

The Vary Functions of Polder At Heritage Area of “Kota Lama Semarang, Indonesia”

Darmawan, Edy^{1*}; Murtini, Titien Woro²

^{1,2} Architecture Department, Engineering
Faculty, Diponegoro University, Semarang,
Jawa Tengah, Indonesia

*Corresponding author's email: edy_darmawan@yahoo.com

DOI: 10.29322/IJSRP.8.8.2018.p8028

<http://dx.doi.org/10.29322/IJSRP.8.8.2018.p8028>

ABSTRACT---- *Formerly, polder is only functioned as green area for doing sports such as playing soccer, athletic for students and for night market communities as well sometimes. The flooding happened in this heritage area at the wet season. Therefore the local government have an idea to make polder as the water resistant and revitalitation of the rivers of a Banjir Kanal Timur. The problem of heritage area is not only about flooding, but also the land that subsidence 10 cm every year. The heritage building were left by the ownership and the building where deterioration, besides, there are also many criminals, many unarrangement vendors, the bad condition of infrastructure, cause many investors canceled to invest. The method would be used in this research is descriptive qualitative method. The polder functions can be used as recreational place, fishing place, open space for water refreshing, for aesthetic background of view, and also the water resistant around the heritage. It is an attractive point for heritage area.*

Keywords; Polder, Function, Heritage Area, Semarang.

1. INTRODUCTION

Polder is very important to be chosen as the paper. It is very important to accomodate the flooding in the rainy season. It's created as the recreational place for the people. It could be as a pond for developing fishery and relaxing for the fish. Polder is very important for refreshing the environment and it has a potency for developing a beautiful place. Beside that, the local government have to make it clear every year, as it influences for the bad smell around it, and the government make dredged polder anytime. Therefore the role of water resistant will be successful, and the government put the fishes in the pond. It is very important to clean up the mosquito spots here. When the rainy fall, the floodgates is opened, so that the water will not caused flooding. The communities around the polder have to care to not throw away the garbage in the pond, because it can cause flooding. The management of the polder is not well managed, because the local government have a lot of responsibility of the city. The ability of the polder need another power in order to throw the water away to the other places, for example revitalitation of the *Banjir Kanal* rivers in the southern and in the western part. The important thing, the polder can be used by the people to do water sports, for instance, water bicycle, boat, and others. The character element around the polder is the heritage character.

2. RELATED STUDIES

Polder is a well-constrained area, where water from outside of the area should not enter, only rainwater (and sometimes water seepages) in the area itself collected (<http://eprints.upnjatim.ac.id/6643/1/Binder1.pdf>). Polder can also be interpreted as a lowland that forms an area surrounded by an embankments, where in this area the waste water is collected in a body of water then pumped to a higher body of water, until eventually it is pumped into a river or canal that empties into the sea (<http://anggunsugiarti.blogspot.co.id/2012/02/belajar-dari-sistem-polder-negera.html>). In polder there is no free surface flow as in natural water catchment areas, but equipped with a controlling building at its disposal (with a drain or pump) to control outflow (<http://binamarga.pacitankab.go.id/aadmin/.../drainase-sistem-polder.ppt>). The Dutch Government uses a polder system to defend its territory against flood and tide water. The polder system was originally developed by the Dutch Government in the 11th century to keep the water level elevated and to protect the area from flooding. Then in the 13th century, the polder system is enhanced by the use of a windmill to pump water out of the area that lies below sea level.

The imbalance of urban development that is more concerned with economic growth has been caused flood. This condition need efforts to control flood and tide water with increase technology aspect and management. The polder system is one of the appropriate and effective engineering alternatives to control flood and tide water, it also can support the development of urban areas in low-lying areas prone to be flooded. According to Widaya in Nugroho (2012) it was

mentioned that the polder system consists of embankments that surround the area, retention ponds, drainage systems, pumps, water gates, and other components into one system and designed according to the location and problems encountered. The purpose of developing a polder system is to provide an integrated urban flood control model (<https://bebasbanjir2025.wordpress.com/teknologi-pengendalian-banjir/polder/>). The development of a good polder system provides no benefit in flood control itself, but it can also be used as a tourist attraction or recreation, agricultural land, fisheries, and industrial or office environments. Completeness of physical facilities that must be considered in the design criteria of a polder is (a) drains and reservoirs built as a means to regulate water delivery when the water elevation at the exhaust point is higher than the channel elevation within the area; (b) embankments made with the width, large, high, and surround the area to prevent the entry of water into the area; (c) a water pump that functions to drain water in a body of water that works automatically when the water volume exceeds the planning value (<https://bebasbanjir2025.wordpress.com/teknologi-pengendalian-banjir/polder/>).

Semarang City is one of big cities in Indonesia that has coastal areas. This makes Semarang City can not be separated from the condition where the area is flooded due to sea water seawater and due to flooding. Ground level in the slopes continues to decline every year, as well as rising development in coastal areas by forcing the reclamation has made the distribution of water in the city of Semarang increasingly widespread. To overcome this problem, Semarang City Government has built a *Polder Tawang* that was built as a system to protect the abundant water from outside the area and control the water level inside the *Kota Lama Semarang*. In *Polder Tawang* there is a retention pond measuring ± 1 Ha. Around the polder there is a pedestrian path with paving block pavement material. On the side of the eastern pool, there is a water pump that serves to regulate the flow of water. Pond *Polder Tawang* is a major building element in integrated *Polder Tawang* building system from water channels, sluices, pump houses, main pools and sewers (Suseno, 2012). Then on the side of the *Polder Tawang* decorated with ornamental lamps shaped like a monument that is mounted lined up to add to the beauty of the polder atmosphere. Vegetation elements contained in open space *Polder Tawang* in the form of grass and palm trees that strengthen the characteristics of urban water space and some other vegetation. However, the element of this vegetation has not functioned properly, because the atmosphere in the *Polder Tawang* still feels arid and hot. Open space is equipped with elements of street furniture in the form of lights, signs, and potted plants. The existence of *Polder Tawang* able to attract the citizens of Semarang City to make the place as a tourist attraction. Even in this pond deliberately sown by fish seeds Department of Marine and Fisheries Semarang City to attract the interests of city residents who have a hobby of fishing and to reduce the odor that often arises from this polder pond (<https://noem3d.wordpress.com/2009/04/14/nongkrongdipoldertawang/>).



Source: Private Document, 2017.

Fig. 1 Street Furniture in *Polder Tawang*.

According to Kevin Lynch Theory (1981), when viewed from the aspect of appearance dimensions and in terms of sensitivity which includes form, quality, and environmental identity, then the taste created through the shape orientation of the *Polder Tawang* is pretty good. The serial vision that can be captured around the *Polder Tawang* serves as a water-dominated soft landscape to be a force for exploiting the surrounding buildings and causing a watering effect as well as reinforcing the dramatic impression in the city's open spaces (Darmawan, 2005). *Tawang Station* as *grandiose vista* by cultivating landscape elements as a force in generating beautiful scenery (Darmawan, 2015). The presence of a *Polder Tawang* not far from the area of *Kota Lama Semarang* with its majestic ancient buildings provides a tourist atmosphere like in Europe.

3. RESEARCH METHODOLOGY

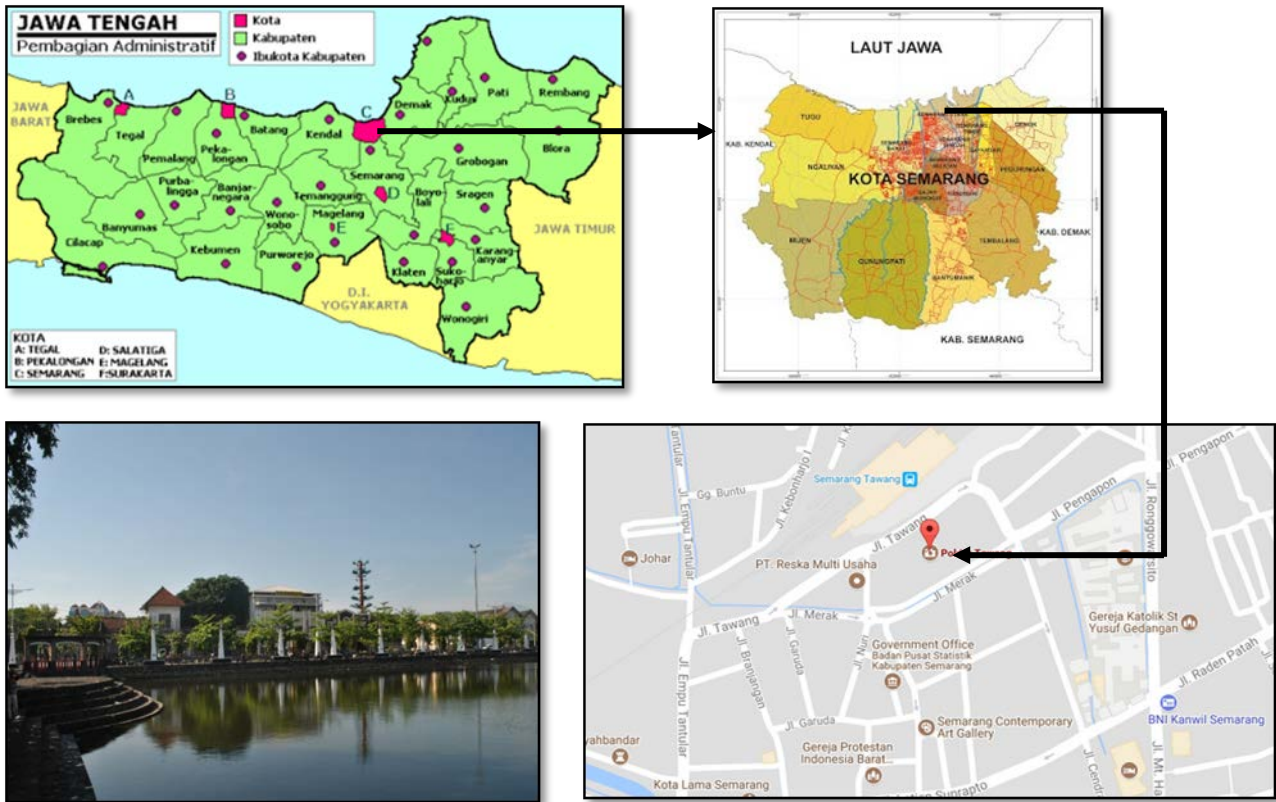
3.1 Approach and Research Method

The research method is used for answering the formulation of research problem that has been determined. In this article, the research approach applied was qualitative approach that emphasized narrative construction or textual descriptive for the researched phenomenon. The method used in this research was descriptive method. According to Arikunto (2006), the qualitative descriptive method describes and explains collected findings in order to gather actual and detailed information, identify problems, and make comparison or evaluation. This method furthermore helps us to determine what other people do in dealing the same problem and how we learn from their experiences in order to make plan and decision for the future. In this article, descriptive qualitative method was used to describe physical condition of polder in *Kota Lama Semarang* and explained the problem also the potential of polder. The type of the research method included surveys that can be used to collect data from certain places naturally. The data collected from observations, interviews, and study of literatures were then selected and grouped systematically based on the needs. After that, the

result of data compilation was analyzed with qualitative descriptive analysis method consisting of steps of analysis using data that described the research object.

3.2 Research Site

Polder Tawang is located in the front of Tawang Station which is included in Semarang City, Central Java, Indonesia. *Polder Tawang* has an area ± 1 Ha and has a catch area ± 70 Ha. *Polder Tawang* is very strategic because it is in the north bounded by railroads from Tawang Station, in the east it is bounded by Ronggowarsito Street, in the south is bounded by Petudungan Street, and in the west it is bounded by *Kali Semarang*.



Source: Author, 2017.

Fig. 2 Located of Polder Tawang.

Polder Tawang was built by the Government of Semarang in 1998-2000, it is one of the beautiful places to visit in the *Kota Lama Semarang*. The attractions in this area are Tawang Station, Kodam Supplies Building, Stailan Boarding House. This polder can be accessed from Jl. Merak, Jl. Tawang, Jl. Cendrawasih, Jl. Kedasih, Jl. Kneeling, and Jl. Parrot.

4. RESULTS AND DISCUSSION

4.1 Polder for Recreation and Background

Many people are jogging around the polder in every morning and evening. The people are walking around everyday in order to take care their belt. Many people, either they are young or elder are fishing in the edge of the polder. The water is not hot or cold, so this condition is perfect to use it as the place for doing water sports such as water cycle, duck cycle, and boat in the pond. While many vendors around the polder sell their foods and drinks. The heritage building at the near of the southern part is the background view of the polder. The palem trees around the polder create the good aesthetic view of polder besides making a fresh place under the trees. Water fountain in the middle of polder create a fresh of the environment and make the enclosure of polder looked beautiful. Street furnitures around the pond are very convience for relaxing while they do the interaction.



Source: Private Document, 2017.

Fig. 3 Activity in Polder Tawang.

4.2 Polder for Water Resistant

For handling the flooding, there are few ways: First, making the polder as water resistant at heritage area. The presence of the polder there will make the flood around it caught in the polder. Besides, the creating of the big river in the western and eastern *Banjir Kanal River* is to revitalization every years and the polder have to minimize the depth of the polder. Therefore, it can fill the polder while they created the channel for throw away the water from the polder. The channel have to make the door to open and close the waters toward the urban waterways.



Source: Private Document, 2017.

Fig. 4 Polder Tawang for Water Resistant.

4.3 Water Fountain as the Aesthetics

Water fountain that turning on in the afternoon would make the environment air being fresh. If it turns on in the night with the combining of the spotlight it would be shine and create a beautiful light. The light creates the environment more live up. Many couples chit chat in the place, the more night, the more it is crowded. In the night, there are a lot of adult than children that visit it. There are still some elderly staying just to chat with other elderly until midnight. Unfortunately, in every morning, the rubbish is straggling in the area of polder. It is needed someone officer to clean up the area. Especially for the dirt in the water, it must be cleaned, as if it is not, it would be appear and causing a bad smell.



Source: Private Document, 2017.

Fig. 5 Polder Tawang for Aesthetics.

4.4 Polder as Waterfront

Surrounding of the polder is the street that full of transportation like car , *becak*, and also motorcycles. Beside the street, it also could be found the heritage building as the background. It would made the area seen more beautiful. If some vendors is not closed to them. Especially, in the front of Tawang Station and the heritage building in the southern part and the rows of light surrounding the polder makes the area seen beautiful.



Source: Private Document, 2017.

Fig. 6 Polder Tawang as Waterfront.

5. CONCLUSION

Based on the results and discussion, it can be concluded as follows:

1. The polder over capacity of flooding at the rainy season is occurred.
2. The polder can be functioned as the interesting recreational place by the community.
3. The polder has a resistant toward the flood.
4. The polder adds the beautiful of the heritage area.

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