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## **ANALYSIS OF POLICY IMPLEMENTATION IN TANJUNGPINANG FLOOD DISASTER RISK REDUCTION**

**Lamidi Lamidi**

Universitas Maritim Raja Ali Haji, Indonesia

lamidi@umrah.ac.id

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### **ABSTRACT**

Disaster management is an early awareness to reduce the risk of potential disasters, especially floods in the community. This study aims to analyze implementing policies in Tanjungpinang Flood Disaster Risk Reduction. The research object was chosen because Tanjungpinang, on a land geographical location, is smaller than the sea area and can potentially be a disaster threat in an archipelagic area. Analysis of Policy implementation using Edward III Model. The research method is descriptive qualitative with a case study approach—the data obtained using secondary data with analysis of relevant training techniques. The study results indicate that four factors in the Edward III model have several weaknesses in the Tanjungpinang Flood Disaster Risk Reduction findings. The factors in question are the lack of cooperation in the bureaucratic structure on a large scale. The resources used have not met the standardization with the minimal involvement of resources in improving the quality of both technical and non-technical. Communication still has a good intensity between the stakeholders involved, so the participating actors are still running fast following the flood disaster management program in Tanjungpinang City. Furthermore, lastly, the attitude of the implementer or disposition has their respective ego-sectoral so that the participation between stakeholders in its implementation is less effective. Researchers provide additional recommendations or alternatives that need to strengthen policy implementation with a community empowerment approach so that people gain insight into disaster awareness involved in disaster management programs, primarily floods in Tanjungpinang City, for the future on a sustainable basis.

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### **INTRODUCTION**

The incidence of disasters in Indonesia continues to increase throughout the year. This medium proves that Indonesia is a fragile country facing the threat of disaster. Because of this, Indonesia is referred to as a disaster "supermarket". This term indicates that Indonesia is vulnerable to disasters (Anderson, 1979). The linkage in the ability to recognize the characteristics of hazards makes the magnitude of the risk that affects the disaster situation will also be different (Berlo, 1960). The more able to recognize and understand the phenomenon of danger well, the more humans will be able to respond better (Garros-Berthet, 1994). Attitudes and responses based on a good introduction and understanding will be able to minimize disaster risk (Danar, 2020).

Floods are the most frequent disasters in Indonesia, so above-normal rainfall and high tides are the leading causes of flooding (Dunsire, 1978). The cause is river flooding due to very high levels of rainfall or rapidly melting snow in catchment areas, bringing more water into the hydrological system enough to drain into existing river canals. Sedimentation of riverbeds and deforestation of catchment areas can exacerbate conditions leading to flooding (Dunsire, 1978). In addition, human-caused factors also play an essential role, such as inappropriate land use, dumping garbage into rivers, building settlements in floodplain areas and so on (Egeberg, 1999).

High tides can flood coastal areas, or windstorms push the seas inland. Heavy rainfall in urban areas or drainage failure can result in flooding in cities as hard surfaces in urban areas further increase the load on topsoil (Emaliyawati, Prawesti, Yosep, & Ibrahim, 2016). Underwater earthquakes or volcanic eruptions cause tsunamis—damage or collapse of retaining walls (Fowler, 2019). Based on Article 1 Paragraph 6 of the Republic of Indonesia Government Regulation Number 21 of 2008 concerning the Implementation of Disaster Management, mitigation is a series of efforts to reduce disaster risk, both through physical development as well as awareness and capacity building in dealing with disaster threats.

Flood disaster is one of the natural disasters that always occur in Indonesia. The cause of flooding occurs due to static natural conditions such as geography, topography and river flow (Hapsari & Djumiarti, 2016). Dynamic natural events and high rainfall make the water surface overflow and spill over the riverbanks (Johnston, 2017). Many other things cause flooding, such as river silting and dynamic human activities (Halimurrahman Pratama, Hashiguchi, & Tsuda, n.d.). The losses caused by floods are not small; both losses that take lives and materially. The National Disaster Management Agency (BNPB) 2021 will study the risk of flood disasters for each province in Indonesia, both medium disaster risk and high disaster risk.

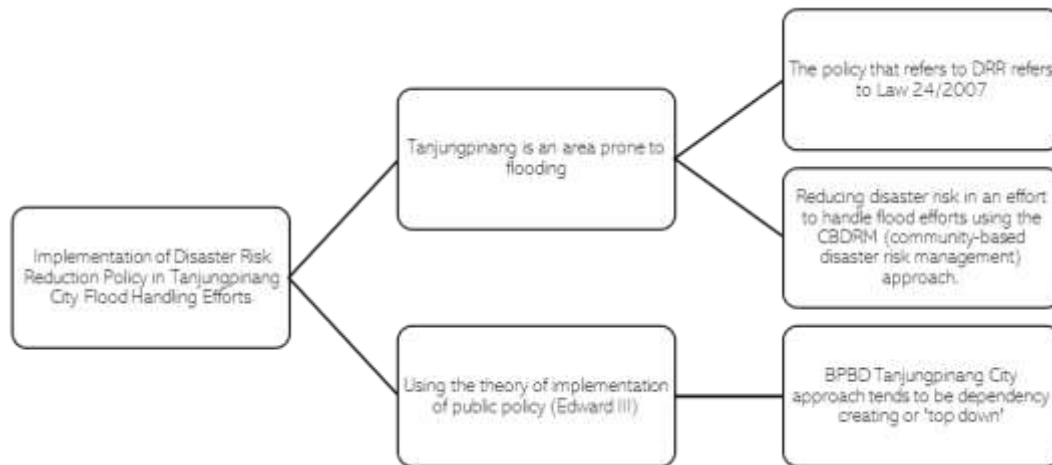
According to the 2020 Indonesian Disaster Risk Index (IRBI), being in the 438th position in Tanjungpinang, the disaster risk is included in the Medium Category with a score of 108.40. Some parts of Tanjungpinang are lowlands and mangrove swamp areas, and some are hills, so the city land is varied and contoured. In general, Tanjungpinang has a dry season and a rainy season. There are no significant seasonal differences in this area. It can rain all year round. However, there is a very dangerous "North Wind" with powerful waves from the end to the beginning of the year. So far, the perspective of facing risk has been formulated as the accumulation of hazards/threats that hit the community with vulnerabilities that allow these hazards to become disaster events.

Disaster Risk Reduction (DRR) must involve various stakeholders. Researchers were interested in this case study because Tanjungpinang City is on a small island with a big ocean, but it often floods. To find out why, they looked at the factors that affect the importance of policies that must be carried out by the leading actor, the Tanjungpinang City Disaster Management Agency (BPBD). This flood was done so that the potential risk of a flood disaster could be adequately handled. Therefore, it is essential to analyze the BPBD policy's implementation to reduce the risk of the Tanjungpinang flood disaster.

The policy process is between the stages of policymaking and the results or consequences caused by that policy (Kim & Gim, 2020). According to him, implementation activities include planning, funding, organizing, hiring and firing, negotiating and others (Kodoatie, 2021). Implementation can also be interpreted as actions taken by the government to achieve the goals set in a policy decision (Lamport, 1986). However, the government, in making policies, must also examine in advance whether the policy can have a destructive

impact or not for the community. It is intended that a policy does not conflict with the community, let alone to the detriment of the community (Lindblom, 1968).

The ideal policy implementation that must be carried out in the future, the researchers carried out a framework of thinking in analyzing the implementation of policies that BPBD must carry out in disaster risk reduction in Tanjungpinang City. It aims to provide several policy implementation options. The purpose of implementation is to implement and realize a plan that has been prepared so that it can be tangible. In addition, technology implementation also aims to implement a policy that is in the plan. The research framework can be seen in the following figure;



Source: processed by researchers, 2022

Implementation can start from an abstract condition and a question about the conditions for successful policy implementation. The book *Implementing Public Policy* proposes four variables or factors that influence the success of policy implementation (Lipsky, 1971), namely:

### A. Bureaucratic Structure

Policy implementers may know what to do and have adequate resources, but it is possible that this still hinders the implementation process because of their organizational structure (Krech, 2020). The two main characteristics of bureaucracy are standard operating procedures (SOPs) and division of labour. SOPs are routines that allow public officials to make sequential decisions, so the consideration of using SOPs minimizes the time used, where SOPs are often needed because of a resource problem (Mahadiansar & Romadhan, 2021). Position holders usually lack staff who can analyze problems. Therefore they must be able to make decisions quickly and make the existing situation simpler (Maryani & Nainggolan, 2019).

By focusing on their respective functional tasks, bureaucrats will quickly adapt to SOPs. SOPs save time by allowing officials to avoid making unilateral actions regarding a given situation, but even though they are created to make policy implementation easier, SOPs can be obstacles to action. If an organization is still relatively new or there is a change in the number of performances, SOPs will be easier to implement because they are more flexible than older organizations (Rauch & Evans, 2000). This means that the bureaucratic structure in implementing public policy is fundamental to see the ideal conditions in implementing those involved and those not professionally involved by prioritizing public services to be of higher quality (Masdar, Asmorowati, & Irianto, 2009).

## B. Resources

The definition of resources is related to usefulness, both for the present and humanity's future (Merton, 1963). In addition to the two criteria above, the definition of resources is also related to technical aspects that allow how resources are utilized and institutional aspects that determine who controls resources and how technology is used (Nursanjaya, 2021). Resources are an essential factor in the implementation of public policies. These critical resources include staff with appropriate capabilities to carry out their duties and the information, authority, and facilities needed to implement the policy into a proper public service function.

Staff capacity is also a problem when the central government implements all or part of state institutions. Because the implementation of policies requires human resource management that allows the distribution of quality human resources, resources must have two criteria, and the first is that there must be knowledge, technology or skills (skills) to use them. The second is that there must be a demand for these resources (Olsen, 2010).

## C. Communication

Communication will determine the success of achieving the objectives of the implementation. Effective implementation occurs when decision-makers already know what to do. Knowledge of what will be done can work if Communication goes well so that every decision and implementing regulation must be transmitted (communicated) to the appropriate personnel department (O'Toole, 1986). Communication plays an essential role in the ongoing Coordination of policy implementation. Coordination is not just a matter of communicating information or forming appropriate administrative structures but also concerning a more fundamental issue, namely the practice of implementing policies (Wijayanti, 2020).

If the delivery of the goals and objectives of a policy is not precise, does not provide understanding or even the goals and objectives of the policy are not known at all by the target group, there will likely be a rejection or resistance from the target group concerned (Pearce, Robinson, & Subramanian, 2000). Communication is a relationship between humans and contacts, individuals and groups. In everyday life, whether we realize it or not, Communication is part of human life itself. Therefore, Communication will be effective, and the purpose of Communication will be achieved if each of the actors involved in it has the same perception of the symbol. If there are differences in perception, then the purpose of Communication can fail.

## D. Disposition

Policy implementation wants to succeed effectively and efficiently, the implementers not only know what to do and can carry out the policy, but they must also have the will to implement the policy (Prasojo, 2020). Two factors influence the disposition, namely the first Appointment of bureaucracy. The disposition or attitude of the implementer will create natural obstacles to policy implementation if the existing personnel do not implement the policies desired by higher officials.

Individual selection of policy implementers must be people who are dedicated to the policies that have been set, more specifically to the interests of citizens . Then the second, namely Incentives, is one of the recommended techniques to overcome the attitude problem of poli (Wahyu Dika Amir Pratama, 2016).cy implementers by manipulating incentives. People move based on their interests, so manipulating policymakers' incentives influence policy implementers' actions (Pressman & Wildavsky, 1973). Increasing profits or costs may be a driving factor that makes the implementers carry out orders well and fulfil personal or organizational interests (Putera, Valentina, & Rosa, 2020).

In disaster management, it is necessary to stimulate community preparedness (preparedness) in dealing with disasters, disaster mitigation and disaster response preparedness

and recovery. Looking at the DRR Policy (Disaster Risk Monitoring) referring to Law 24/2007 on Disaster Management in Article 37 paragraph 2, it is stated that DRR activities include:

- Recognition and monitoring of disaster risk;
- Participatory planning for disaster management;
- Development of a disaster awareness culture;
- Increased commitment to disaster management actors; and
- Implementation of physical and non-physical efforts and disaster management arrangements.

Disaster Risk Reduction is a new design in developing a framework to reduce risk by focusing on efforts to empower individuals and communities in dealing with disasters (Rauch & Evans, 2000). According to the United Nations-International Strategy for Disaster Reduction (UN-ISDR), DRR is a conscious and planned effort in the learning process to empower students in efforts to reduce disaster risk and build a culture of safety and resilience to disasters (Rijanta, Hizbaron, & Baiquni, 2018). DRR is realized by developing motivation, skills, and knowledge to be able to act and take part in efforts for disaster risk reduction.

Disaster risk reduction is a proactive approach that aims to increase the capacity of individuals and communities in mitigation and preparedness to minimize the impact of disaster events so that communities can survive and bounce back from disasters to make sustainable livelihoods (Ripley & Franklin, 1986). The concept of Education-based DRR is the process of incorporating various DRR considerations into the education curriculum, including the expansion of work and outcomes of; policies, frameworks, strategies, planning, and learning for students; or arranging and developing activities for prevention, disaster mitigation and disaster preparedness in the education curriculum. Educational objectives for disaster risk reduction include;

- Develop human values and attitudes
- Develop attitudes and concern for disaster risk,
- Develop an understanding of disaster risk, an understanding of social vulnerability, an understanding of physical vulnerability, and behavioural and motivational vulnerabilities
- Improve knowledge and skills for disaster risk prevention and reduction, responsible management of natural resources and the environment and adaptation to disaster risk
- Develop efforts for disaster risk reduction above, both individually and collectively,
- Improve disaster preparedness knowledge and skills
- Improve the capacity of disaster emergency stairs, and
- Develop preparedness to support community rebuilding in the event of a disaster

## **METHOD RESEARCH**

The research method used in the analysis of policy implementation is a qualitative case study approach (Sedarmayanti, 2018). Qualitative research is descriptive and tends to use analysis of the process, and meaning is highlighted in qualitative research (Voorst, 2016). The theoretical basis is used as a guide so that the research focus follows the facts on the ground. Qualitative research uses secondary data (Sutopo, 2002), a variety of information that has been there before and deliberately collected by researchers to complement the research data needs. The types of secondary data can be obtained from government websites, news, journals, blogs, reports and official documents.

Data analysis used the triangulation technique, one of the approaches researchers took to explore and perform qualitative data processing techniques (Takagi, Esteban, Mikami, & Fujii, 2016). The triangulation technique can be likened to a technique for checking the validity of the data by comparing the results of the data that researchers found that focused on the

research object. Analysis of policy implementation using the model (Tamitiadini, Adila, & Dewi, 2019). is expected to provide recommendations to stakeholders with the findings of researchers obtained by looking at phenomena from time to time in flood disaster risk in the management policies that often occur in Tanjungpinang City. So the triangulation techniques can show the validity of the relevant data and then be analyzed in depth.

## RESULT AND DISCUSSION

A flood is a natural disaster when excessive water flows submerge land. As a result, floods can cause damage to houses and the contents of the house or other public infrastructure. In addition, people affected by floods will also find it challenging to work. This clear, of course, makes people lose from an economic point of view. Causes occur because rainfall is the main factor in causing floods and hefty rains. High rainfall, which has a water discharge of about 20-100 mm/hour or heavy rains that occur in various regions in Indonesia, can cause rising water puddles and eventually flooding. So to find out the general conditions that researchers found for floods that occurred in Tanjungpinang City can be explained as follows:

### A. Bad Weather Potential

The significance of enforcing regulations in preparing community work plans in the context of educating residents about disaster awareness for safety in their activities as we approach the end of the year and the possibility of severe weather. This phenomenon can even cause natural disasters such as floods, landslides, tornadoes to coastal abrasion. As is known, Tanjungpinang City is an island that has an extensive coastline compared to other islands. So the geographical condition of the area causing the flood will have a great chance of a flood disaster when the rainfall is high. So this weather can cause flooding to landslides. This vigilance is given the importance of anticipation by the community, especially fishermen or activities at sea, to anticipate all disasters that will occur in the coastal area.

### B. Floods that occur up to 2 meters

The height of the flood in the Tanjungpinang area reached 2 meters. Based on research data, BPBD, in collaboration with the National Search and Rescue Agency (BASARNAS), has deployed six teams to monitor and assist residents who are still trapped in flood. Several points affected by the flood were the Full Moon Valley area, Sri Andana Housing, Hanjoyo Putro Batu 8 Street, Hang Lekir Street Perum Elang Semesta Batu 9, Bangunsari area KM 11 Gg Perkutut, Green Camp area, Jalan Lembah Merpati, Taman Seraya Batu 9 area. And the location around the Tanjungpinang KPU and Hangtuh Permai housing KM 12. These findings show that in conditions of 2 days of non-stop rain, the Tanjungpinang city area will be prone to flooding at several points. Through flood prevention programs.



**Figure 1.**

Flooding in one of the residents' houses in Tanjungpinang City

Source: researcher, 2022

### **C. Edward Model Policy Implementation Analysis.**

This study uses the policy implementation model initiated by Edward. The model is to see patterns or patterns in implementing DRR policies in Tanjungpinang City, especially those related to flood disasters. In this policy model, there are 4 (four) aspects that are very influential in the implementation of a policy: the Bureaucratic Structure, Communication, Resources, and Disposition. Based on the results of the researcher's analysis, it can be said that it is coordinated quite well with the presence of the Tanjungpinang City BPBD. It can be seen that the concept of disaster management still tends towards 'emergency response' and has not shifted towards pre-disaster and disaster risk reduction efforts. Specifically, it can be explained in the following.

#### **1. Bureaucratic Structure**

Government employees run a government system because it has adhered to the hierarchy and level of office, which is part of the bureaucratic structure. Then in a relatively frequent condition of employee turnover or mutation in the BPBD organizational structure, it influences its performance. It may be that the leadership or employee transferred to the BPBD does not yet fully have a 'passion' for disaster management activities. So the results of the researchers' findings show that the bureaucratic structure lies in the Coordination carried out by BPBD, both with other Regional Apparatus Organizations is quite adequate, especially in the implementation of emergency response activities. However, implementing DRR programs or activities and flood disaster mitigation has not been optimal.

In addition, this bureaucracy is intended as a system of authority rationally determined by various regulations to organize the work carried out by many people. The bureaucracy has set rules or procedures for how it works, and the chain of command flows from "top" to "bottom" in the form of a hierarchy. So the need for reforms in the bureaucratic structure that places positions on stakeholders with quality actors who has very competent experience according to their expertise in disaster management against floods in Tanjungpinang City.

#### **2. Communication**

In the context of vertical Communication that is well established with the centre, namely BNPB and the province (BPBD Kepri) to BPBD Tanjungpinang City when it has been running quite effectively and has "born" some DRR programs and activities, for instance, for 2019, BPBD Tanjungpinang carried out disaster response training with relevant organizations like students who love nature, disaster response communities, care for the environment. It aims for one goal, namely disaster response, to rescue people affected by floods. In addition, horizontal Communication with the community has also been running quite effectively through meeting forums at the community level and volunteers affected by floods which are also supported by national programs.

Communication is the interaction of actors or policy actors. However, Communication with the business world is still not optimal, especially about support for more specific DRM (Disaster Risk Management) programs and activities. Therefore, Communication oriented to policies carried out by the government is important for policy implementation. No matter how good, the policies that the government has formulated will not succeed without the support of good and effective policy communication. Building public trust is one of the important agendas today.

#### **3. Resource**

Compared to the frequency of floods that often hit the Tanjungpinang area, the support for infrastructure and equipment owned by BPBD is still unable to support Disaster Management operations carried out, both in the pre, response and post-disaster periods. This is indicated by the condition of disaster management that is still running between stakeholders,

so the 2-meter-deep rain in Tanjungpinang City within two days was terrible in disaster management programs. So resources in knowledge must be included in national agendas so that technical and non-technical professional human resources are created in capacity building.

Better resources with human development goals and the urgency of human resource development is a critical factors in winning the competition in improving the quality of work in the regions, which has the consequence of increasingly fierce competition amidst the uncertainty of disaster risk. at BPBD Tanjungpinang City. Because strengthening human resources towards superior human beings closely correlates with increasing work productivity in winning the competition amid rapid changes according to the needs of the times. Therefore, human development must receive regular training, both nationally and internationally.

#### 4. Disposition

There is a tendency for the implementers or officers at BPBDs to be still oriented during the emergency response period, and not many have participated in promoting pre-flood programs and DRR activities and disaster mitigation. This attitude is also influenced and may depend on the attitude or 'mindset' of the BPBD leadership, who prefers BPBD to focus more on handling emergencies than implementing DRM and pre-disaster programs and activities. The direction of the disposition of the implementers towards the standards and policy objectives is also important. The purpose of disposition is a standard, and policy objectives have a close relationship with the disposition or attitude of the implementers. Implementors may fail in implementing the policy because they refuse or do not understand what the objectives of a policy are.

Island and coastal areas; to based on the explanation, the direction of the implementers must prioritize good cooperation with all elements of stakeholders so that there are no activities or activities that are not effective in handling the Flood disaster in Tanjungpinang City, in addition to the need for awareness of needs-oriented programs so that the programs made are very relevant to the conditions. Because Tanjungpinang City has different regional characteristics than other islands, the potential for disasters is greater because it has a vast sea and borders neighbouring countries.

#### D. Tanjungpinang City BPBD approach tends to be Dependency Creating

PRBB policies tend to be in the perspective of the people-centred paradigm. BPBD places it in the position of 'dependency creating' rather than 'empowering' or does not provide space for sustainable community empowerment efforts related to DRR programs and activities. Furthermore, in disaster management efforts, the community is the main focus in the pre, period and post-disaster stages. In some disaster events, all of these capacities and assets are lost. Reducing the enabling capacity of disasters tends to recur in an area and community. Each individual, community and more extensive social unit develops an adjustment system's capacity to respond to threats (Ulum, 2014). The response is a short term which is called the adjustment mechanism.

The purpose of community empowerment with the goal is a state to be achieved either from a social change which becomes a more empowered society (Usman, 1998), having power, as well as knowledge and ability to be able to meet their life needs better (Widayati & Effendi, 2021). So in the context of empowering the Tanjungpinang City BPBD, it must often be involved in various agendas in the long term. It aims to strengthen Human Resources sustainably to reduce the risk of flooding by involving the community in collaboration (Yulaelawati, 2008).

## CONCLUSION

Tanjungpinang City BPBD still places it in the position of 'dependency creating' rather than 'empowering' or does not provide space for efforts to empower local communities about



DRR programs and activities. In disaster management efforts, the community is the main focus in the pre, period and post-disaster stages. From these results, the dominant approach with the disposition of the government tends to be 'top down. In this case, for implementing DRR policies and programs, especially in Tanjungpinang City, it is appropriate to prioritize people-centred development (PCD). PCD views there is a need for a 'bottom-up policy. The existence of the PCD paradigm often faces several events that limit its implementation. A reflection of inherent development not only on individual value systems and institutional structures but also on the existence of theoretical frameworks and methodologies that dominate problem identification and the process of finding solutions to problems at the individual and institutional levels. In addition, the role of the community during a disaster includes providing information on disaster events to BPBD or related agencies, conducting independent evacuations and conducting rapid assessments of the impact of disasters, and participating in emergency response responses according to their fields of expertise. Meanwhile, the role of the community in the post-disaster period is to formulate action plans for rehabilitation and reconstruction and participate in efforts to restore and build public facilities and infrastructure.

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