset of flooding, in addition to the rainfall is a condition of geology, morphology, and land cover (Yulaelawati, 2008; Hermon, 2014; Hermon, 2016; Hermon *et al*., 2018), while according to Joni (detiknews.com) causes of the occurrence of a catastrophic Flash flood is because of the overflow of the water of the river. The frequent river water caused by high rainfall intensity. As for the sixth River that led to flash floods are

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Rivers, streams Angek Aia Sapan Rod Launched, a Batang River Bangko, River Rod Rod Pulakek Suliti, the river and the irrigation flow of coal. The frequent rivers found in Solok resulted in sub Solok Selatan. From the researchers themselves are already often heard news that Solok Selatan area often hit by flooding when the rainy season comes. To reduce the losses in a catastrophic floods for communities Solok Selatan expected don't throw garbage in the river and industrial waste in the river. Flood mitigation process in Solok Selatan, is not only the responsibility of the government or related agencies–institutions alone, but very in need of assistance or participation of the community in order to realize programs command such. Mitigation is a series of efforts to reduce disaster risk, either through the building of awareness and physical or augmenting the capability of facing the threat of disaster (Hermon, 2016; Fitra, 2017; Hermon *et al*., 2019 ). This disaster loss reduction factor that most plays is a community located in an area prone to disasters. Then from that statement the harmony between people and nature must be kept to avoid disaster. In increasing flood disaster mitigation should involve the participation of the community in particular local communities, without any public participation supporting disaster mitigation programs that will never materialize (Hermon, 2016; Oktorie, 2017; Oktorie, 2018). There are two forms of community participation, namely the participation of pre and post disaster. Problems existing in Solok Selatan, this is a complex issue and each other have linkages.

## METHOD

Type of the research was a descriptive Qualitative, to analyze the participation of communities in flood disaster mitigation in Solok Selatan. Purposive sampling method of data retrieval and information obtained through observations of researchers, documentation and interviews which use the question form. Informants in this study flood-prone communities in Solok Selatan.

## RESULTS AND DISCUSSION

Participation is to join an accompaniment of society in doing an activity. With the participation of caring attitude and responsibility from society or individual to

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manage the surrounding environment. Participation is the spontaneous involvement accompanied by awareness and responsibility towards the interests of the group to achieve a common goal (Sastropoetro, 2011; Handayani, 1986). Caring communities reduce the risk of flood to apply in three activities i.e. pre disaster, when a disaster occurs and post disaster. The form of pre disaster activities include activities of prevention, mitigation, preparedness, as well as early warning. Disaster activities include emergency response activities to relieve suffering temporarily, such as activities of Search and Rescue (SAR), emergency assistance and shelter. After the events that include the activities of recovery, rehabilitation, and reconstruction.

**Public Participation the Pre Flood**

1. The participation of the community in private clean up their own house, then people have started burning the trash don't throw into the river and don't throw garbage in the wild.
2. When a holiday, every month the society cooperate in planting trees along the river.
3. When the rain does not stop, the community began to organize the order of contents of the house such as the arrangement of the bed is raised, then fouled with one stone. If water is getting high, fouled again with two stones. If chock is already too high, it will be given. If the flooding continues and has not been able to enter the House of the then new move.
4. The community also viewed from the rainfall. At the time of the high rainfall of the community began to save the valuables, because prolonged rainfall will cause flooding. And from the upper river stream starts great. His mark of flooding rain, only when the rain does not stop got ' flood “automatically.
5. The anticipation of society through the observation time for planting. The month of April will be dating community started planting rice. If there is no commonly-used to plant rice because waiting for the water to recede, if water was already receding unbiased planting rice. It is now easy to take water for theredesel (tool pumps). (Interview with Mr. Jon as informant while residents affected by the flood).

The rice planting season by looking at the community of knowing when the rainy season and the dry season is coming. At the beginning of the month 4 community

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started cultivation because the dry season has already started to come. Seen from the livelihood of the majority of the community working in the field of agriculture, it is characterized by vast agricultural lands around 2,071 ha with rainfall 16, 23 mm (BPS, 2018).

**Public Participation after The Disaster**

1. Collaborate Fixing homes that were destroyed or damaged by water window
2. Collaborating Improve public facilities such as bridges, electricity as well as the environmental impact of the flood.
3. Cooperate to make emergency tents to rest, cooking, sharing food, drink, clothing, lodging while people flood.

After the disaster of the flood communities back to work together to clean the house itself or the surrounding environment. In line with this, Imam (2016) reveal that humans are in fact depend in all aspects of his life to his fellow man. As such, he should always strive to maintain good relations whenever possible with his fellow soul equally moved by the same feelings, and always try to wherever possible to be in conformity, do the same with their neighbor in the communities, compelled by the soul the same high or low.

The participation of the government of the pre flash flood disaster:

1. Socialization in society by not cutting down a forest thoughtlessly, throw away trash in its place, while in the school teachers also deliver to learners how to reduce catastrophic flooding although not included in the school curriculum.
2. Mapping of land-land or areas prone to. Disaster, disaster simulation, do a persuasive efforts to the community so that the disaster that didn't happen again.

As for the participation of the Government's response to this natural disaster anyone in the form of structural and non-structural. Structural mitigation forms that have been in the Government's own doing by creating legislation, socialization to society while non-structural mapping in the form do in areas prone to flooding. In line with that Fitriades *et al*., (2018) argues that disaster mitigation is divided into two structural is a series of mitigation efforts to minimize the disaster that was done through the creation of a physical building by using ecological approach, and a series of non-

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structural mitigation efforts are reducing the impact of disasters in the form of the creation of such a legislation.

**The Participation of the Government after the Disaster:**

1. Handling of emergency disaster, emergency handling is to take the actions that are performed by the local government is working with all the elements to help affected communities whether it evacuation victim, the granting of fast food, providing communal kitchen and repair of vital infrastructure when disasters and also to organize all help-the help of the good of the Community area in Solok Selatan or who come from outside the area in the event of a disaster, such as the help of BNPB.
2. Reconstruction that is rebuilding the lost bridge or drifting and also public infrastructures which is heavily damaged.
3. The government of Solok Selatan also form groups of trained community disaster preparedness that are familiar in the disaster preparedness. Then not to disaster or not the recurrence of the disaster the Government had built up such a flooding response infrastructure development so that the flood no impact to the community. In addition there are also the environmental agency that gives assistance to tree planting in so that the forests have been destroyed can be replace by the trees that have been growing as a nail in the earth so that the water falls can be hold by taproot from the trees.

## CONCLUSION

Based on this study it can be concluded the deliberations of public participation in flood disaster mitigation in Solok Selatan: (1) clean up their own house, burning garbage not throw into the river and don't throw garbage in the wild, (2) plant trees along the river, (3) evacuate the valuable goods of a higher place, and (4) read the flood from rainfall and time of cultivation. While the flood communities cooperate cleaning house and villages, working to build a makeshift tent and improve public facilities. The same was done by the government, where the government's disastrous pre participation form KSB, socialize, and perform mapping flood-prone areas in Solok Selatan, while

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after a disaster the Government provide emergency tents, food needs as well as public facilities needed improvement society.

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