

Cengklik Reservoir Tourism Development with approach Eco-Waterfront

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ABSTRACT

Reservoir tourism is tourism that is widely associated with activities in water, such as lakes and rivers which are managed in an integrated and planned manner, so that they are ready to receive tourist visits. So far, the existence of reservoir tourism which is unique has not been handled and managed optimally. This trend can be seen in several reservoir areas that have lost their original character, and have even disappeared and changed their function due to neglect. Among them is the Cengklik Reservoir. So one of the initial measures is to identify the potential for reservoir tourism areas to be developed through the Eco-Waterfront Architecture Approach by paying attention to the surrounding natural environment and the function of the area.

The purpose of this research is to formulate a tourism development strategy through the Eco-Waterfront Architecture approach. The formulation is based on the exploratory descriptive method, and the physical spatial mapping of the character of the area, as well as the social and cultural mapping. The final result is the formulation of the development of Cengklik Reservoir Tourism that is environmentally friendly and sustainable.

Keywords: development, reservoir tourism, ecological architecture, waterfront.

INTRODUCTION

The Cengklik Reservoir area is one of the mainstays of tourist destinations in Boyolali Regency. The location is in Ngargorejo Village, Ngemplak District, Boyolali Regency, Central Java Province, Indonesia. The location of this reservoir is to the west of Adi Sumarmo International Airport. In addition to its main function as an irrigation facility covering an area of 1,578 ha, the Cengklik Reservoir is also used for tourism activities, aquaculture, and control of water resources and floods (RIPOW, Boyolali Regency, 2017). The Cengklik Reservoir in Boyolali Regency has several very interesting natural potentials, such as; natural scenery, pond products, and water tourism potential (boating, fishing, and other water tourism). Besides water tourism, around the Cengklik Reservoir, there are several other activities, such as jogging, and cycling, as well as being an alternative destination for family recreation on holidays. Under the vision and mission of the Boyolali Regency Disparbud, the Cengklik Reservoir has the potential to be developed into an environmentally friendly and sustainable tourist destination, through increasing community participation, but not yet optimal.

The current issue in the Cengklik Reservoir is mainly due to the increasing number of visitors who come, without offset the improvement of existing spatial planning and tourism

support facilities, this has an impact on the conditions of slums and unorganized supporting tourism facilities in the Cengklik Reservoir (Boyolali Regency Youth Sports and Tourism Agency 2018) However, according to the vision and mission of the Boyolali District Tourism and Culture Office, the Cengklik Reservoir has the potential to be developed into an environmentally friendly and sustainable tourist destination, through increasing the role of the community. This can be seen by the formation of the Cengklik Reservoir Community Association, but it has not worked optimally. Under the vision and mission of the Boyolali Regency Disparbud, the Cengklik Reservoir has the potential to be developed into an environmentally friendly and sustainable tourist destination, by increasing the role of the community, but not yet optimal.

The problems that exist in the Cengklik Reservoir include the increasing number of visitors who come, without being balanced with improvements in spatial planning and existing tourism support facilities as well as a lack of attention and maintenance from the government. So this has an impact on the slum conditions in the Cengklik Reservoir Tourism Area. In addition, the accessibility conditions are not supportive, as well as the lack of promotion of the tourism potential of Cengklik Reservoir. If this continues and is not handled professionally, there will be environmental damage. One of the appropriate and integrated measures is tourism development through EWF. friendly and sustainable.

METHODS

This research was conducted in an integrated manner, aimed at formulating a tourism development strategy for the Cengklik Reservoir through the EcoWaterfront Architecture approach. The formulation is based on the exploratory descriptive method and physical spatial mapping of the potential of local wisdom on the character of the area, as well as the social and cultural mapping of the community.

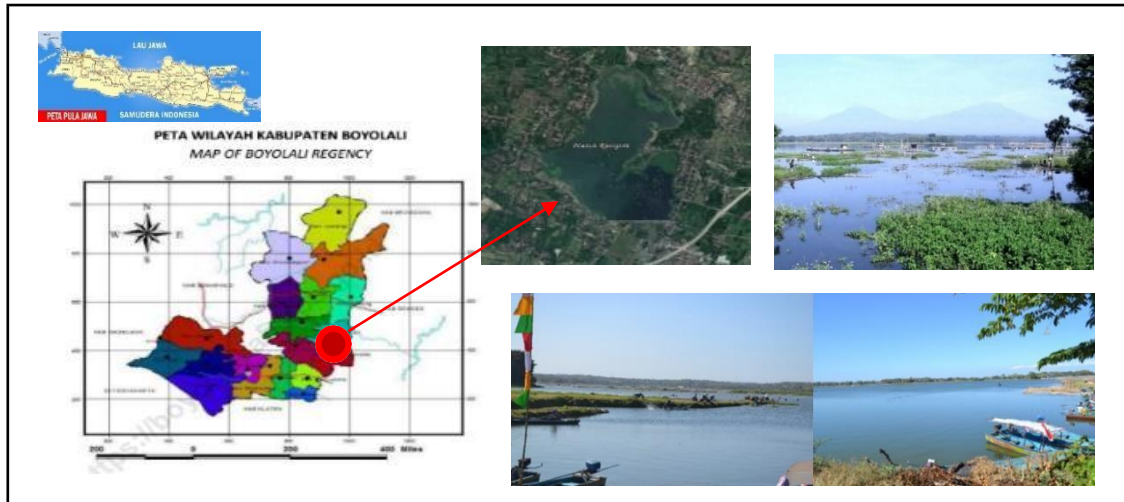
The research location is on the edge of the Cengklik Reservoir which has the potential for high natural local wisdom characteristics. The final result is the formulation of the Cengklik Reservoir Tourism development plan that is environmentally friendly and sustainable.

RESULT AND DISCUSSIONS

Tourism Potential of Cengklik Reservoir

Based on the data, there are 11 tourist objects managed by DIPKORA Boyolali Regency. One of them is the tourist area of Cengklik Reservoir which is located in Ngemplak District. The strategic position of the Cengklik Reservoir, which is in the border area with the city of Solo, is close to Adi Sumarmo International Airport, Haji Donohudan Dormitory, and the intersection of the three transportation access routes between Solo-Jogja-Semarang City. This has the potential for easy access to be able to attract visitors who cross it.

The strategic position of the Cengklik Reservoir which is in the border area with the city of Solo, close to Adi Sumarmo International Airport, Haji Donohudan Dormitory and the



Source: Ramadhani, 2018

Figure 1. Beauty of Cengklik

The potential for water tourism in the Cengklik Reservoir is managed and developed as a tourist site with a water orientation, equipped with natural conditions around the reservoir which are still natural, including a rural landscape with a pristine background of mountains and hills. Visits of foreign and domestic tourists who come to the location will increase along with the rate of tourism growth in the city of Solo and its surroundings. This can be seen from the increasing number of natural tourism activities and other exotic activities. Based on existing visitor data, there has been an increase in both foreign and domestic tourists from 2012 to 2016 with an increase in the percentage of foreign tourists to 26.30% (DISPARBUD, 2017). The number of tourists visiting the Cengklik Reservoir in 2017 has increased and decreased every month. (Figures 2 and 3).

Table 1. Number of International and Domestic Tourists in Boyolali Regency

Year	Tourists		Total	Frequency (%)
	Foreign	Domestics		
2012	1.847	335.095	336.942	15,93%
2013	1.909	373.905	375.814	17,76%
2014	2.647	410.580	413.227	19,53%
2015	2.007	430.760	432.767	20,46%
2016	2.017	554.248	556.265	26,30%

Source: Boyolali Regency Youth Sports and Tourism Agency 2018

Table 2. Tourism Objects Managed by DIPKORA, Boyolali Regency

No	Name Of Tourism Objctcs	Location	Coordinate (X,Y)	
1.	Umbul Sewu Pengging	District Banyudono	110.621263	-7.493748
2.	Makam Yosodipuro	District Banyudono	110.674870	-7.550478
3.	Umbul Tirtomulyo	District Sawit	110.676934	-7.549887
4.	Umbul Tlatar	District Boyolali	110.621238	-7.493942
5.	Waduk Kedungombo	District Kemusu	110.826891	-7.244239
6.	Waduk Cengklik	District Ngeplak	110.724859	-7.504427
7.	Waduk Bade	District Klego	110.701750	-7.358790
8.	KawasanArgaMerapi Merbabu	District Selo	110.452867	-7.515579
9.	New Selo	District Selo	110.485685	-7.457323
10.	Makam Ki Ageng Singop Gunung Tugel)	rono District Ampel	110.485650	-7.457356

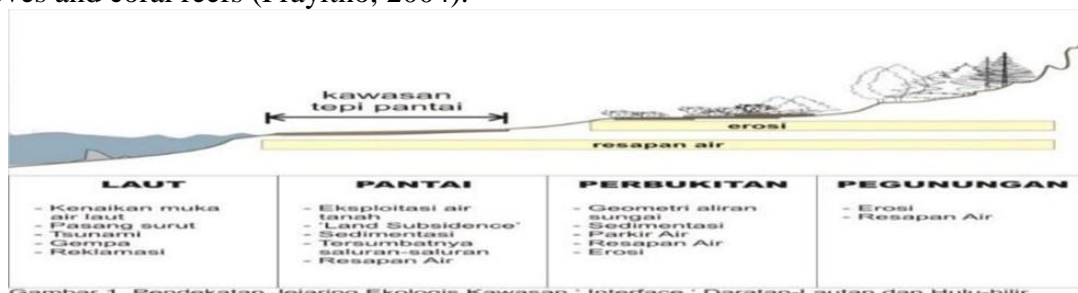
Source: Author's Observation Survey and Observation, 2018

With an increase in the percentage of tourists visiting the Cengklik Reservoir every month, it is time for the Cengklik Reservoir tourist area to be developed in an integrated manner with an ecosystem perspective through eco waterfront architecture.

Result of Development

Ecology as a basis for engineering design of reservoir tourism areas, it is necessary to carry out a comprehensive approach through the 'upstream-downstream' ecosystem, the land-water interface area in the form of an ecological network approach in three areas, namely DAS (Watershed), tourism areas and water areas (Prayitno, 2004).

The occurrence of standing water originating from river water or rainwater that cannot immediately enter the river is caused by several things, namely the saturation of the soil by river water, reduced infiltration surface, and the surface height of rainwater puddles or river water levels that are relatively the same as water. In the reservoir tourism area, efforts can be made to protect against physical damage to the reservoir in the form of abrasion and erosion by waves and water currents with an increase in natural protection capacities such as mangroves and coral reefs (Prayitno, 2004).



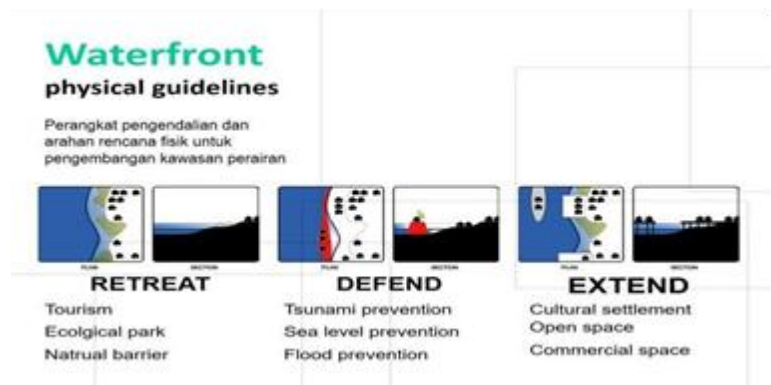
Source: Prayitno, 2018

Figure 4. Ecological History Approach

Based on the type, the waterfront can be divided into 3 types, namely conservation, redevelopment, and development

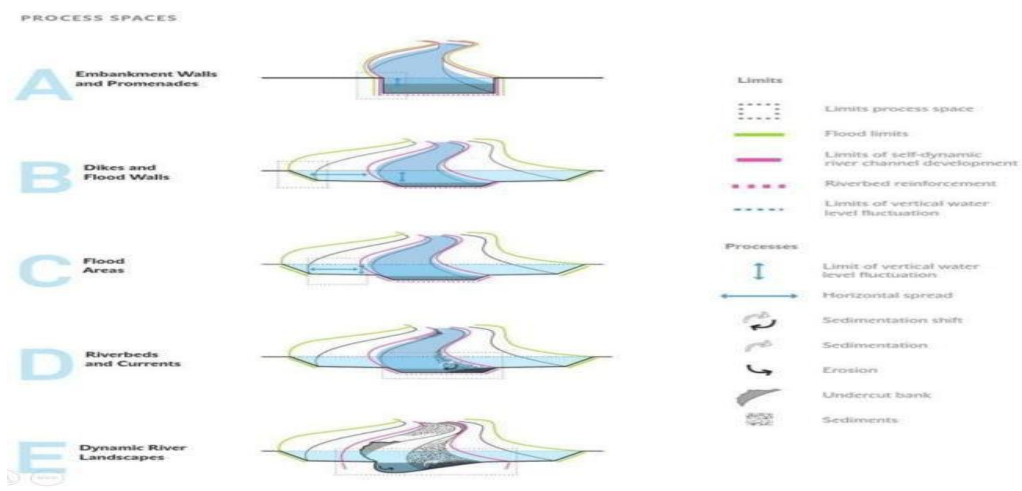
1. Conservation is an ancient waterfront arrangement that still exists today and keeps it for the benefit of the community.

2. Redevelopment is an effort to revive the old waterfront functions which are still used for the benefit of the community by changing or rebuilding existing facilities.
3. Development is an effort to create a waterfront that meets the needs of the city today and in the future using reclamation. (Prayitno, 2017).



Source: Prayitno, B, Analysis 2018

Figure 5. Three Types of Developing Waterfront



Source: Prayitno, B, Analysis 2018

Figure 6. Five Types of Waterfront

Based on its function, Waterfront can be divided into 4 types, namely :

1. **Mixed-Used Waterfront**
 The mixed-used waterfront is a waterfront that is a combination of housing, offices, restaurants, markets, hospitals, and/or cultural places.
2. **Recreational Waterfront**
 Recreational waterfronts are all waterfront areas that provide facilities and infrastructure for recreational activities, such as parks, playgrounds, fishing grounds, and facilities for cruise ships.
3. **Residential Waterfront**
 The residential waterfront is housing, apartments, and resorts built on the waterfront.
4. **Working Waterfront (Breen, 1996)**
 A working waterfront is a place for commercial fishing, cruise repair, heavy industry, and port functions.

Thus, in developing Cengklik Reservoir Tourism through the Eco-Waterfront concept that will be applied is a combination of Architectural Ecology and Architectural Design concepts with the Waterfront concept. Each has the following criteria :

1. Principles of Ecology Architecture is based on wind, fire, earth, and water.
2. Making energy efficient
3. Responding to the condition of the building site
4. Minimize new resources
5. And the harmony of man and nature.
6. Waterfront Architectural Design Principles are
7. Aesthetic,
8. Waterfront building construction and human design.
9. Making it environmentally friendly water tourism by involving roles
10. Society and increase the role of the economy.

Waterfront Ecology an Environmental Friendly Water Tourism with Community Participation and Increases Economic Value

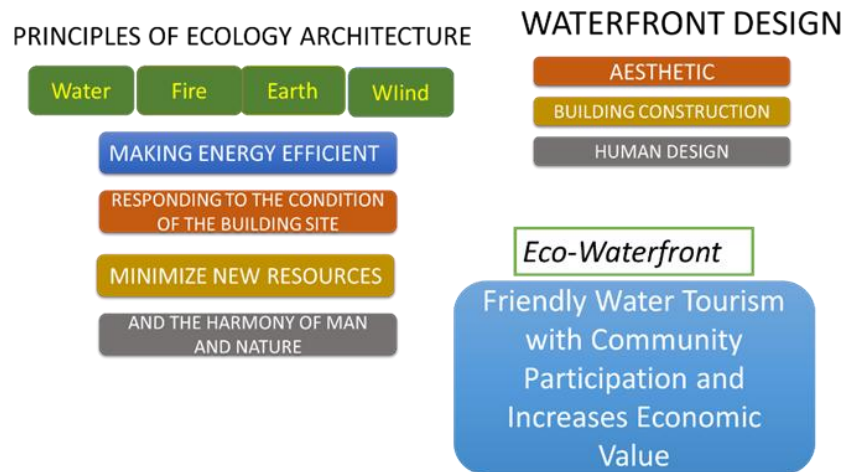


Figure 7. Scheme The Principle of Eco-Waterfront Source: Ramadhani, Analysis 2018

Then Ecology Waterfront can be used as a tourist spot by promoting the concept of Ecotourism and Community-Based Ecotourism. Each has the following criteria :

1. Ecotourism :
 - a. Increase the value of environmentally friendly conservation
 - b. Increase cultural value and natural tourism
 - c. Increase the value of community and economic participation.
2. Community-Based Ecotourism :
 - a. The value of community participation
 - b. Community educational value
 - c. The economic value of society

But still prioritizing the principles of Ecology-Waterfront, namely, environmentally friendly water tourism by involving community participation and increasing the role of the economy.

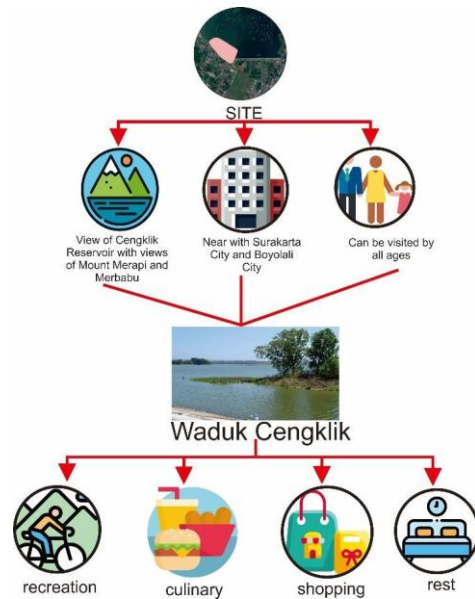


Source : Ramadhani, Analysis 2018

Figure 8. Scheme The Principle of Eco-Tourism and Community-Based Tourism

Therefore, the results of research from Cengklik Reservoir Tourism with the Eco-Waterfront principle can be formulated as follows :

1. Tourism of Cengklik Reservoir as a Recreation Area
It is an effort to revive and add to the types of recreation that exist in the Cengklik Reservoir, such as some water and land recreation with an attractive landscape.
2. Cengklik Reservoir Tourism as Culinary Tourism
After being satisfied with the recreation, several floating restaurants are provided with a charming view of the Cengklik Reservoir. So that visitors can eat food while enjoying the charming view of the Cengklik Reservoir.
3. Tourism of Cengklik Reservoir as a Shopping Area
Also provided is a floating kiosk that sells various typical souvenirs of the Cengklik Reservoir for visitors to have as souvenirs from the Cengklik Reservoir. Visitors can also shop while enjoying the charming view of the Cengklik Reservoir.
4. Tourism of Cengklik Reservoir as a Rest Area
There are several cottages for visitors who want to stay in the Cengklik Reservoir area. This cottage is placed in a separate area so that visitors can maximally enjoy tourism in the Cengklik Reservoir.



Sumber: Ramadhani, Auliya Rohmah, Analysis, 2018

Figure 9. Scheme of Development

Eco-Waterfront Concept of Cengklik Reservoir Tourism Development

The Eco-Waterfront Concept of Cengklik Reservoir Tourism Development is an answer to how the development arrangement responds to the surrounding environmental conditions, namely using an environmentally friendly development concept both in terms of building structure.

WATERFRONT	ELEMENT	APPLICATION	ECOLOGY	
Architecture (Image and aesthetic)	EcoTourism • Friendly Tourism	Reservoir Tourism • Increase the value of conservation • Increase educational value and economy	Ecology Networking Interface land and waters	<ul style="list-style-type: none"> Protection against physical damage to reservoir Sedimentation Limitation of reservoir cages Control of water quality to reservoirs
construction	Architecture Ecology	alignment Human With nature	<ul style="list-style-type: none"> Climate response Minimize Energy Use Cultivation of Building Materials (Local Material, safe, healthy, renewable) Providing Energy, Water and Waste 	<ul style="list-style-type: none"> Sun (Maximizing the opening of the morning sun) Wind or Rain Earth (construction and building) Electricity (PLN, solar panels, genset) Water (PAM, pump, ground tank) Cultivation of Building Materials (Local Material, safe, healthy, renewable) Supper structure wood, bamboo Upper Structure Clean water Dirty Water Solid and liquid waste
Socio-Culture (local culture)	Community Based Tourism	Community development • Increased active role	Local Ownership (Planner, Implementer and	<ul style="list-style-type: none"> From the Community For the Community

Source: Personal Analysis, 2018

Figure 10. Implementation of Design with Eco-Waterfront

Thus the role of integrated tourism planning in the Cengklik Reservoir through the ewfa concept and increasing the active role of the community, besides being a tourist spot can help community development in tourism activities in the surrounding area by providing facilities and services for related tourist objects that are environmentally friendly and sustainable.

Eco-Waterfront

The application of the waterfront ecological concept in the tourism development of the Cengklik Reservoir has several advantages and is related to the pattern of handling problems related to an environmentally friendly ecosystem. These advantages are safer, more harmonious, and aesthetically pleasing. The concept of developing reservoir tourism in Cengklik Reservoir areas requires a special approach to pay more attention to and maintain the condition of local wisdom sustainably.

In the same way, environmental management is carried out through community-based tourism (CBT) on a small scale, but spatially and integrally. This allows the active role of the community to contribute more, more controlled, and low-cost handling. So that, the result of developing tourism in Cengklik Reservoir can be more attractive and give the pleasure tourism based on Eco-Waterfront.

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