

# The Effectiveness of Local Wisdom in Landslide Disaster Management

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## Abstract.

Every community group, even when coping with landslides, has the skills and ways to cope with the environment for its survival. This understanding and approach is referred to as "wisdom to cope with local events" or is also simplified to "local wisdom." The coping mechanism is created and born of any case, experience, knowledge, understanding, and meaning of every event, phenomenon, hope and problem that arises around it. This system is passed down from generation to generation through the process of socialization and its application depends on the level of consistency of understanding and its effects in their lives. The purpose of this study was to explore and determine the effectiveness of social capital in the handling of landslides. The methodology used is qualitative descriptive. The findings showed that in coping with landslides, each area has distinct attitudes and trends, and it happens from generation to generation. Its implementation in each area depends on subjective and objective conditions.

**Keywords:** The Effectiveness, Social Capital, Landslide Disaster, Management

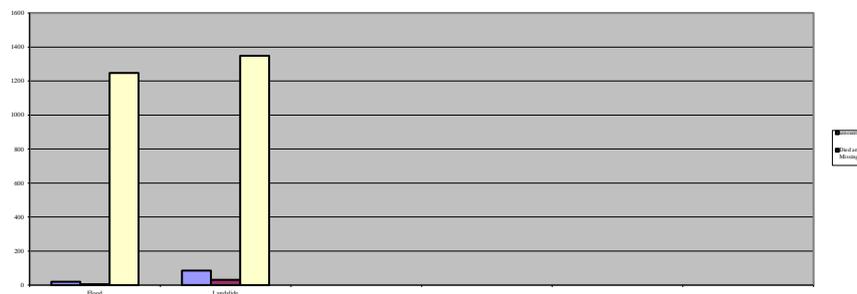
## 1. Introduction

Whereas based on historical incidents in the DIBI data (BNPB, 2018) the Regency of Bogor District in 2008-2017 occurred 85 times of the disaster caused by landslides which caused suffering and losses of objects. The area that has a landslide threat in the Regency of Bogor is an area that has a high level of deforestation, deforested lands in protected forest areas, rainfall and high altitude, with a region that has a slope of more than 40%. More land movements in the District of Monograms occur in areas with the use of similar forest types and dense forests (Pramono et al., 2020a).

Land movements in Ponorogo Regency are more common in areas with the use of similar forest and dense forests. Rainwater condition is an important factor that can trigger soil movement, especially rainfall. Surface water that comes from rainfall, some will seep into the

soil / rocks through soil pores or cracks that are found in the soil and some will flow above the soil surface. As soil mass weights increase, the shear strength of the soil will decrease. Such a situation if supported by other factors, such as the slope of a steep slope and / or the land use conditions that are not appropriate, then there will be soil movement (Pramono et al., 2020b).

Figure 1: Natural Disaster Events in Ponorogo Regency (2008-2017 period)



Source: (DIBI-BNPB, 2018)

Based on the table, it was known that there were 5 types of disasters that had occurred in Ponorogo, with a total of 155 incidents. The most frequent landslides were 85 incidents, which caused 31 people to die / disappear, 24 people were injured, 1349 people were displaced, 218 heavy houses, 89 houses were damaged and 69 houses were damaged. Besides that, it also damaged 1 health facility, 2 worship facilities, and 1 education facility (Pramono, Muhamad Fajar, Setiawan bin Lahuri, 2017).

The impact of a disaster is not only material or casualties. However, it is complex, penetrating the collapse of the social system that has been built by society (Zamroni, 2013). Every community group has the knowledge and ways to deal with the environment for its survival, including in dealing with landslides. This knowledge and method is known as "wisdom to cope with the local events" or often shortened to "local wisdom". The coping mechanism is formed and born from experience, knowledge, understanding, and meaning of every event, phenomenon, hope and problem that occurs around it. This mechanism is passed on through the socialization process from generation to generation and its implementation depends on the level of quality of understanding and its implications in their lives (Maarif et al. 2012).

The purpose of this study was to explore and determine the effectiveness of social capital in the handling of landslides.

## 2. Literatur Review

Post-earthquake recovery (rehabilitation, reconstruction and reconciliation) is carried out with a special approach, namely the perspective of the victim or the community with wisdom in order to identify all problems and needs as a whole, including hopes for the process of

restoring their lives. Community is a social group as a place to live together from people who give and help each other without strings attached or without expecting anything in return. The community has its own culture and knowledge system, which is carried out by each of its members as community local wisdom.(Hariadi, Gunawan, and Armawi 2019).

## **2.1 Understanding of local Wisdom**

According to Yusutria, et al., Local wisdom is a good and wise local de-idea, full of wisdom, which is embedded and followed by all community members. Local wisdom is traditional knowledge that becomes a reference in behavior and has been practiced from generation to generation to meet the needs and challenges in the life of a community (Hariadi et al., 2019), (Ruslanjari, 2006). Local wisdom is a view of life and knowledge as well as various life strategies in the form of activities carried out by local people in responding to various problems in fulfilling their needs. Etymologically, local wisdom consists of two words, namely wisdom and local. Other names for local wisdom include local wisdom, local knowledge and local genius.

Quaritch Wales (Maria Matildis Banda, 2013) formulates local wisdom or local genius as "the sum of the cultural characteristic which the vast majority of a people have in common as a result of their experiences in early life". The main ideas contained in the definition are (1) cultural character, (2) cultural owner group, and (3) life experience born from cultural character.

According to Permana (Permana et al., 2011), local wisdom is a creative response to geographic-political, historical, and situational situations that are local in nature. Local wisdom can also be interpreted as a view of life and knowledge as well as various life strategies in the form of activities carried out by local communities in answering various problems in meeting their needs.

According to Sedyawati (Edy Sedyawati 2006) local wisdom is defined as wisdom in the traditional culture of ethnic groups. Wisdom in a broad sense is not only in the form of cultural norms and values, but also all elements of ideas, including those that have implications for technology, health care and aesthetics. With this understanding, what is included as the translation of local wisdom is the various patterns of action and the results of their material culture.

So based on the various understandings above that local wisdom is truth that has traditionally been established in an area. Local wisdom contains a high value of life and is worth exploring, developing, and preserving as an antithesis or socio-cultural change and modernization. Local wisdom, products of past cultures that are coherent are continuously used as a guide for life, even though they have local values, but the values contained therein are considered very universal. Local wisdom is formed as a cultural advantage of the local community as well as geographical conditions in a broad sense.



## 2.2 Functions and Dimensions of Local Wisdom

Local wisdom is considered very valuable and has its own benefits in people's lives. The system was developed because of the need to live, maintain, and continue life in accordance with the situation, conditions, abilities and values that are lived in the community concerned. In other words, local wisdom then becomes part of their wise way of life to solve all life problems they face. Thanks to local wisdom they can carry on their lives, even develop sustainably. The functions of local wisdom towards the entry of outside culture are as follows: 1) As a filter and controller of external cultures. 2) Accommodating external cultural elements. 3) Integrating elements of external culture into indigenous cultures. 4) Give direction to cultural development (Rosidi, 2011).

According to Mitchell (Hariadi et al., 2020), local wisdom has six dimensions, namely: 1) The Dimension of Local Knowledge Every community has the ability to adapt to its environment. This is because the community already has local knowledge about nature. An example is knowledge of the climate in the region. 2) Dimension of Local Value. Every society has values (measures) and norms (rules) that are made by the community itself and can change according to the progress of the community. Local values differ from one community to another, so that the local values of one community may not necessarily be accepted by other communities. 3) Dimensions of Local Skills. Every society has a different way of meeting the needs of life. For example, by farming, livestock or industry.

4) Dimensions of Local Resources. Each community lives in an area that has different natural resources. They will process natural resources according to their needs and not exploit excessively. 5) Dimensions of Local Decision Making Mechanisms. Every society has a different system of government. the smallest system of government is called the tribe. The tribe will run the government in accordance with the values and norms that have been in effect for a long time. 6) Dimensions of Local Group Solidarity. Every society has group solidarity because humans cannot do everything by themselves. An example is mutual cooperation.

## 3. Research Methods

The methodology used is qualitative descriptive. As for the meaning of the descriptive analytical method according to (Sugiyono, 2011) is a method that serves to describe or provide an overview of the object under study through data or samples that have been collected as they are without analyzing and making general conclusions. In other words, analytical descriptive research takes problems or focuses on problems as they are when the research is carried out, the results of the research are then processed and analyzed to draw conclusions.

## 4. Results and Discussion

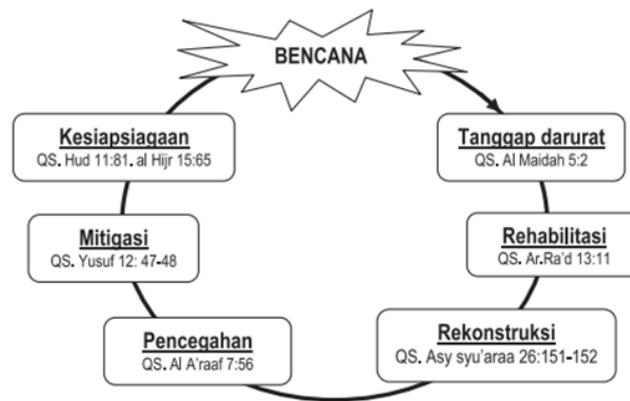
As mentioned above, the main capital for natural disaster management is in the community. Whereas the community is a social group as a place to live together from people who give and help one another without strings attached or without expecting anything in return. The community has its own culture and knowledge system, which is carried out by each of its members as community local wisdom. And it is known that in a village the social community and religious community are quite diverse. There is the Kejawen community, the santri and non-santri communities. Each community has a different epistemology in viewing and interpreting natural disasters that occur. The trust base of the local community has colored the meaning and belief of the eruption of Merapi. Even some residents around Merapi feel they can "communicate" inwardly with Merapi. Merapi is not an inanimate object, it is alive and very active (Zamroni, 2013).

### 4.1 Santri Community

Islam is a complex religion in which there are elements that regulate religious practices (ubudiyah) and the procedures for living life on this earth (amaliyah), including procedures for dealing with nature in a harmonious and non-destructive manner. In Islam, it is also explained about the problem of disasters, since the beginning of the Prophet Adam (AS) was revealed to the face of this earth. Disaster in Islam has several terms including: calamity, adzab, bala', slander, ba'sâ, sù, you know. Some of these types of disasters are highly dependent on the typology of the affected community and of course have their own subjectivity (Zamroni, 2013).

The various categories of disasters according to their objectives can be classified into 3 (three) groups, namely: first, as a test (ibtila') on the faith and patience of humans as creatures of Allah (QS. Al Baqarah [1]: 155). Second, as a warning (tadzkiarah) so that humans always submit and obey Allah (QS. Yunus [10]: 44). Third, as punishment (uqubah) for what humans have done so that they realize and regret their mistakes then repent and ask for forgiveness from Allah SWT (QS. Al Baqarah [2]: 59) (Syadzili, 2017). The three forms of disasters are forms of personal intersubjectivity that are more appropriate as reflections and self-evaluations of various kinds of tests and trials experienced by a person. In addition to a number of concepts and terms of disaster already mentioned above. Islam also has a concept in disaster risk reduction (DRR) which is described in the form of a cycle. Each disaster mitigation stage in Islam has a normative basis which is taken from the Al-Qur'an as a source of Islamic law, as depicted in Figure 2:

Figure 2: Disaster Management Cycle in Islamic Perspective)



Source: (Syadzi, 2017)

Based on Figure 2, disaster risk reduction has the following objectives: (1) reducing threats, (2) reducing Vulnerability, (3) increasing capacity. Disaster prevention measures (pre-disaster) can be carried out: (1) preventive action, (2) mitigation action, and (3) preparedness action. Meanwhile, after a disaster occurs: (1) emergency response measures, (2) rehabilitation measures and (3) reconstruction measures. Each of the phases of disaster mitigation in Islam has its own basis which is drawn from the main source of Islamic law (the Qur'an). This is in accordance with the predicate of Islam which has been known as rahmatan lil alamîn (grace for all the contents of nature) (Syadzili, 2017).

#### 4.2 *Kejawen* Community

Ruwatan is a tradition that has existed since ancient times before religion. Ruwatan is carried out by people who believe in it only. Because not all Javanese people practice and believe in this tradition. So this ruwatan is obligatory for people who believe that after doing ruwatan his life will be full of luck because the purpose of ruwatan is to eliminate bad luck in life. Javanese society is famous for its diverse and countless cultural traditions, both daily, monthly and yearly cultural traditions, all of which exist in Javanese cultural traditions without exception. It is very difficult to detect and explain in detail the number of cultural traditions that exist in Javanese society because there are various kinds of traditions that exist in Javanese society (Widyatwati et al., 1997).

In Javanese culture, ruwatan is a culture known as a traditionally sacred ceremony. Ruwatan means freeing oneself from the threat of harm. The mara of danger is always from Betara Kala's scrutiny, which in language can also mean time. Culturally, ruwatan is also interpreted as an effort that aims to delay the arrival of danger. Therefore, the implementation

of ruwatan is usually manifested in an episode of the shadow puppet story which tells about the arrival of Batara Kala to collect his father's promise, who is none other than "The Almighty" Batara Guru. His father, the Batara Guru, once persuaded him not to swallow everything in the world with the aim of satisfying his worldly desires with the promise of giving him prey or bait, when the promised time arrives. The creature that controls the lust of the world is murko which means greed.

Ruwatan is a Javanese custom and culture from several years ago that is still adhered to today by those who believe in it. Ruwatan is a tradition that is closely related to the Murwakala story. The ceremony, which involves the wayang kulit performance (Murwakala story) is a form of Javanese traditional ceremony intended to fortify children or people whose existence in this world is less profitable. Here they are referred to as "sukerta", for example, such as an only child, a child born without a placenta, five children (Pandavas), uger-uger lawang (two sons all). A pair of flowers (two daughters all), gendhana-gendhini (two brothers and sisters), people bring down the cormorant, people break the stone of the oppressor, and so on (Widyatwati et al., 1997).

The historical sources and developments of the Murwakala and Ruwatan stories vary for each region in Java. You could say there are various versions. Likewise, some are carried out simply, or on a large scale, which can be done during the day or at night. The order of execution, equipment, offerings and incantations used was different, although the purpose of the ceremony remained the same, namely to free the person being treated from calamity.

## **5. Conclusion**

People in Indonesia have a number of local wisdoms in dealing with disasters. In Islam, it is also explained about the problem of disasters, since the beginning of the Prophet Adam (AS) was revealed to the face of this earth. Mushibah includes all events that have a positive and negative impact. Although according to custom, disaster is always attached to events that have a negative impact. The various categories of disasters according to their objectives can be classified into 3 (three) groups, namely: first, as a test (ibtila ') of human faith and patience. Second, as a warning (tadzkirah) so that humans always submit and obey Allah. Third, as punishment (uqubah) for what humans have done so that they realize and regret their mistakes then repent and ask forgiveness from Allah SWT. Meanwhile, the Javanese community still adhere to local wisdom which is a legacy from their ancestors. Performing a number of rituals, such as, ruwatan, so that no disaster occurs. The disaster for the Kejawen community was a reflection of the disharmony of the relationship between humans and nature.

Current problems are not being taken care of and explored seriously by academics. For this reason, it is necessary to conduct in-depth studies in order to enrich social science studies, especially those related to disaster management.

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