Water Based Tourism and Recreation Challenges in West Java Province

R M Wirakusuma*
Management of Resort and Leisure Program, Faculty of Social Sciences Education, Universitas Pendidikan Indonesia

*reizamiftah@upi.edu

Abstract. This Research examine the opportunity of recreation in West Java Province Water Based Tourism which has been associated as River Tubing. The popularity of Tourist Attraction in this province was getting increased since inter regency infrastructure were widely finished in 2016. Mobility of domestic tourists were intense during school and public holiday align with multiple injuries and accident. Furthermore, the government should be aware to create multiple choice of policy to create secondary tourist attractions. The methods were using ARCMap for Mapping survey to identify zone intensity and GPS to determine points of interest. The focus of this research was classifying and developing Water Based Tourism Activity such as White-water Rafting, River Tubing, Snorkelling, Boating and other possible activities. Temporary result of this research will be beneficiary for operator to create new activities in order decreasing high demand during peak season.

1. Introduction
West Java is one of a province that has various interesting tourist destinations, and all of them are integrated because of cooperation between government agencies, between various administrative levels of government, between same-level autonomous polities, and between the public and private sectors [1]. This province tourism potential is very attractive for foreign and domestic tourists.

Indonesia as an archipelago country with many islands [2] as well as the diversity of regional local landscape are the major attraction for tourism. Competitiveness of this natural resources will remain sustain if used and developed in accordance with the unique value and its capacity [3].

One of the tourist attractions are the rivers, streams and rapids [4] in one single integrated tourism destinations. Nowadays, White-water rafting and kayaking are growing exponentially in popularity, with almost 10 million rafters and 2 to 3 million kayakers, yet little has been published concerning the safety or hazards of these activities [5].

Furthermore, these opportunities to create business in these activities will be lost if the exploitation are continued irresponsibly thus eliminating the value of its appeal.

In this case, tourist operators were always using peak season moment [6] to mine the profit and put aside safety and regulation. During peak season happens during public and school holiday, so the demand will be very high and operators were lacking human resources. This accident will eventually have happened from human error.

In order to improve the quality of products, services and management and business competitiveness rafting tour, the administration shall meet the standards of this Ministry Decree. All of the provisions
regarding the general business rafting tours, certificates and certification of rafting tour, guidance and supervision as well as administrative sanctions. [7].

Even though it is quite different form white-water rafting, the river tubing used very similar equipment. Water tubing is a kind of activity of rafting but do not use a rubber boat as usual, but use old tires as a medium [8].

This activity is relatively safe, but somehow has been reportedly dangerous, because 13 people died in Storms River Tubing in South Africa in year 2000 [9]. Other place in Indonesia, such as Gunung Kidul, Yogyakarta Province, River Tubing Goa Pindul has been the most popular destinations but mediocre in carrying capacity and environmentally tormented [10]. This is the main focus of the research, to analyse challenges in water based tourism and recreation.

2. Methods
The method used in this study is a qualitative descriptive method that went through a field survey approach [11]. This method to investigate if the water based tourism cluster is suitable for further improvement. The survey was addressed to 3 Rafting / River Tubing Operator such as Citumang, Santirah River Rafting and Ngaprak River Adventure. Furthermore, to gather specific information this research was conducted by in depth interview for top management leader of tourism community (Kelompok Penggerak Pariwisata). This research were adopting descriptive research it seeks to tell solving existing problems based on data - data and verification basically wanted to test the truth of field data collection [12]. Analysis of the potential tourist attraction and existing facilities are conducted to get preliminary information about the objects. Field observation was conducted to define the potential of what kind of resources contained in a location. Afterwards the possibility becomes the touristic spot with due regard to the concept of sustainable and beauty.

3. Results and Discussion
The result from this research is the comparison of business unit between 3 major River Tubing Operator which has been surprisingly popular in West Java Province. The operator is Ngaprak River Adventure, Citumang Body Rafting, and Santirah River Adventure.

3.1. Ngaprak river adventure
Located in Purwakarta Regency, middle part of West Java Province.

![Image](https://via.placeholder.com/150)

Figure 1. Ngaprak river adventure, Wanayasa, Purwakarta Regency.
Source: Personal Documentation (March, 2017).

It is one of natural tourist attraction with so many rapid and eddies that has been developed by local youth organization (Karang Taruna), however the operator should improve basic facilities such as toilet. Map of Water Based Recreation in Cikondang River, managed by Ngaprak River (Figure 2) is explaining the starting, middle and ending point with white and black flag.
3.2. Citumang body rafting
Situated in Pangandaran Regency, Citumang Village and surrounded by the Karst Morphology. Started as local community business, Citumang is getting famous significantly. It was estimated visited by 6000 tourists per month by the end of 2016 [13]. But unfortunately, there was fatal accident, 1 tourist died in peak season, in year 2016.

This tourist attraction is able to be ride within 2 until 3 hours’ maximum. There are so many rapids, eddies in one halfway of river tubing and also slow current on the rest. One of the most popular point of interest is cliff jumping in the middle of the tour. The height of the cliff is approximately 10 meters and plunge spot is exactly at the front of the cave. All of tourist facilities are well maintained and

Figure 2. Map of water based recreation analysis in Cikondang and Ciherang River.

Figure 3. Citumang river tubing accident.
Source: http://www.harapanrakyat.com/2016/07/3-wisatawan-tenggelam-di-obwis-citumang-pangandaran-satu-orang-tewas/
adjusted with tourist basic necessities such as toilet, parking lot, pickup services, restaurant, ticket and information services. It is shown as a figure in detailed map below: Map of Circulation Visitor, Managed by Citumang Body Rafting (Figure 4).

![Visitor circulation map of Citumang tourism cluster.](image)

3.3. Santirah river adventure
Located in Pangandaran Regency, Selasari Village which is one of the touristic enclave in southern West Java Province.

![Santirah river tubing adventure.](image)

Santirah River Tubing is expected to have the facilities and infrastructure facilities that support, but for the moment still inadequate. River Tubing is an adrenaline activity tourist with exciting rapids and river bend. For tourists who like sports this activity is highly recommended to be used as an alternative adventure during leisure / holiday, according to Rahmafitria et all. [14] . It has figure with the map down below.: Map of Visitor Circulation in Selasari Village, Managed by Santirah River Tubing (Figure. 6). This map below explained starting, middle and ending point of river tubing with its point
of interests. The map shown, the result from survey with blue circle for point of interests such as (Stalactites, stalagmite, eddies, waterfalls, and animal nest). The other blue arrow shown dangerous points such as steep waterfalls, crooked river boulder, edgy stone river and strong current. These points might be useful in a form of interpretation to be used by local guide and the tourist itself. They will be more aware if properly brief in the beginning of adventure.

![Map of Visitor Circulation](image)

**Figure 6.** Visitor circulation map Santirah Tourist Area Selasari Village, Pangandaran District.

For further explanation, table 1 will describe the differences between those three (3) river-based recreation.

| River Based Recreation | Ngaprap | Citumang | Santirah |
|------------------------|---------|----------|----------|
| Operator               | Community Based in Legal Company | Local Company | Community Based |
| Topography             | Hillside riverbanks | Slightly steep | Sloping with various caverns 10 rapids |
| Rapid                  | 23 rapids | 12 rapids | |
| Point of Interest      | Shallow and quick rapid | Eddies, Cliff jumping | Cave Tubing, Cliff Jumping, lavish canyons Drowning |
| Potential Hazard       | Edgy River Rocks Every river turn | Drowning Cliff Jumping 6000 pax | Drowning Cave 7500 pax |
| Hazard Location        | | | |
| Highest Number of Visitor per month | 1670 Pax | | |
| Accident Occurred      | Bruises, muscle sprained | 3 people died from 2009 until 2016 | Blisters, Bump, Bruises |

According to Tisnasomatri [15] a river is a mass of water which naturally flow through the valley. River also reference as a natural drainage and disembogue in the lake and ocean. This dynamic cycle
could not be separate and influence each other in a hydrology cycle [16]. Numerous of sport recreation activities that popular.

Nowadays white-water rafting activities was supervised by the International Rafting Federation (IRF). This organization noted that rafting is a human activities sail through the river using special skills and physical power in paddle the boat in term of social, commercial or sport activities. Sport recreation activities are included on special interest tourism. Special interest tourism and adventure tourism doesn’t require large scale or even greatly expensive development of facilities and infrastructure [17] in [18]. Special interest tourism is also related with a goal to enriching tourist knowledge, especially for those who traveling to remote and nature area. This kind of travelling also give an experience of rewarding nature, culture and social environment. The tourists are having specific motivation, high curiosity to learn and contact with local nature and culture. However, the development should consider natural resources capacity and the quality of local community human resources as the management [19]. The development of this area should be done in two ways, first of all is physical master plan and second is human resources guidance [20].

4. Conclusion
Ngaprak River Adventure, Citumang Body Rafting, and Santirah River Rafting has high potential to be developed as water-based popular tourism destination in West Java. Local community were pleased from the income that has generated by the tourist visit per day. They could afford so many fortune because the number of visit reached almost 7000 person per-month in high season. However, there were so many accidents occurred within first year opened to the public. The accident was varied from light bruises, until drowning which happened in Citumang River Tubing with the cause of human error, lack of supervision and uncontrolled visit.

This accident should be reduced if the operator is following business standard from Tourism Ministry in river rafting. The guidance is referring to the training of safety procedure in sport recreation and service quality to elevate tourist expectation in river rafting. In this research, there are maps that could be useful in identifying dangerous spots and point of interests. Furthermore, the tourist and guides not only educated, but also increasing awareness if they are going into dangerous bend, eddies or cliffs.

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