

# Disaster Management as Public Policy (A Case Study of Flood and Landslide Disaster Management Based on Local Wisdom in East Java, Indonesia)

Darsan Hary Yuswadi Syamsul Maarif Sasongko

*Doctoral Program, Faculty of Social and Political Science, University of Jember, East Java, Indonesia*

## Abstract

This study aims to assess the flood and landslide disaster management policy based on local wisdom in East Java. The study concludes that the implementation of disaster management policies in East Java has not been done optimally. It is influenced by several factors. They are: the level of technical difficulty of the problem and the diversity of behavior of public officers and the members of the community; the weak ability to structure a policy decision; as well as the economic conditions of the community members who dominantly work as farmers. This region dominantly consists of rivers and paddy fields which leads to catastrophes. Therefore, this encourages people to initiate disaster management policies on the basis of their local knowledge. Local knowledge related to the mitigation of floods and landslides are still valid in rural communities in East Java in the form of *ruwatan* ceremony. It is an cleansing ceremony done by the community. Another local wisdom are in the form of their ability to predict the coming floods and landslides by: (1) observing the characteristic of mountain slopes and their level of river water; (2) observing the existence of dragonflies and birds as the clues; (3) the emergence of new sudden springs; (4) predicting the intensity and the duration of rainfall; and (5) monitoring the flow of the river.

**Keywords:** Disaster Management, Public Policy, Flood and Landslide, Local Wisdom

## I. Introduction

Disaster relief pattern has a new dimension with the issuance of Law No. 24 of 2007 on Disaster Management, Presidential Decree No. 08 of 2008 on the National Disaster Management Agency, PP 21 of 2008 on the Implementation of Disaster Management, PP 22 of 2008 on Financing and Management of Disaster Assistance, and PP 23 of 2008 on the Participation of International Institutions and Non Government Foreign Institutions in Disaster Management.

The policies followed by the establishment of National Disaster Management Agency (BNPB) and the Regional Disaster Management Agency (BPBD), and they will be equipped with a variety of statutes. While the policy development process is underway, it is not less important to ensure that provincial and district government began to develop policies, strategies, and operations in accordance with the direction of policy development at the national level.

Natural disaster is indeed a very scary thing. Many natural disasters are caused not only by nature but also man-made. Natural disasters would not only damage the facility and the things in our environment. But it also generated a lot of casualties. However, it is often caused by human errors. Moreover, it has caused massive loss. Major natural disaster has been a lot happening around the world. Those disasters generally are caused by some casualties, and they also cause great material losses.

BNPB notes that in the last 5 years there have been 158. 238 cases of natural disasters including volcanoes, floods, droughts, tornados, landslides, earthquakes, volcanic eruptions, forest fires, residential fires and others. The most common natural disasters are flash floods, mudslides, cold lava flood, flood tides. For the year 2012, there are 4,291 cases of floods in Indonesia <sup>1</sup>.

Historically, Jember East Java has also experienced the damaging impact of the natural disasters. It precisely hit Panti region in the form of flash floods on 1-2 January 2006. Three main factors were identified as the causes of Panti flash flood, namely: hydro-meteorological factors, the physical condition of the watershed morphometry of Kaliputih river, and its land cover. The disaster left more than 119 people dead and damaged the infrastructures with losses reached Rp. 60 billion<sup>2</sup>. The same disaster reoccured in East Java in 2008, 2009, 2010, 2012, and 2013<sup>3</sup>.

Basically, disaster management should be the concerns of all parties. However, the partnership and cooperation involving the government, society, and the business world in disaster management has not run optimally. It is because the government (the elite class) dominates over the community. The bureaucrat

<sup>1</sup> BNPB. *Indeks Rawan Bencana Indonesia*. (Jakarta: BNPB, 2011).

<sup>2</sup> <http://www.ugm.ac.id/>

<sup>3</sup> <http://geospasial.bnpb.go.id/>

monopolizes the roles against the fundamental rights of citizens who want to participate equally and fairly in determining, implementing and assessing policies created by the local government that have been guaranteed by law. In addition, the community itself just acts passively. They wait to be mobilized by the government when a disaster occurs. Meanwhile, the role of the business world today is still limited to the provision of post-disaster relief.

The limited ability of the government to cope with the disaster in East Java encourages local communities to initiate disaster management policies on the basis of their local knowledge and wisdom. The government and local communities should synthesize an effective policy for disaster risk reduction.

Local knowledge is local ideas that are thoughtful, full of wisdom, well embedded and followed by the members of the community<sup>1</sup>. Those local wisdom and traditional knowledge are the guide lines for their acts and have been practiced by generations to meet the needs and challenges in their life. They function for the preservation of natural and human resources, customs and culture.

It is common that the people use the local knowledge without any scientific reasoning in understanding the signs of the coming disaster. It has been part of their local knowledge that need to be investigated and developed more to make the community able to increase their capacity to predict the coming disaster and to be more alert.

Thus, this study is important to examine the complex social and economic problems due to natural disasters. This study is formulated as: Disaster Management as Public Policy ( A Case study of Flood and Landslide Disaster management Based on Local Wisdom in East Java).

## II. Disaster Management Problems in East Java

In principle, the government already has a global awareness in disaster relief efforts. One indicator is the issuance of Law No. 24 In 2007, the Government Regulation (PP) No. 8 Year 2007; PP No. 22 Year 2008; PP No. 23 Year 2008; and other policies. However, global awareness that has developed among governments was not reflected in actions. They tend to cope their own catastrophic events, both pre-disaster, emergency response, and post-disaster.

Problems that usually arise at the stage of pre-disaster are: (1) The government (BPBD) has not established a fixed procedures involving the relevant agencies and an unintegrated planning of the programs across sectors and regions; (2) The government has not internalized disaster management into local content of education; (3) The regional development of disaster management plans have not been established; (4) most of the government employees still do not understand disaster management and their duties; (5) the Equipment of early warning system is still modest and simple; (6) The government has not developed a Standard Operational Procedure (SOP) in their respective disaster-prone areas; (7) The implementation of a quick and accurate disaster early warning for the public has not been implemented optimally.

The problems usually encountered in the emergency response are: (1) The Government has difficulty to determine the status of the emergency state; (2) The Government only focuses to evacuate the victims; (3) the rescue team just concentrates more on the death and illness, not on other things such as property; (4) the government assistance is commonly distributed only for the people coming to the post evacuation. The government logistic assistance is limited; (5) The military and community volunteers did not help in cleaning the house. They only focus on certain areas, such as mosques, schools, and village head's office.

Problems that arise in the post-disaster phase are: (1) The Government only provides half of the required material for the reconstruction, while the rest and the labor costs are in the hand of the owners of the house; (2) the procedure to get the cost for the reconstruction is complex and complicated.

Based on these findings, it can be said that the government is likely to implement a top-down model of disaster management planning in which target groups were given solutions designed for them by government officials rather than elected by themselves. Such an approach tends to focus more on the physical disaster management rather than creating social changes to build up the resources for the vulnerable groups. This model rarely achieves the goal of society since the government just concerns on the symptoms and not on its causes and it fail to respond the real needs and demands of the society.

The government as the executor of policies tends to take instant formulation and implementation. The disaster management policy is then difficult to be implemented optimally and frequently creates miscommunication and conflicts among the authorities and it affects communities. This is the result of the absence of negotiations at the beginning of the formulation of the plan.

This instant way can be a great way since it is able to see the existing weaknesses in applying the concept of 'sit down together for the agreement'. This participatory planning would require a longer process and time. The negotiations process can take times since it should provide win solution for the related parties which have their own interests. As the consequence, it can make the planner forget and neglect the emergence of new

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<sup>1</sup> Sartini. *Menggalai Kearifan Lokal Nusantara: Sebuah Kajian Filsafat*. (Jurnal Filsafat, 2004, 37)

problems that actually can be prevented. Of course this will also impact on the amount of cost and effort that would be issued. In other words, the planning is done this way can be performed more easily and flexibly.

It does not mean that the implementation will also be easy. The formulation of a plan that does not involve the community will cause a new conflict. Moreover, the given solution is not in accordance with what the community needs. It is due to erroneous hypothesis of the problems. It could also conflict with the local wisdom. As the result, the planning did not have the support from the community in its implementation.

### III. The Factors Affecting the Implementation of Flood and Landslide Disaster Management Policy in East Java

According to Edward III, the factors that affect the implementation of the policy are: (1) communication, (2) resources, (3) the disposition and (4) the structure of the bureaucracy<sup>1</sup>. Meanwhile, according to Van Meter and Van Horn, there are five variables that affect the implementation of the policy: (1) the standards and policy objectives; (2) resources; (3) the communication and strengthening process involving the organizations and activities; (4) the characteristics of the agency; and (5) the social, economic and political variables<sup>2</sup>. Furthermore, Grindle states that there are two major variables that affect the implementation of the policy. The first is the content of policy and the second is the context of the implementation. Each of these variables is broken down into several items. Variable contents policies include (1) the extent to which the interests of the target groups is included in the contents of the policy; (2) the type of benefits for the target group ...; (3) the extent of the desired change from a policy ...; (4) the appropriateness of the location of the program; (5) the detail of the policy implementation; (6) the availability of adequate resources. While the policy environment variables include: (1) the level of power, interests, and strategies owned by the actors involved in the policy implementation; (2) the characteristics of the institution and the regime in power; (3) the level of compliance and responsiveness of the target group<sup>3</sup>.

As the complement, the following model of public policy implementation was initiated by Daniel A. Mazmanian and Paul A. Sabatier. According Mazmanian and Sabatier, there are three factors (as independent variables) that influence the stages of the process of public policy implementation (as dependent variable). Furthermore they state that those factors are the level of problem difficulty; the level of positivisms of policy implementation process; and non-legal variables that influence the process of policy implementation<sup>4</sup>.

Basically, the important role of the analysis is to identify the policy implementation policy variables affecting the achievement of the objectives of the overall implementation process. The variables used in this study are derived from the Mazmanian and Sabatier theories including:

The first is the variables correlated to the technical difficulty of the problem. Some of them are the lack of adherence of the community to the policy made by the government, the difficulty of governments to coordinate their departments and agencies, the expensive and limited equipment, diverse behavior of the authorities and the people governed, and the broad coverage area and community groups.

Thus, it is necessary to adapt the policies to the technical problems, the diversity of the objects, and the desired changes. To be able to formulate a disaster management policy well, then of public issues concerning with disaster management should be identified and well defined. Therefore, formulating the problem is the most fundamental step in the formulation of policy. It is in line with Winarno's statement that "public policy is basically made to solve the problems that exist in society. Therefore, how big the contribution made by public policy to solve the problems in society becomes an interesting question in the evaluation of public policy. However, the satisfaction of the community depends on the accuracy of public affairs issues formulation."<sup>5</sup>

The public policy formulation must depart from the real problem or it should have causal relationship to the real problem. It requires an ability to formulate and correlate it to the actual public issues.

Second, the variables related to the ability of the policy maker to structure a policy decision. They are: the formal dissemination of information was limited and less clear, the existing of the overlapping information about the division of powers, the limited number of officers and the lack of competence, the less transparent and unaccountable recruitment of the officers, the lack of integration of the management.

In this case, Mazmanian and Sabastier state that the ability to structure the policy implementation properly is also influenced by the theory of causality which explains how renewal business objectives will be achieved through the implementation of the policy roughly.

Third, related to variables outside of regulation, the variables are: the economic conditions of the

<sup>1</sup> Edward III, 1980. *Implementation Public Policy*. (Washington DC : Congressional Quarter Press)

<sup>2</sup> Meter, Donald Van, dan Carl Van Horn, 1975, *The Policy Implementation Process: A Conceptual Framework*, Dalam *Administration and Society* 6, 1975, (London: Sage)

<sup>3</sup> Grindle, Merilee S., (ed), 1980, *Politics and Apolicy Implementation in the Third World*, (New Jersey: Princetown University Press), 6-10

<sup>4</sup> Mazmanian and Paul A. Sabatier. 1986, *Implementation and Publik Policy*. (USA: Scott Foresman and Company), 20-39

<sup>5</sup> Winarno, 2012, *Teori dan Proses Kebijakan Publik*. (Yogyakarta: Media Pressindo), 72

majority in East Java who work as farmers and the natural landscape covered by rivers and paddy fields that can cause the hazard, the lack of support from the community and the lack of commitment from the authorities related to disaster management.

Further Mazmanian and Sebatier state that the policy implementation process was in fact not only about the behavior of administrative agencies responsible for implementing the program and giving chance for the target group to set, but also it involves a network of political forces, economic, social, which directly or indirectly influence the behavior of all parties involved and ultimately affect the impact of the predetermined objectives.

Therefore, the variable outside the policy must also be the concern of government in the implementation of the management policy. The Government is expected to address the issue more proactively to unravel social economic inequality issues. In addition, disaster management should be distinguished from other public issues. In fact, Disaster management policy has not been fully able to resolve the issue comprehensively and it is only partial.

Compared to the models proposed by other experts such as Van Meter and Van Horn and Grindle, Mazmanian and Sabatier also incorporate environmental as the variable that also affect the implementation. The main difference between this model with the Grindle's model is that they do not only include the ability of statute to structured implementation but also expand the variables affecting the level of difficulty of the policy becomes a problem (tractability of the problem) and variables outside the policy / no statutory variables affecting implementation.

On the tractability of the problem, Mazmanian and Sabatier also take into account the level of technical difficulties, the diversity of the target groups, the percentage of the total population of the target group, as well as the extent of behavioral change required. The fourth element is the expected rate of change of behavior which is identical with one of the elements of Grindle's variable.

The first element of nonstatutory variable is the socioeconomic conditions and technology which is identical with Van Meter and Van Horn's variable, namely the social, political, and economic. The main difference is that the term technology in Mazmanian and Sabatier closely related to an integral part of the socio-economic. As Grindle, Mazmanian and Sabatier also pay attention to politics. On the second element as well as the fourth element, showed that public and the government support determine the implementation. Without those supports, the implementation will encounter obstacles. These reflect a political process. Public are more likely to support a policy that prioritizes their interests. Likewise, the authorities would also tend to support policies that suit their interests.

The model and Sabatier has some similarities with the model Edwards III concerning with the ability to structure implementation. The first element of Mazmanian model is clearly consistent with the objectives of the communication factor of the Edwards III model. Clarity and consistency of purpose is one factor that is intended by Edwards III in communication factor. Without clear and consistent objectives, the agents will find it difficult to implement the policy. The fifth element also stresses the importance of rules for the agencies to implement it. The similarity between both of them can also be seen on the third element. It concerns with the initial allocation of financial resources, as well as in the sixth element which indicates the recruitment of the officials. Both elements are identical with the resource factors of the model Edwards III, Van Meter and Van Horn, and Grindle. Furthermore, like other model, Mazmanian models and Sabatier model also separate HR and non-HR as the resource factors.

Other identical element is the fourth element which underlines the importance of hierarchical integration within and among institutions. This is similar to the factor structure of the bureaucracy in the model Edwards III. It function to avoid overlapping .

However, it is difficult to find the element of the policy structuring ability in other model. The difference lays on the second element: the incorporation of adequate causal theory. This model requires the existence of scientific and empirical studies to make a policy feasible and capable to be implemented. Thus, the policy has already passed the fit and proper test. Moreover, the differences are also reflected in the seventh element which talks about the formal access by outsiders.

One aspect that makes Mazmanian and Sabatier model excellent is that it also takes into account the public participation in the policy implementation. The implementation will go relatively smoothly if the public are given the opportunity to access the policy process, or at least in one process, such as setting the agenda or policy evaluation.

However, all of those variables do not include the cultural factors or local wisdom that influence the policy implementation. So in this study the authors need to underline that the government should consider the factor of local wisdom, as well as provide space for the development of local wisdom in disaster risk reduction.

The existing Local wisdom is very valuable potential to be used in dealing with the problems of natural disasters. According Keraf, local wisdom is all forms of knowledge, beliefs, understanding or insight as well as customs or ethics that guide human behavior in life in an ecological community. It implies that human beings is

an integral part of the universe and should be responsible for the life in the universe. They also should be ready to their perspective from anthropocentrism to biosentrisme and Ecocentrism<sup>1</sup>.

#### IV. Conclusion

Society has a number of local wisdom in dealing with disasters. The people emphasize the aspects of harmony, peace, and comfort as part of a synergistic effort to reduce disaster risk. They also perform a number of rituals in order to avoid disaster. This reflects harmonious relationships of man and nature. The people located in disaster prone areas should have the awareness and program of disaster risk reduction. Higher awareness and capacity to deal with will make their vulnerability smaller.

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<sup>1</sup> Keraf, 2002, *Etika Lingkungan*, (Jakarta: Pn. Buku Kompas), 67