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Planning for Riverside Area as Water Tourism Destination to Improve Quality of Life Local Residents, Case Study: Batuan – Sikambing River, Medan, Indonesia

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Abstract

Protected riverside area can make rivers as a source of water, water transport and water tourism destination. Nowadays, water tourism is increasingly popular to people. Local residents should be given an understanding of the importance of tourism activities mainly based on the river environment and things that need to be done to support these activities. River cleanliness must be maintained and preserved. This research was conducted at Batuan-Sikambing River, Medan, Indonesia. Research carried out quantitatively by using the questionnaire survey, where local residents become respondents. Data was analyzed descriptively; frequency to produce planning recommendation. Most respondents agreed that Batuan-Sikambing River could be a tourist destination. Provision of facilities is expected to support efforts to improve the quality of life of local communities. Recommendations resulting from this study are expected to be reference to the government and developers.

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1. Introduction

The river is fresh water that flows from high to low place and endures to the biggest river, lake or sea. The river is one of water resource that must be arranged completely and comprehensive that used as a sustainable water resource to the prosperity of people (Undang-Undang Republik Indonesia Nomor 7 Tahun 2004 in Maryono, 2009). According to the Regulation of the Minister of Public Works No. 63/PRT/1993 (Maryono, 2009), there are three classifications of rivers namely: river with an embankment, the river without embankment and river was affected tide.

Protection of the riverside area is to preserve the function of river of cultivation activities that can disrupt and ruin the river and to preserve the flow of the river (RTRW Kota Medan Tahun 2011-2031). The effect of protection of the riverside area, the rivers in Medan city can serve as source of water, water transportation, and water tourism. Batuan – Sikambang river, as one of river in Medan city, this river has the potential to be developed as water tourism destination. Batuan – Sikambang river located in Medan City, especially in Medan Tuntungan District to Deli River in Medan Helvetia District. Medan city has some rivers that potentially to be developed.

Main problems of Batuan – Sikambang river are: the function of this river as source of water, transportation and water tourism were not used maximized; physical river and riverside landscape are not well designed and found some illegal buildings there; the height of the lower river surface is $\pm 3.4 - 3.9$ meters above the river banks; lack of regulation about river's flow so prone to flood in the river during the rainy season.

The aim of this research is to analyze how the riverside area in Batuan-Sikambang river can be used as water tourism destination and improve quality of life of local residents.

2. Planning for riverside area

The river is a natural source of fresh water that flowing from a higher to a lower place and headed or empties into the sea, lake or river is greater. The natural flow of the river is a major source of water for human beings to fulfill. Forest in the mountains is the catchment. The river is one of the forms of surface water flow must be managed as a whole, integrated environmentally friendly manner with realize the benefits of sustainable water resources for the greatest prosperity of the people (Law of the Republic of Indonesia Number 7 of 2004 in Maryono, 2009).

Based on Maryono (2009), riverside area can be main guidance for usage activity and river protection, then being the edge of settlement in riverside area. Riverside area has some functions, namely to improve water quality, flood potection, space for meandering, defend stability river aquatic system in forest, etc.

2.1. Water tourism

According to Inskeep (1991) in Agnes (2005), water tourism area is developed with complete facilities and services, both for recreation and deepening the experience. According to Page (1995) in Agnes (2005), there are some elements of the tourism plan, namely: the natural and socio-economic environment; attractiveness and tourist activities; accommodation; transportation; institutional elements; other infrastructure; facilities, utilities and other travel services; domestic and international tourism market as well as the use of tourism infrastructure by local residents. According Soemarwoto (2001) in I Made (2002), tourism is an industry that sells the physical and social environment existing culture to domestic and foreign tourists. Tourism consists of three basic elements, namely:

- Mechanical elements, the issue of living to the selected destination or destination.
- Elements of statistics, the issue of living in the goal area.
- Elements consequence, the results of the above two elements related to their effects on ecosystems and social.

According to Fandeli (2001) in I Made (2002), tourism object is the embodiment of human creation, way of life, art and culture and history of the place and the nation or the state of nature that has attractive to tourists. One of tourism object that has been developed is a tourist attraction that focus on river water. Water is the main focus of tourism in nature or open space. Water tourism demand by people. The setting is unplanned or natural. Water tourism is recreation activities or traveling with the purpose and object of the natural landscape and artificial form of the waters carried in open space while enjoying views of the waters. Water tourism are usually supported by facilities and tourist activities related to the water fun or entertainment while enjoying the scenery or activity tourist attractions water.

Object tourism can be developed with well water if the quality and cleanliness of the environment is maintained. Local residents should be given an understanding of the importance of tourism activities on the river environment and the things that need to be done to support these activities. Rivers must be maintained cleanliness, beauty and safety. Riverside area issues and settlements in the surrounding areas are important where the locals around riveride area involved directly and under the influence of these activities. Provision of support facilities serve to improve the quality of life of local residents based economy (Poedjioetami, 2008).

Water tourism will provide social and cultural impact, namely: the emergence of cultural encounters between tourists and locals that will arise marriage culture. In addition, water tourism also affect ecosystem, namely: increasing efforts reservation of natural resources, development of national parks, protection of coastal and marine parks as well as the protection of mangrove forests. If the construction of facilities for water tourism are not considered properly and excessive, it can pollute and damage the physical environment.

To empower object tourism, it is necessary to approach and coordination with the local population which needs to be given an understanding of the importance of water tourism in the environment and actively participate in tourism activities. Direct involvement of the local population impact in further developing and promoting a tourism attraction. One form of such involvement is with the aspirations that there are further disseminated back and formulated into a policy. Furthermore, at the implementation stage, the locals were involved directly and interact with tourism stakeholders.

In I Made (2002), river basin management approach requires the policy, namely:

- The balance between supply and needs.
- Application of the concept of return on capital, pricing policy and the efficiency of utilization of water resources.
- Development of institutional and human resources.

Use of the river as a water attraction environment conservation efforts in general and in particular river function conservation. Health and beauty of the river should be maintained. River clean and comfortable have a positive impact and make the river as a tourist attraction. In addition, people become accustomed to living a healthy and clean. Community on the outskirts of the river have a stake in maintaining the cleanliness of the river and did not make the river as a garbage dump. Water resources management should be done with the river basin management approach (river basin approach), an integrated and holistic (integrated and holistic) and sustainable (sustainable).

2.2. *Quality of life*

According to Poedjioetami (2008), the locals who live in riverside, in the case of Regions Dinoyo Weaving, have limited economic resources. It is necessary for the provision of facilities-based economy that supports efforts to improve the local economy. One way is to provide a place for recreation in the river. Local residents can open a shop or a souvenir sales, employment opportunities as a janitor, parking attendants and operational personnel. Local residents should be given socialization or training regarding the importance of maintaining the cleanliness of the river and its environment, and do not use the river for MCK activities (bathing, washing, toilet).

3. Methodology

This research is done by using a quantitative method. The technique is by using secondary data collection techniques and primary data. The Primary data was obtained directly from the site plan by conducting a survey in the form of observation and dissemination of the questionnaire form. Data obtained from the observation of a common data consisting of physical and non-physical data. Physical data is data image of the city in the form of the path, namely: road (name and class of roads) and bridges (name and height of the bridge). Edge, namely: borders and border location plan Batuan-Sikambing river. District, namely: the function of land (spatial structure, the characteristics and size of the site location plan) who will be with the mass of the building. Location of land use plans are grouped in 6 functions, namely: residential, commercial, schools, public facilities, social facilities and green open spaces. Nodes, namely: parks, open green spaces, focal point, vegetation and street furniture. Landmarks, namely: statues, monuments and signs. The non-physical datas are social and economic data on the location plan. Specific data obtained from the questionnaire form filling.

This research will study the condition of Batuan-Sikambang river physically, infrastructure and facilities that support water tourism and local residents participation. Questionnaire form is divided into three parts, namely: the data of respondents, respondents' perceptions and suggestions of respondents. The questions on the perception of respondents based on research conducted by I Made (2002). Rating answers using a Likert scale from 1 (strongly disagree) to number 5 (strongly agree). Population is numbers of building in riverside area, namely 202 units, assuming 1 unit represents one population. Total sample of respondents found by using formula from Krueckeberg and Silvers (1974), namely 67 respondents.

4. Description of study area

Case study is Batuan-Sikambang river that located in four district, namely Medan Tuntungan district, Medan Selayang district, Medan Sunggal district and Medan Petisah district (Fig.1). Path of this area are streets and bridges. Some of riverside area zones has embankment wall and some zones are not (Fig.2a). Riverside area has The river has some bridges that may hub the streets along riverside area (Fig.2b). The edge of study are consists of street and buildings. Districts in this area consists of housing, commercial, school, public facilities, green open space and sosial facilities (Fig.2c). In this area there is small green open space that facilitated with bench and vegetation (Fig.2d). Landmark of this area consists of signage, namely street signage, building signage and information signage (Fig.2e).

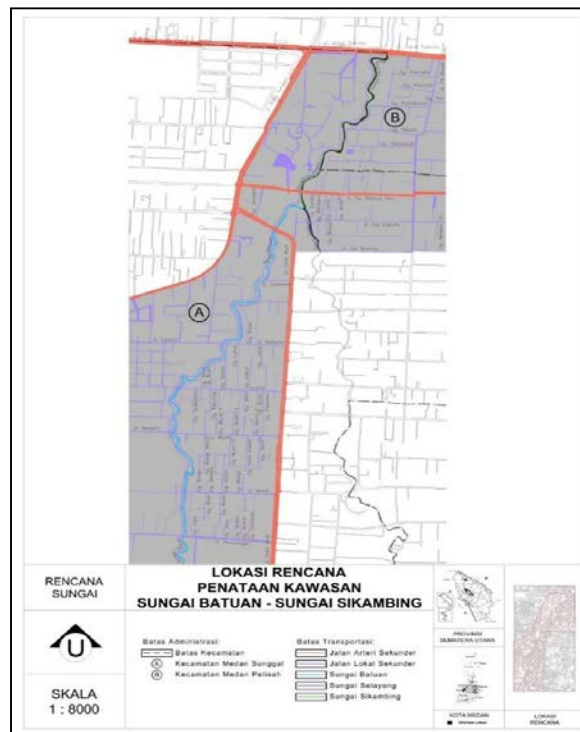


Fig.1. Study area

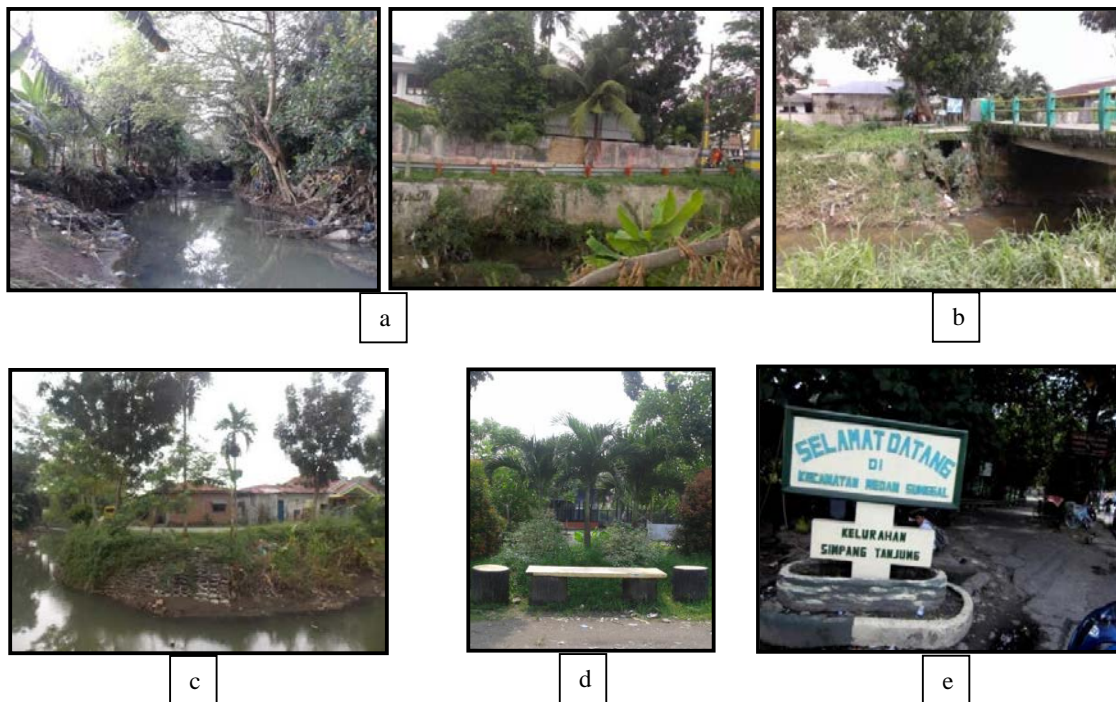


Fig.2(a) Embankment; b) Bridge; c) District; d) Node; e) Landmark

5. Analysis

Respondents who participate in this research dominated by woman (69.44%) and man (30.56%) with range of age between 40 to 49 (30.56%). Respondents dominated work in private company (52.78%) with salary <Rp.1.000.000 (55.56%) and education in junior high school (44.44%). Respondent’s perception may see on Table 1.

Table 1. Respondent’s perception

Perception	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)
Batuan-Sikambing river planned as water tourism destination	0.0	5.6	5.6	58.3	30.6
The river should use as water resources	0.0	22.2	16.7	50.0	11.1
The river should be function as water tourism destination	5.6	50.0	22.2	13.9	8.3
The river functioned as water transportation	2.8	11.1	16.7	58.3	11.1
The river used as place for bathing, washing and toilet	13.9	83.3	0.0	0.0	2.8
Riverside area merges with the landscape of the building and the	2.8	2.8	11.1	75.0	8.3

environment around the river area					
The surface of the river is designed up and down	0.0	2.8	36.1	44.4	16.7
Carried river water flow settings	2.8	2.8	8.3	75.0	11.1
Performed the maintenance of water quality of the river	0.0	0.0	0.0	69.4	30.6
The maintenance of the environment around the river area should be done	0.0	0.0	0.0	66.7	33.3
The surface of the river banks is lined with pavement	0.0	2.8	5.6	69.4	22.2

Source: Survey (2014)

Respondents agree if Batuan-Sikambing river planned as water tourism destination (58.3%). Then, this river should use as water resources (50%) and functioned as water tourism destination (58.3%). But respondents do not agree if this river used as water transportation (50%) and place to bathing, washing and toilet activities (83.3%). It means that most of respondents agree if Batuan-Sikambing river planned and functioned as water tourism destination. It is supported by research by Poedjioetami (2008) who states that river should not use for bathing, washing and toilet activities.

As many as 75% of respondents agreed if riverside area merges with the landscape of the building and the environment around the river area. Respondents who agree if the surface of the river is designed up and down are 44.4%. As many as 75% of respondents agree that carried river water flow settings. A total of 69.4% of respondents agreed that performed the maintenance of water quality of the river and as much as 66.7% agreed to do the maintenance of the environment around the river area. A total of 69.4% agreed that if the surface of the river banks are lined with pavement.

Respondents who agree if river banks serve as pedestrian paths are 75%. A total of 58.3% of respondents agreed that border the river is equipped with a ladder and as much as 52.8% agree that border the river equipped with a footbridge. As much as 27.8% respondents agree if there is a dock to transport water in this river region and 37.5% of respondents agree that there is a café tent in river border area.

As much as 80.6% respondent agree if riverside area planted with vegetation and 63.9% respondents agree if that area equipped with garden. In addition, the majority of respondents also agreed that if the river border is equipped with bridge, guardrail and artificial lighting. While as many as 47.2% of respondents do not agree if the river surface is equipped with waterfalls and as much as 50% of respondents do not agree if the river surface is equipped with fountain.

As many as 44.4% of respondents agreed that if there is an open tent and a café. Respondents who agreed that border of the river furnished like park benches, signs, trash cans information and is as much as 69.4%. A total of 44.4% of respondents agreed that river and river banks were given decorations for the celebration of national days and the area. Most respondents agreed that if the river and riverside area serve as festival attraction for religious holidays or national and local celebrations. A total of 47.2% of respondents agreed that if the river area is equipped with supporting facilities such as night markets, restaurants, cafes and others.

Table 2 show respondent's perception about people participation in riverside area. Total of 66.7% of respondents agreed to support the plan of arrangement of Batuan - Sikambing River as a tourist destination water. A total of 63.9% of respondents agreed that if the population is involved in the maintenance of water quality. Then as much as 61.1% of respondents agreed that if the population is involved in the maintenance of the region's environment around the river. The analysis results appropriate with I Made (2002) and Poedjioetami (2008) research, who states that planning of riverside area as water tourism may improve quality of life of local residents.

Table 2. Respondent's perception about people participation in riverside area

Perception	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)
People support the plan of arrangement of Batuan - Sikambang River as a tourist destination water	0.0	8.3	0.0	66.7	25.0
People is involved in the maintenance of water quality	0.0	0.0	0.0	63.9	36.1
People is involved in the maintenance of the region's environment around the river	0.0	0.0	2.8	61.1	36.1

Source: Survey (2014)

Respondents also give their suggestion that consists of three parts. First about the attempts of the population to maintain the water quality of the river and the surrounding area of Batuan – Sikambang river. Suggestions of respondents are residents do not throw garbage into the river, maintaining the cleanliness of rivers and the environment, dispose of waste in place, dissemination to the public and the policing of the importance of maintaining water quality and the environment, community involvement in efforts to preserve the environment and make the waterways themselves so as not dumped to the river.

Second regarding what facilities should be provided for the restructuring plan area of Batuan-Sikambang River as a tourist destination Sikambang river water. Suggestions of respondents are parks, jogging tracks, park benches, bins and waste transportation, relocation shelters garbage in front of the Laboratory of the Parks Department, the wifi network, public toilets, lighting or street lamp, river banks are higher than the road, guardrail, door guards river water discharge and bridges for pedestrians.

Third about what activities are necessary for the proposed plan of arrangement of Batuan -Sikambang River as a tourist destination. Feedback from respondents was gathered community activities, traditional markets, night markets, water play area for children, a floating market, cleaning rivers and mutual assistance to clean up the river.

6. Finding

Based on the analysis of the respondents' perceptions about Batuan-Sikambang River as water tourism destination, found that the majority of respondents agree if the restructuring plan activity is implemented. Respondents also agreed that if the Batuan-Sikambang river serves as water source and water tourism destination.

Respondents agreed that landscape in riverside area designed together with the building and the environment in the vicinity of the river, the river water flow regulation, maintenance of water quality, preservation of the environment around the river and riparian given pavement. Respondents also agreed that if the Batuan-Sikambang river equipped with a café open, the river banks are pedestrian paths, circulation stairs, vegetation, parks, pedestrian paths and artificial lighting.

The majority of respondents agreed that border the river is equipped with a dock, street furniture and carried out activities religious festivities and national holidays in the region Batuan-Sikambang river. In addition, Batuan-Sikambang river should be equipped with facilities such as night markets, restaurants, cafes, parks and others.

7. Conclusion

The research area has some problems, but potential to planned as water tourism destination. Conclusion of this research are:

1. Riverside area of Batuan-Sikambang river less well maintained and are not utilized properly.
2. This area has the potential to be used as water attractions.
3. River embankment wall should be given to avoid landslides.
4. This area should be laid out with a good landscape, additional facilities such as lights, benches and others.
5. Community support if the future of this area will serve as a water tourism destination.
6. Supporting facilities of water such as bridges, piers, cafes and parks, will become increasingly attractive.

7. Communities around Batuan-Sikambang river have lower-middle income level.

If this area was developed as water tourism destination it will increase employment opportunities for the local community which will improve the quality of life.

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