

**RAIN PARK DESIGNATION AS AN ENVIRONMENTAL
EDUCATIONAL TOURISM IN AIMS OF RIVER ARRANGEMENT OF
BADUNG RIVER, IN DENPASAR CITY**

I Gusti Ketut Purnaya, I Nengah Laba, I Made Trisna Semara,
Komang Ratih Tunjungsari.
Sekolah Tinggi Pariwisata Bali Internasional
igkpurnaya@gmail.com

Abstract

This research was in purpose of conserving river environment in developing sustainable tourism by empowering local community to control balance or harmony in life depends on local genius. Heterogeneous tourism potentials owned by Badung river's area to be enhanced as new attraction, within eco tourism concept. This research designated by using descriptive research, since authors explored data and information regarding topics to get in-depth data for further research. In this research, authors wanted to identify designation of rain park in order to arrange Badung river as an environmental educational tourism region. Data were collected through observations, documentation, and interview with qualitative descriptive as analysis technic. The result of the research showed the development of alternative tourist attraction, namely Rain Park in Badung's River. This tourist attraction is a part of community-based tourism that utilize element of rain and water as an attraction. Moreover, this attraction will be a viable and possible option to answer any water pollution issue among Badung river area.

Keywords : designation, rain park, attraction area, Badung River

INTRODUCTION

According to Indonesian Government law, number 38 year 2011 regarding River explained river as natural water vessel or natural water flow and or man-made, in the form of water system conduction within water, from the spring toward the stream, bordered with such a coastal line in the left and right side. As one of the watery ecosystems, river has been affected with some factors from natural and human activities in River Flow Area. River has such a big impact in term of value toward life. We could take some examples from big cities around the world have been born since the existence of river. The people will use river as irrigation system, drainage system in rainy season, drinkable water sources, etc. Because of the importance of river, then it should be emphasized that cleanliness of water in river and beautiful organization in surrounding river area.

As we know, river flows from higher into lower area that spread around cities and villages. River in the village mostly found with clearer water than what we found in the cities where the water disturbed by trash, people housing, and stink. What can be found also that some housing attached to the coastal line and sometimes take half of the river's body. The problems of river in cities challenged the local government to plan the city in order to beautify the city.

The government realized that the crucial impacts of river toward human's life. Some ways have been delegated to prevent and to manage river or to minimize any damage and return the function of river as it should be. However, the real circumstance nowadays faces contrast since most river polluted. According to Greeners.co (2016), Ministry of environment and forestry recognized that the river water's quality in Indonesia is quite unacceptable, about 68 per cents is heavily polluted. This condition caused by the domestic waste produced, directly go to river, without any treatment. The water pollution has brought harm toward human's life in short and long term.

Badung River in Denpasar city, Bali province, or in local Balinese we said '*tukad Badung*' as Badung river, as one of the rivers in Indonesia has been polluted. Badung river has played vital role for the people around Denpasar city since it flows to mostly Denpasar area. Reasoning of pollution occurred in Badung river, none of any development in Badung river happened but obstructed. Pollution comes from people's housing and waste would decrease the function of Badung river as a central water flowing system in Denpasar city. Cited from Beritabali.com (2012), shown that coastal line of Badung river or the river water's quality classified as the very dirty' category. It is indicated by the number of biotic indexes only touched 2,7 from the normal of biotic index for fresh water is 7. Another research from Eryani (2014) presented that the estuary of Badung river infected by organic sources, especially from domestic waste with Biological Oxygen Demand (BOD), as one of the water pollution indicators, in between 9.65 – 10.04 mg/1 and the Chemical Oxygen Demand (COD) between 17.12 – 25.10 mg/1. The research supported by the result of Santiari's research (2016), published that quality of Badung river's water has been exceeding from the normal quality. Moreover, the sources of water's quality decrease are non-absolute sources that are affected by housing area, agriculture activities and absolute sources from spring flows.

Some efforts have been tried to do by the government of Denpasar city in order to keep Badung river area clean. The arrangement has been created with aims to maintain cleanliness, continuity of water flows, including arranging the local community who live surround the Badung river area. Every day, there is a team for cleanness in Denpasar city who will clean, drag, and keep the trash on the river up. The government has done such a preventive action, such as widening the river, canalization and nowadays concentrate towards several flood-prone points, so that could become sanitation practices in rainy season and dry season. Reported from Baliportalnews.com (2016) Denpasar mayor, Rai Mantra brings the spring head and the estuary as an educational, recreational, spots and even to rise the economy of the local community. Also cited by the Bali Tribune (2016) that the government of Denpasar city, attempt to increase the cleanness in Denpasar's river flows and adjust the dull previous look of the coastal river line become neater as a floating market area. Floating market program formed in purpose of creating an alternative tourism attraction in the city beside getting the river cleaner.

Even some works have been passed in order to get the river's condition better, but the result were not showing the expected overcome. For example, in handling the organic waste, un-organic waste and chemical waste in Badung river, that still need intensive analysis and strategy since the quality standard of the water

river still underrated. Besides, the local community has used the river flows as a waste disposal. This could detain the arrangement of Badung river as a new alternative tourism attraction in Denpasar city.

In addition, lack of community awareness and coordination between stakeholders, compounded by natures that resulted stinky, a not-so panoramic view, lack of beach water conservation, water supply or ecosystem destruction along Badung river. If this condition is neglected, the activities in the city will be disturbed by water crisis, ecosystem extinct and tourism attraction damage. Therefore, concrete effort to develop the river function as it is needed to give benefits towards human's life, public, government and private sector. Organizing the river management could be further managing river destination concept through local genius as fundamental development.

Some attempts mentioned above created in enhancing the ecotourism. According to UNWTO, ecotourism is a tourism program in purpose to preserve surrounding environment. It is also said that the development concept in ecotourism efforts to watch the balance between nature conservation and economy. The Ecotourism Society (1993) in Arismayanti (2015:12) described ecotourism as travel to nature area in aims of conserving and sustaining nature, and not forgetting to increase the economy of locals. It can be explained that the core concept of ecotourism that takes form as tourist managed with conservation concept in order to keep the natural resources sustainable. To sum up, by evolving ecotourism, the negative effect of tourism development can be minimized and the locals could give respect and love to culture, and so does the tourist respect the local's culture, along with the respect towards natural resources (using water in a more responsible way, or in short, doing a responsible tourism as a responsible tourist).

In developing or implementing the ecotourism concepts, supporting circumstances should be also shown. For example, well-manage regulations, each stake holders participated as their position, availability of capital, capacity building along with education, marketing and good relationship with locals (Arismayanti, 2015:12). One of the concepts that can be applied on river is Rain Park as Environmental and Educational Tourism.

Recreation park is one of the unsure included in the arrangement of rain park that consists of hardscape and softscape. Utilize main elements of water, as different variety such as ponds, air fountain, and waterfall, as an inclusion. Rain also a variety of water attraction that is rarely used as design element, event it has potency and uniqueness to be developed.

Rain can be enjoyed as one of stress reliever and refresh the mind and soul. Rain can be appreciated even only from the view and also the feel. Children will be the main market target since they can play with their parents or friends. Even for adult can remind the childhood memory, too. In Bali, since the weather mostly humid and hot, rain will be more enjoyable within that weather. Since then, it will be needed any infrastructure to create the rain so that rain can be adored even not in rainy season. Rain park can be alternative tourism family attraction to feel the fresh feel of rain. Rain park tries to promote rain as one of the vital points towards park that can be utilized as refreshing place.

The location to build Rain Park is in Badung Regency, since Badung regency also has tropical season which has two seasons, dry season from April to October and rainy season (November to March), within the rainfall around 893,4 – 2.702, 6 mm. Average temperature 25 – 30 C within humidity average 79%. Situation of normal irradiation each year approximately from 64% until 89% within average irradiation number 72,6%. Tropical climate enables to get rainfall that can be taken the advantage as a rain park. In addition, the humidity also quite low in the dry season, that will be added with sun radiant increase the evaporation towards the rainpark.

Besides using natural rain, rain park in Badung regency could utilize water from the river, there are some rivers that flow in Badung regency that can be used to get the main spring. The water will be treated first before usage to keep in a normal quality of water and also keep the water in river clean after usage. Eco-friendly concept will give more added value to this rain park.

Moreover, the rain park also can be used as catchment area that will absorb and filter the polluted water. Suryandari (2012) believed that through the existency of rain park, the level of water pollution in the river could be decreased to 30%. Rain park also one of the solutions to alternate the flood issue in the city. Rain park is suitable to be applied in cities where rarely found the absorption area and fully loaded with pollution problem from the industry or vehicles.

Since the Badung river's stream is quite long, the research will be focused in the estuary. The estuary has some potentials to be developed, such as the culture, river, the reservoir system, the locals. Based on that background, authors interested in exploring about external and internal factors within understanding the strength and the opportunities, prevent the threat and also solving the weakness. So that, the development strategy can be found and gained success in developing tourism in Denpasar city through using Badung river as tourist attraction furthermore, to support the government program of creating Cultural Tourism City in Denpasar-Bali.

There are some urgencies that need to be discovered in this research such as 1) Creating possible solutions in a good and beautiful way to against environmental issues such as water resources and any environmental damage, 2) As an alternative multi function park, 3) As an absorption media, 4) To beautify the environment and attract any livings to make nature diversity in surroundings, 5) As an effort to develop alternative tourism in supporting more sustainable economy in Bali.

METHODS

This research was designed to use descriptive research because the author wanted to explore data and information regarding related topics, to obtain further research in the future. In this research, authors wanted to identify the design and arrangement of Rain Park as Environmental Educational Tourism in Managing Badung River, in Denpasar city. In collecting data, authors used observation

technique, documentation and interview while the analysis technique using descriptive qualitative.

RESULTS AND DISCUSSION

A. Rain Park Design

Designing is a creative activity, including the process in bringing to something new and more beneficial from nothing advantageous previously (Reswick, 1985). Designing is a creative loop from nowadays facts to any possibilities in the future (Page, 1986). Designing is the main proposal that can change something into something better, through three steps: Identifying problems, identifying methods to solve the problems, and solving the problems. In other words, programming, arranging design and designing (Wade, 1997). Hence, park is an area with hard and soft components that are reciprocally supportive, that is designated and made by human in the aims of place to refresh inside or outside room. Rain park is a group of plants that are planted and arranged by using rain water.

To sum up that designing the rain park can be creative activity, including process in creating a space for plants with different colours and forms and not only beneficial for aesthetic term, but also for ecology and economy. There are functions of the rain park such as :

- 1) Relatively cheap method to decrease runoff water volume since its effectively absorbs and decrease the pollutant.
- 2) Natural rain water absorption or meadow because could absorbs between 30% until 40% runoff water better than usual park.
- 3) Preserving extreme humidity and keeping nutrients concentrates such as phosphor consisted in runoff water.
- 4) Plan setting also contributed in facilitating the infiltration process of fresh water, so that conserve and fulfilling the groundwater.
- 5) Birds and butterflies gained their ideal habitat, whereas those animals could prevent mosquitos and pest.

B. Environmental Education Tourism

Educational tourism or edutourism is a program where tourist visit an attraction with main purpose to get experience by direct learning in the tourism object (Rodger, 1998:28). According to Directorate General PHKA edutourism is a diversified tourist attraction from ecotourism in order to widen and creating more ecotourism (Ditjen PHKA, 2001). Because of edutourism is a subtype of ecotourism so the development will still be using basically ecotourism concept. According to

Wood (2002: 28), ecotourism has some fundamentals characteristic as it mentioned below:

- 1) Conserving surrounding environment, nature and local culture.
- 2) Minimal effect toward nature in construction and operational.
- 3) Adopting local context in culture, physical appearance, for example architecture will be following landscape, form and local color.
- 4) Minimize the consumption of water and using alternative way to get the source of water.
- 5) Waste treatment carefully.
- 6) Fulfill energy needs using passive designed infrastructure.
- 7) Cooperate with locals during managing and building up period.
- 8) Offering qualified programs regarding education regarding nature and local culture toward human resources and tourists.
- 9) Accommodate every research programs in accordance with contribution of edutourism toward sustainable development in the site.

Meanwhile the criteria for edutourism destination in countries such as :

- 1) Region or area is used to be as beneficial purpose regarding managing proposals, such as area for mountain park, lake park, beach park or sea park.
- 2) Used zone in national parks such as conservation forest and conservation park.
- 3) Park for hunting, according proposal plan of managing hunting park.

C. Arrangement of Badung River

Badung river is very well-known since its passed the Kumbasari market, the largest or central market in Denpasar and also passed the Gajah Mada street (central activities in the city). According Irianto (2017), Flowing Area for River geographically is suitable to develop a tourist attraction, especially using water as main opportunity, since passing in the heart of Denpasar city. This river is directly bordering the city. As mentioned above, Badung river affected negative impacts from human's life, such as waste and pollution.

Denpasar government has been arranged and creating policy regarding Badung river as an attraction. It is shown in the local law of Denpasar number 27 year 2011 about Proposal of urban planning in Denpasar city from 2011 until 2031. The plan to develop the strategic area, in fifth paragraph mentioned about area for

tourism purpose from points 47 sub 1 about area for tourism as mentioned in points 43 sub (1) phase d, that :

- 1) Tourism area
- 2) Tourism accommodation and facilities
- 3) Tourism object and attraction, cultural attraction, natural attraction and man-made attraction.

The ideas to create Badung river as an attraction is redefined in points 7 and clearly mentioned the purpose of the water recreation.

Implementation from the policy is arrangement of the Badung inspired by one of the Korean river, namely Cheonggyecheon in Seoul, South Korea by Dinas PU and Housing in Denpasar city. The project has been done from 22nd of June 2017. Badung arrangement expenses approximately 5 Millyard Indonesian Rupiahs or to be exact IDR 5.015.206.000. The project is about put paving in the left and right side of the coastal line in Badung river, start from Gajah Mada street Denpasar until 120 meters to South. Kumabasari Park also fulfilled with supporting facilities such as seats, fountains, lights, jogging track and paintings. The project is still ongoing and the arrangement will be done in the estuary of Badung river. Another potentials revealed in Badung River is the shopping tourism and can be developed by an urban development.

In addition to the arrangement, Badung river as potentials in creating Rain Park in Badung River as an alternative of tourism development. Man-made rain can utilize water from the dry season so that the rain park can be always open. Using international standard but applying traditional Balinese architecture with blending mostly natural materials, rain park will be built to emphasize the element of water from rain. In order to differ rain park from other park is the element of water that is mainly used and being a main softscape. The core concept is to give a place to kids where they can make themselves wet with man-made rain or natural rain with fountain or outburst water continuously or only in some seconds. Targeted visitors are kids between 5 until 12 years old and of course under supervision of their parents, teenager between 13 until 15 years old and continuously from 16 years old and adult. The management of the Rain Park Attraction is local community. Based on locals participation in proposing, managing and the application.

The management system in Rain Park Attraction in Badung river is empowering locals to keep, conserve and preserve the river so that not throwing waste into the river. As it is already mentioned in the Local law in Bali Province number 1 year 2017 about Conserving and Managing Environment, in section X about the locals' role :

- 1) Locals have the same opportunity and as wide as everyone in participating actively in conserving and managing environment.
- 2) Locals' role can be :
 - a. Social surveillance

- b. Giving any suggestion, opinions, recommendation, critics or
 - c. Distributing information or report
- 3) Locals' role in aims of: nowadays
- a. Increase the awareness of conserving and managing environment;
 - b. Enhance independence level, empowering and partnership;
 - c. Developing ability and pioneer of locals;
 - d. Developing perceptiveness of locals in social managing
 - e. Developing and conserving the culture and local genius in order to preserve environment function.

Managing attraction based on community is an effort that taking community role as the main function. The facts that the community has the experience and knowledge in evolving culture and nature become a value toward tourism attraction. Through involving local community in this project, will show that their right is eligible to develop their potentials culture. By developing the program, it also opens opportunity for increasing economy level of the community. Using local ownership concept, community could create committee or institution in order to manage and arrange the rain park educational environmental attraction. Local ownership concept will be applied in constructing the related facilities and the details. The principal concept should be functional toward the continuity of the community's live, for example, the entrance fee and the responsibilities to conserve the facilities.

There are some arrangements regarding educational environmental rain park in River Badung should include some points such as:

- 1) Recreation activities, is the main purpose of Badung river's rain park so that everyone can play with the rain, or any attraction involving the main source of water, namely water sliding, playing in the man-made river, playing soccer in the rain, playing in the other section to learn and conserve the open space.
- 2) Supporting activities in order to maximize and optimize the recreation activities. The supporting activities can be preparation before playing with the rain (clothes changing and making themselves wet first), resting after playing, eating and drinking, using toilets, health control, controlling the children who play, buying souvenirs, then rinse out their body afterward leaving from the parking lot.
- 3) Service activities, are activities to serve the visitors in recreation or supporting activities. The activities could be pick-up service, ticket selling, operational for technical and functional of the machinery such as for the water pump, providing facilities such as ball and boat for the attraction in man-made, food and beverage services, cleaning service, keeping the visitors'

service, keeping the security for visitors and facilities, providing and selling souvenirs.

4) Managing activities will be completed by the management consists of surveillance toward rain park facilities, customer service, selling and providing souvenirs.

CONCLUSIONS

Rain Park Educational and Environmental as an Alternative Tourism in the city has its uniqueness by using mostly river water and local community involvement. The main attraction of the rain park is the activities in it. The core functions of the attraction are empowering and developing the local community. Furthermore, the attraction itself can bring positive impacts toward human's life in surrounding and the nature. Afterward, by developing local community to strengthen the local manpower and culture, the pollution issue from dismissed waste management in the Badung river will be revealed.

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