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Tambak Lorok as “Fisherman Village”

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Abstract- Global warming causes climate change and sea level rise. This is a threat for coastal regions, especially for coastal settlements with activities that are influenced by this natural phenomenon. Consequences are damage of houses, humid house environment, sustainability of the houses, obstructed economic activities and domestic works, disruption of sanitation facilities, lack of electricity, failure of transport system, psychological issues and other.

Icons Tambak Lorok as " Fisherman Village " is not something familiar to residents of the city of Semarang . Especially for the housewife who every day have to buy the ingredients high in protein and omega fish auction which is adjacent to the main street market in the village of Tambak Lorok. However, there are major problems that are being experienced by this small neighborhood . In fact, this issue includes seven infrastructure that should spoil the fishermen in activity with marine life .

With this research we will investigate water urbanism and climate change resiliency in Semarang, specifically the traditional fishercommunity of Tambak Lorok. We intend to find out how the local people in the fisher settlement Tambak Lorok deal with water urbanism, poverty and living with floods.

Keywords: Fishercommunity, Environment, Climate Change, Settlement.

1. Introduction

Territorial sea area of 5.8 million km² or 63% of the total territory of Indonesia, with extensive Exclusive Economic Zone of 2.7 million km² and a coastline of 95 181 km (Numberi, 2009). Making the coastal areas of Indonesia has the potential of natural resources such high mangroves, coral reefs and sea grass beds. According Supriharyono (2007), this region is very productive with the existence of estuaries, mangroves, seagrass beds and coral reefs, so such a long coast of Indonesia is a potential major natural resources for economic development.

Semarang with an area of 37.370 square kilometres is the fifth largest Indonesian cities and the capital of Central Java. For Semarang we are talking about the sea level rising up to 50 cm, lasting one day, occurring 80 times a year. Concerning this frequency and length of flood can be concluded that Semarang has the highest risk of impact of sea water intrusion.

Not only in rainy season but also in drying season, flood and sea water intrusion are daily problem of Semarang. Indonesia have a different types of flooding. For example, because climate change, sea level intrusion, and also in drying season flooding always comes.

The other problem in Tambak Lorok is urban-scale. This caused population growth and decrease of land water catchment. And it makes the fishercommunity can't managing the economic development there.

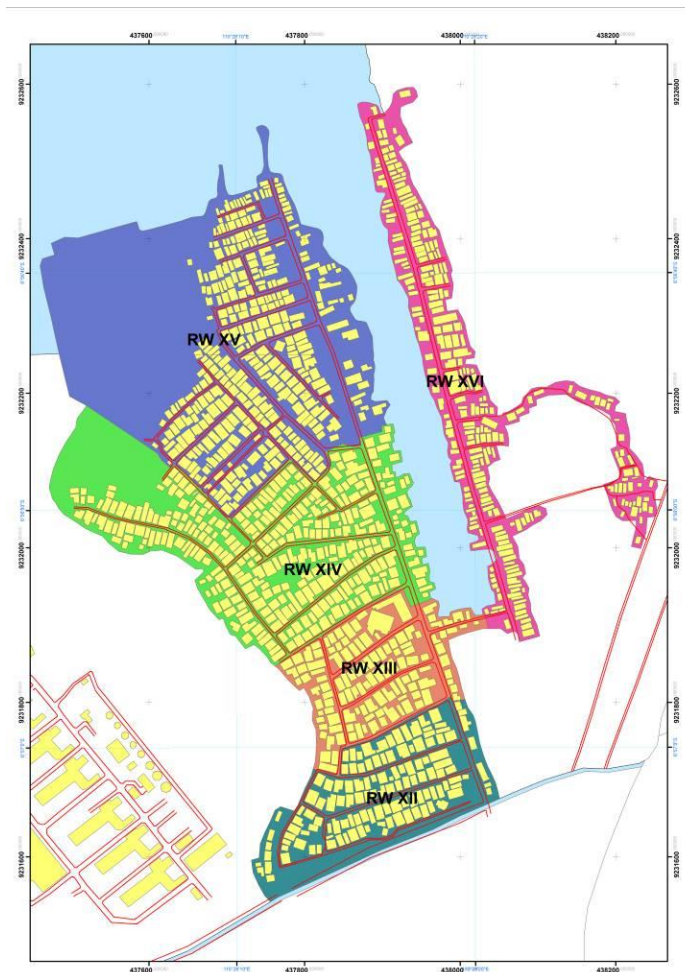


Figure 1. Map of Tambak Lorok

2. Methodology

This paper not only focus on planning the attention of the construction sector alone. It gives continuity value functions between the various sectors of life. So in this paper the design of the author not only focus on one area of science. Methods in writing this paper is to conduct a literature review and search reading sources over the internet. In the method of data analysis, the authors use qualitative data in analyzing the data. Qualitative data were analyzed with data reduction and data presentation. This process produces an empirical generalization that is the answer to the question the author. Authors conducted all research activities at the end of August to November, so the author can manage all stages of the research effectively and efficiently.

3. Fundamental Theory

Many of us have this idea that floods (or flooding) is simply, too much water around your house. People think that can be fun. Wrong. Flooding is a lot more than that. Flooding is extremely dangerous and has the potential to wipe away an entire city, coastline or area, and cause extensive damage to life and property. It also has great erosive power and can be extremely destructive, even if it is a foot high.

Urban flooding is the inundation of land or property in a built environment, particularly in more densely populated areas, caused by rainfall overwhelming the capacity of drainage systems, such as storm sewers. Although sometimes triggered by events such as flash flooding or snowmelt, urban flooding is a condition, characterized by its repetitive and systemic impacts on communities, that can happen regardless of whether or not affected communities are located within designated floodplains or near any body of water. Aside from potential overflow of rivers and lakes, snowmelt, stormwater or water released from damaged water mains may accumulate on property and in public rights-of-way, seep through building walls and floors, or backup into buildings through sewer pipes, toilets and sinks.

3.1. Downslope factors

Water flowing downhill ultimately encounters downstream conditions slowing movement. The final limitation is often the ocean or a natural or artificial lake. Elevation changes such as tidal fluctuations are significant determinants of coastal and estuarine flooding. Less predictable events like tsunamis and storm surges may also cause elevation changes in large bodies of water. Elevation of flowing water is controlled by the geometry of the flow channel. Flow channel restrictions like bridges and canyons tend to control water elevation above the restriction. The actual control point for any given reach of the drainage may change with changing water elevation, so a closer point may control for lower water levels until a more distant point controls at higher water levels. Effective flood channel geometry may be changed by growth of vegetation, accumulation of ice or debris, or construction of bridges, buildings, or levees within the flood channel.

3.2. Flood safety planning

At the most basic level, the best defense against floods is to seek higher ground for high-value uses while balancing the foreseeable risks with the benefits of occupying flood hazard zones. Critical community-safety facilities, such as hospitals, emergency-operations centers, and police, fire, and rescue services, should be built in areas least at risk of flooding. Structures, such as bridges, that must unavoidably be in flood hazard areas should be designed to withstand flooding. Areas most at risk for flooding could be put to valuable uses that could be abandoned temporarily as people retreat to safer areas when a flood is imminent.

Planning for flood safety involves many aspects of analysis and engineering, including:

- observation of previous and present flood heights and inundated areas,
- statistical, hydrologic, and hydraulic model analyses,
- mapping inundated areas and flood heights for future flood scenarios,
- long-term land use planning and regulation,
- engineering design and construction of structures to control or withstand flooding,
- intermediate-term monitoring, forecasting, and emergency-response planning, and
- short-term monitoring, warning, and response operations.

4. Survey and Discussion

This survey not only about flooding or fisherman, but also about the infrastructure and transportasi, etc.

4.1. Fishing Boat

The first is about the transportation of fishermen, or fishing boats used to catch fish which will then be sold to "Tempat Pelelangan Ikan (TPI)" at Tambak Lorok.



Figure 2. Parking place boat



Figure 3. The types of boats used



Figure 4. Personal boat



Figure 5. Other personal boat

4.2. Drainage

Tambak Lorok drainage system can be said to be very bad, because in every ditch or stream disposal there full of rubbish. And it makes the flow is not smooth and clogged drainage. And it is one of the factors of flooding in the region.



Figure 6. Drainage full of trash

4.3. Water Supply

Tambak Lorok in the use of clean water they get from "Sumur Artesis". Both are used for drinking, washing or bathing and other activities. It is derived from the pipe channeled from the sea. And because the water comes from the sea, the water also has a salty taste.

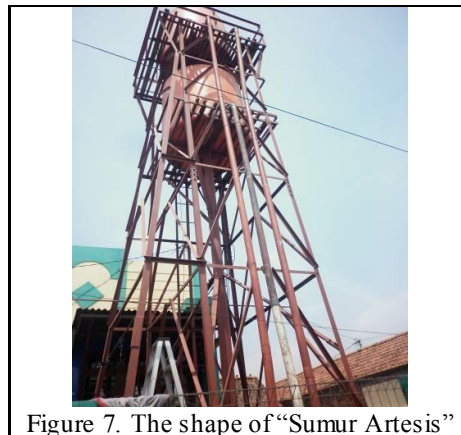


Figure 7. The shape of “Sumur Artesis”

4.4. Road

Tambak Lorok road conditions still need much improvement. Almost all the way there is of paving or soil. And because people do not understand, then they lifted up the road together so that the streets are not flooded. However, it will make their home will be lower than the road.

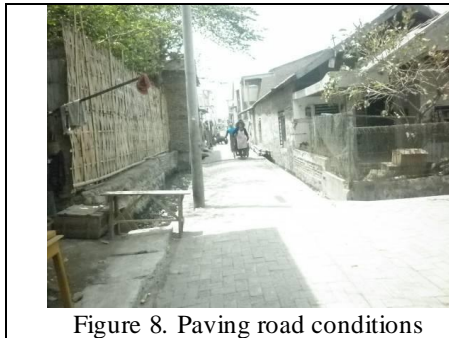


Figure 8. Paving road conditions



Figure 9. Dirt road conditins

4.5. Waste management

Waste management system in the Tambak Lorok, there are differences in some communities. There are collection and reuse. But others do not want to know and then discarded at will.



Figure 10. Sewage treatment by one of the residents



Figure 11. Sewage treatment by one of the residents



Figure 12. A pile of garbage next to the house



Figure 13. Garbage on the water

4.6. Land subsidence

Land subsidence in Tambak Lorok is very bad, even the people who live there have to elevate his home on average 2 to 3 times per 5 years. Even then if they have the money to renovate their homes.



Figure 13. One of the houses to be elevated due to a decrease in soil



Figure 14. The house should be abandoned because it was submerged by water

4.7. TPI (Tempat Pelelangan Ikan)

Tambak Lorok has two type. Namely the new TPI and old TPI long. Old TPI is still used by the community, but the new TPI is now no longer used, because submerged by seawater.



Figure 15. Old TPI



Figure 16. New TPI

4.8. Culture and Social

Culture of Tambak Lorok until now is "Sedekah Laut", ie by placing the head of a buffalo with a few other materials in the sea, exactly 2 hours if passed by a fishing boat. It is intended as a form of gratitude for the sea.



Figure 17. Buffalo head that will be placed in the middle of the sea



Figure 18. The enthusiasm of residents to participate in "Sedekah Laut"



Figure 19. Escort of navy



Figure 20. The main activities

Social problems in Tambak Lorok are the main ones for children. There is no place that can be used as a location to play. So the kids just playing in front of the house, on the street.



Figure 21. Child playing with friends on the road



Figure 22. Children playing in front of home

4. Conclusion

The conclusion of this paper is the village of Tambak Lorok as the ocean has a lot of problems that result in many aspects. Especially ecology and economy. That requires a very detailed plan about this. Is Tambak Lorok farm community must move from there or they remain with the requirements for a well-structured improvement, both in its implementation by the government and by the community of Tambak Lorok Lorok custody itself.