

**POLICY IMPLEMENTATION IN FLOOD MITIGATION  
(CASE STUDY IN TANJUNG UNGGAT, BUKIT BERSTARI SUB-  
DISTRICT, TANJUNGPINANG CITY)**

**Aditya Juliadi <sup>1</sup>, Benyamin Mattheuw Pardede <sup>2</sup>, Aidil Saputra <sup>3</sup>**

Universitas Maritim Raja Ali Haji,  
Kepulauan Riau, Tanjungpinang

<sup>1</sup> [adityajuliandi9@gmail.com](mailto:adityajuliandi9@gmail.com), <sup>2</sup> [matthewmatthew3111@gmail.com](mailto:matthewmatthew3111@gmail.com), <sup>3</sup> [saputraaidil587@gmail.com](mailto:saputraaidil587@gmail.com)

**Abstract**

Floods are a disaster that we often hear about in Indonesia and one of them is in Bukit Bestari District because that area often experiences flooding. The flood occurred due to rainfall. In addition, the residential area is close to the river. Therefore, the government needs to provide mitigation for these residential areas. This study uses a qualitative descriptive approach that tries to describe a situation based on known facts. Data were collected through observation, in-depth interviews and documentation, and the data sources were primary data and secondary data. From the results of this study, it will answer the formulation of the research problem that the efforts of the Tanjungpinang city government in implementing policies in flood mitigation are seen from rainfall, watersheds, slum areas, and waste generation in residential areas in the Tanjung Unggat area, so that attention is needed serious from the government. Therefore the suggestion from researchers is the need for an increase in water catchment areas or the relocation of slum areas in Tanjung Unggat.

**Keywords:** Flood, Mitigation, Residential Area.

**INTRODUCTION**

Floods are natural disasters that occur in areas that are flowed by rivers. Whereas in simple terms, flooding is defined as the presence of water in a large area so that it covers the earth's surface in the area, for example in the Tanjung Unggat settlement, Bukit Bestari District, Tanjungpinang City, which is vulnerable to flooding. Flood is a natural disaster that is considered to occur in East Tanjungpinang District because of the frequent occurrence of floods in that area. This of course causes huge losses, including disrupting community activities, damaging buildings, and the emergence of disease outbreaks.

"Mitigation" refers to taking steps to reduce the impact of a risk before it occurs. The term assistance applies to many defensive drills and actions that may move from the physical, for example, developing a robust structure, to the procedural, for example, normalized strategies to consolidate a hazard evaluation. Implementation of post-disaster counseling and mitigation is focused on increasing community capacity through community participation, which will result in independent disaster management efforts, development and management of natural resources for survival in disaster-prone areas, and mental rehabilitation of people

affected by disasters.

During the disaster recovery process, people must realize the importance of self-medication. Efforts to self-medication are still not understood by the community, especially when a disaster occurs, so that the disease is not treated until a health worker arrives. Communities must be able to treat themselves and their families independently before health workers can arrive at the disaster area. Depending on the indication, limited prescription and over-the-counter medications may be used at home or in the disaster area. Knowledge about common diseases that occur during floods and how to self-medicate is part of self-medication efforts.

Formulation of the problem

1. How is the implementation of the flood mitigation policy in the Tanjung Unggat settlement?

## **IMPLEMENTATION METHOD**

This study uses a qualitative descriptive approach that tries to describe a situation based on known facts. Data were collected through observation, literature studies, and documentation, and the data sources were primary data and secondary data. While data reduction, presentation, analysis, and conclusions are all components of data analysis.

## **RESULTS AND DISCUSSION**

In this section, the government will discuss how to implement the Flood Disaster Mitigation policy in Tanjung Unggat settlements in Tanjung Unggat settlements, Bukit Bestari District, Tanjungpinang City. In the regulation of Law No. 24/2007 Article 6 explains the responsibility of the government in implementing disaster management, namely at the point explaining disaster risk reduction and integration of disaster risk reduction with development programs. In article 47 of Law no. 24 of 2007 concerning disaster management states that one of the important elements in disaster mitigation activities is the preparation of District/City Spatial Plans with disaster mitigation dimensions. UUPR also stipulates that Regency/City RT/RW must contain elements of plans for provision and utilization of disaster evacuation rooms.

Kodoatie (2002) says that there are many factors that cause flooding, but in general the causes of flooding can be classified into 2 categories, namely floods caused by natural causes and floods caused by human actions.

### **1. Natural Factors**

#### **a. Rainfall**

Rainfall, the condition of rainfall in Tanjungpinang City itself during the rainy season results in flooding in the river and when it exceeds the river bank there will be flooding or inundation.

**Table 1. Rainfall in the city of Tanjungpinang**

Bulan	Jumlah Curah hujan (mm)		
	2018	2019	2020
Januari	189,2	215,1	47,8
Februari	25,8	12,3	64,1
Maret	196,6	108,5	120,6
April	399,9	412,0	226,8
Mei	373,4	182,3	363,8
Juni	295,0	432,8	475,2
Juli	182,9	194,3	352,5
Agustus	75,4	60,8	238,9
September	262,9	22,6	293,3
Oktober	332,8	125,6	223,8
November	322,3	296,5	516,8
Desember	404,5	285,5	168,0

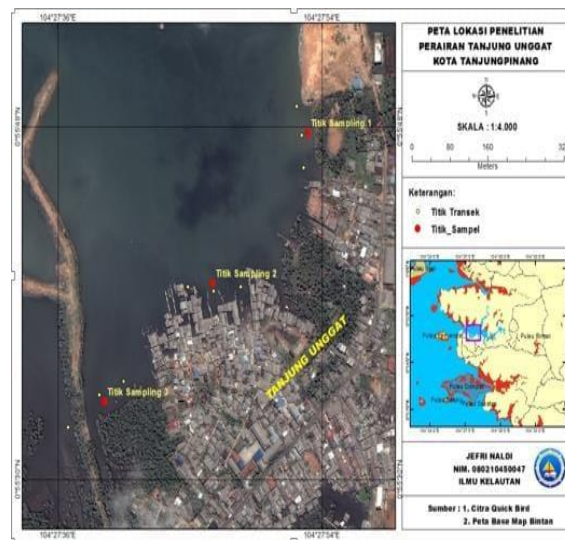
Source [tanjungpinangkota.bps.go.id](http://tanjungpinangkota.bps.go.id)

From the table above we can see an increase in rainfall from 2017-2020 making it possible for settlements in the Tanjung Unggat area to experience flooding. especially in November 2020 which has the highest value in rainfall.

## 2. Human Factors

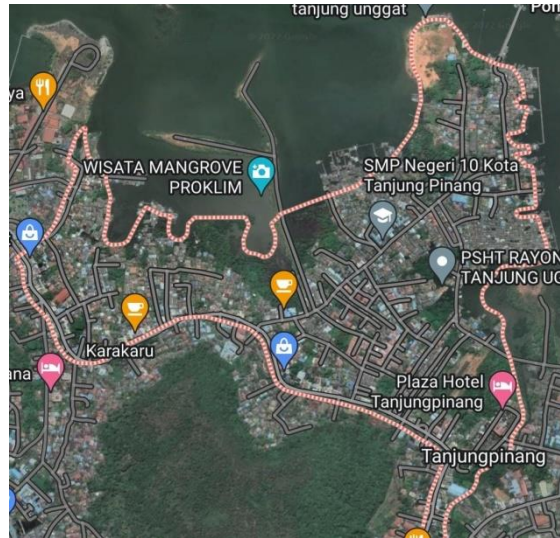
### a. Changes to the Watershed (DAS)

In watershed changes such as deforestation, agricultural business, expansion of settlements can exacerbate the problem of flooding. In addition to the occurrence of floods in the watershed area, damage to the environment around the river can occur. In the Tanjung Unggat area itself, there have been many watershed changes which have been replaced with residential areas and reduced water catchment areas there



**Figure 1 Changes to the Watershed 2017**

Source [docplayer.info/45402357](https://docplayer.info/45402357)



**Figure 2 Change to the Watershed 2020**  
**Source Gogglemaps**

From the picture above we can compare the changes in the watershed in 2017-2020.

b. Slum area

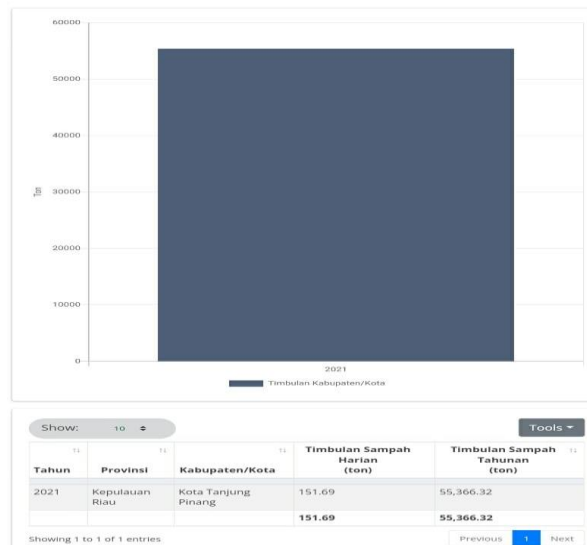
The slum settlements along the river can also be a driving factor for flooding in the Tanjung Unggat residential area. The emergence of slum areas in the Tanjung Unggat area is a challenge for the local government in overcoming this. Because most of the slum areas are located in river areas so that when high rainfall can make the area inundate the area.



**Figure 3 The Dirty Tanjung Unggat Area**  
**Source Batamtoday.com**

For the slum area in Tanjungpinang City itself it is around 150.41 Ha and for the Tanjung Unggat residential area it is around 10-15 houses in the slum settlement (2018)

### c. Garbage



**Figure 4 Tanjungpinang city waste generation**  
Source [sipsn.menlhk.go.id](http://sipsn.menlhk.go.id)

Garbage is also one of the driving factors for flooding, because people often throw garbage around rivers, and the lack of temporary disposal sites is one of the reasons people throw garbage around rivers. Researchers see that there is still a lot of garbage in the Tanjung Unggat area, especially in areas adjacent to rivers, so this is a driving factor for flooding. Lack of government attention in providing temporary disposal sites that make people throw garbage around the river. Usually the waste in the river is household waste and seafood waste which is sold by the community

In this case the researcher has conducted a literature study regarding the implementation of flood mitigation policies. Therefore there is a need for the government's role in overcoming this. There are many driving factors caused by flooding so that the Tanjungpinang city government must pay serious attention to this matter. Because geographically Tanjung Unggat is close to a river area so that flooding can occur when rainfall is high. In addition, there needs to be cooperation between the community and the local government to overcome this. The local government plays an important role in implementing policies on flood mitigation in the Tanjung Unggat area, so that it is hoped that it can reduce flooding in the area and protect the environment in the area so that it can avoid other disasters.

## CONCLUSION

From the results of this study, we can conclude that there is a need for an increase in water catchment areas, so that with an increase in water catchment areas, flooding can be minimized in the Tanjung Unggat area. The need for government attention to water catchment areas. Besides that, the relocation of the slum area in Tanjung Unggat is one of the recommendations that researchers can provide that needs to be considered by the government.

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