Designing Tiban island as tourist destination and sustainable coastal in Bleder village

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Abstract. This study is on tourism development process, which involves the function of local potential tourist attraction confronted to the needs for area natural conservation. The study location is a village called Bleder, or Kartika Jaya, in Patebon sub district, Kendal regency Central Java. The research unit is the management of a sandy island called “pulau tiban” or ‘suddenly appears island’, and village’s surrounding area. Qualitative methods approach is utilized in order to understand the village situation, community social economy activities toward the sandy island, and the meaning of that sandy island for the village sustainability. The study result shows that some problems have evident in the exploitation of natural potential for tourist attraction as confronted to environment conservation. Conflict of interests have also emerged among groups of people and group to group regarding the management of tourism attraction. To deal with the problems, comprehensive program is proposed especially to increase community’s awareness on sustainable tourism, marine and coastal conservation, and the benefit and risk of ecotourism. For Bleder tourism development, the community need to concern to their village environmental safety more than on economic benefit purpose only.

1. Background
Kendal coastal area is very important area since it encompasses 23 villages stretching from west to east around 41 km long. The coastal area of Kendal is covered almost entirely by mangrove plants that serve to prevent the land from sea water erosion or abrasion. This coastal also serves as the habitat for northern Java coastal’s flora and fauna. Among all sub districts of Kendal, there is one called Patebon sub-district, a coastal area which is considered as always faces and had experienced the disaster and risk of tidal wave and sea water abrasion, located at the far north east of Kendal. The area had lost almost 4 hectares of its brackish water ponds caused by sea water abrasion. The mangrove forest in Patebon becomes area’s landscape distinction. There is a large mangrove nursery located in Bleder or Kartika Jaya village which supplies other locals for mangrove plant demand, such as Semarang. There are also mangrove nursery in households scale in the village. Bleder or Kartika Jaya is an unusual settlement, since it was dedicated as a local transmigration site for a group of retired Indonesian military members and their family. The settlement then is named as Kartika Jaya village. Recent population of Kartika Jaya is heterogeneous with occupation consists of farmers, fishermen, factory workers, private employees, and civil servants. Even though located at the beach, only less than...
10 percentage of Kartika Jaya population work as fishermen. The main product of Kartika Jaya is agriculture. The village is also known as Bleder beach as it is the place of an estuary of two rivers. Bleder beach is close to one natural object, the sandy land arising from the sea, an accretion, called pulau Tiban. The meaning of “pulau” is island, and “Tiban” in Javanese means ‘appeared suddenly’. The island has triggered outsider curiosity to visit and they enter the location through Kartika Jaya village access. Today, the sandy island grows as one marine tourism attraction in Kendal. Physically, Tiban island is a coastal sediment in the form of sand bar, with average 50 meters width and about 1 km length. The distance from kartika jaya coastline is about 200 meters and the sea depth between the beach to the Tiban island location is not more than 1 to 2 meters. After the sea pines and mangrove trees are planted, the island grows stable with the width and length increasing along with sandy land accumulation.

![Map of Kendal regency](image)

**Figure 1.** Map of Kendal regency

2. **Problems**

Pulau Tiban position is in between the Java Sea and the Bleder beach, in the form of tiny sandy island heading a lagoon surrounded by mangrove forest. A village tourism in Kartika Jaya has grown since the gosong, or sandy land arise on the coastal, is known locally. The tourism service is managed by the village community, that is the tourism awareness group or ‘kelompok sadarwisata’ (pokdarwis). The Bleder pokdarwis has been established in 2006 and named as Pokdarwis Kartika Beach. It has two divisions. One division is to handle tourist boat as transportation to go back and forth to the Tiban Island, while the other division is to do the conservation task to plant mangrove to save the coastal environment on the island, at the inland shoreline and along the river bank. There are about 200 visitors per day during weekend and holidays, and the ticket price for the boat is Rp.20.000 for modern boat and Rp.14.000 for traditional boat. This scheme has indicated income generation from boat transportation. To increase the visitor safety and convenience, the village's tourism awareness group has been taught the basic save and rescue technique (SAR) and given guidance or training in the basic principle of tourism including institutional organization, home stay management, English for tour guide, etc.

There are some development that have been made by the local people themselves, such as building modest public infrastructure such as: simple hut or gazebo as a place to rest, humble public toilet, little mosque, and food and beverage stalls on Tiban island. The other division, has gain income from the
mangrove nursery, but the amount is very small. Each plant, a seed or ‘young mangrove’ price is only 300 rupiahs and the group members must work hard to put each young plant into plastic bags to transport to other place when it is sold. It can be done after the young mangrove is strong enough to be moved from the nursery. It takes more than a month, and the market is scarce. In the mean time, there is no clear relation between the money accrued from tourist boat and from mangrove nursery, since nobody mention the dividing or shared income from both division organised in the kelompok or group. Each group has its system on income distribution. One member of conservation division had mentioned that he did not against the growing of visitors to the island but it has caused more hardship in maintaining the environment sustainability of the island, such effort without enough budget.

![Map of and the location of Patebon subdistrict](image)

Figure 2. Map of and the location of Patebon subdistrict

3. **Objective**

The purpose of this research is to evaluate the process of the development of the disaster-prone settlement to be a tourist destination based on its natural attraction and assess its development direction. Evaluation of the resent development is done to get information on the risk and benefit of community based tourism utilizing natural potential. Assessment towards the potential for the tourism business sustainability is done by learning its current opportunities such as the growing number of visitor and activities supporting the village tourism in relation to its basic environment. On the other hand, threats are also identified through activities which against environment sustainability and its impact. In Tiban island case, the impact of tourism activities on coastal preservation and village settlement sustainability. Since the problems associated with coastal in general may occur in all coastal villages along the Java coastline, the results obtained from the field can be exampled.
4. Theory and Concept

4.1. Principles and concepts of tourism development

There are some concepts on planning and design especially related to tourism development that used to serve this study, i.e: a) Design, tourism planning, and feasibility ownership, business permit, etc. b).Spatial/landuse technical aspect, this aspect will do the inventory on layout and land use. Further is mapping the potentials and infrastructure. c).Socio economics aspect, that is related to the economic structure and its capacity to accommodate the needs of the area development and its business multiplier effect. d).Environmental impact aspect, which relates to the needs to analyse the impact of tourism activities to natural resources and it influences to the people living condition and their physical environment. Gunn’s model on tourism development which is based on regional factor, exposes the area geography and spatial aspect a lots. One of the four major phases of the planning work is a research of geographic position, related to its content and its landscape expression, by which the domination of the landscape will be the location distinction [1]

4.2. Holistic approach in designing tourism destination

Fagense (1991) in Gunn [2] offers a new tool in his time, on the spatial aspect of tourism which help him to identify the suitability of tourism destination zone design. The geographical framework he provided was able to express the spatial aspects of location. The most relevant to the environment issuehe worked on is that the tool help to more efficiently identify location of zone for tourism development, to maximize the utilization of indigenous spatial, economic and environmental resources and to pursue specialization and balance to achieve optimization of the realistic opportunities. Further, Fagense’s insight tool can help in formulating integrated strategy to accommodate the local to national initiative in entrepreneurial at local level so as to provide a context of investment and development confidence, and so as to coordinate transportation, communication, utility infrastructure, and public capital work programme [2]. According to Gunn, the strength of Fagense’s approach is:”...its practical applicability which emphasizes tourism management tool that are not only spatially sound but also are related to local integration, business success, and environmental protection...” [2].
5. Methods
A qualitative approach is used to have a better understanding on the growing situation in the field. The main observational unit is the physical area of Kartika Jaya or Bleler village and the pattern of economic activity of the community especially in village based tourism. Data used are primary and secondary. The primary data is obtained by conducting interviews and observing the activities of the informen consisted of the tourism awareness group, village apparatus, and the community which is divided into groups: local people, the residents involved in tourism activities (food stall, boat tours, homestays), and visitors whom exclusively comes to see the island. The analysis mainly is to evaluating developments and assessing the impact of the current situation. Theories and concepts used to assist the analysis consist of the concepts of tourism planning, environmental sustainability, and conservation-based tourism program and activities design. Tourism development link to the design program concerned with the real situation of the village observed. This research aim is to find the way in designing tourism development activities in the form of a sustainable community-based tourism, in a coastal village in Central Java, as well as the need to conserve it physical environment. The process of thinking pattern is illustrated as shown in the mindset flow chart figure.

![Figure 4. Thinking pattern](image)

6. Results and discussion

6.1. Results

6.1.1. Village social economic potentials. Kartika Jaya village has various potentials of natural and especially of cultural assets. There are some of the untapped existing potentials that still need to be dig further to be utilized as the attraction and way to conserve the Tiban Island. (see table 1).
Table 1. Kartika Jaya’s village natural potential and its utilization level

| Current Location       | Condition | Utilization rate | General Trend           | Future Prospect                                      |
|------------------------|-----------|------------------|-------------------------|------------------------------------------------------|
| Tiban Islan            | Good      | High             | Most visited object     | Without control will capable to damage the island    |
| Forest and Mangrove    | Good      | Low              | Not yet dig and utilize | Potential to be developed as new attraction          |
| cluster                |           |                  |                         |                                                      |
| River as attraction    | Poor      | Low              | Not yet utilized        | Potential to be developed as new attraction          |
| Bledder beach lagoon   | Good      | Low              | Not yet utilized        | Potential to be developed as new attraction          |

6.1.2. Problems related to village tourism development. Problems found in the real condition consist of village infrastructure, conflict among groups, and other related to public facilities and environment knowledge of the people (see Table 2)

Table 2. Problems found at the site

| Problems                              | Real conditions                                                                 |
|---------------------------------------|---------------------------------------------------------------------------------|
| Poor infrastructure                   | Small and damage road, only limited traditional rural transport available up to a certain point outside the village, The access pass through the conflicting village. |
| Internal conflict of interest         | Different perception between conservation groups and tourism group.             |
| Eksternal conflict                    | Conflict Between Kartika Jaya and Wonosari village regarding the possession and tourism benefit from Tiban Island |
| No Source of clean water              | Clean water are taken from the village to the island for the public toilet and the food and beverage stall’s requirement |
| Conservation and visitor management  | Low knowledge on sustainable tourism on the visitors and management sides, the knowledge which required for environment conservation and visitor management. |

6.2. Discussion

6.2.1. Regulation based the development of tourism on the coastal. The practice of coastal management and sustainability in Indonesia is ruled by the country regulation especially the Law number 27 year 2007 on Coastal and Small Island Management which must be consulted in Tiban island case. For the coastal tourism development case, the rule of HP3 or Hak Pengusahaan Perairan Pesisir (the right for utilizing and managing coastal) and the need on coastal area conservation, in order to protect the environment resource while there also many efforts to use it. In this law, it is defined that the coastal line is a shoreland or coastal physical border in a proporsional width, minimum 100 meters away to the inland measured from the highest sea water level surface. This position then is used as the main theme or focus for environment issue in the evaluation of existing Tiban island tourism activity since the community have exploited the coastal right in the 0 meter
borderline seawater surface level. In the concepts, the protection of shoreline with mangrove plants and all regulations about it is intended to prevent the inland from any coastal disaster by either human activity or natural causes. The protection through disaster mitigation might be done physically or structurally, and solved with construction or vegetation program. The protection and rehabilitation is done in order to lift the coastal carrying capacity to give more space for human and other living creatures to life. In the community level, this regulation is not only does offer an understanding and knowledge about a better environment, but forces the community to involve in guarding and protecting the coastal, and also limits them from destructive actions. When the coastal is supposed to give them the highest benefit from any related business activity, they tend to ignore the regulation when doing their business there. Basically, they must know and understand the risk if they broke the regulation. The usual activity unconform with the regulation on coastal sustainability done in the field of tourism are: - developing tourism activity in the prohibited area, include building permanently physical infrastructure without permission-littering on the beach, - disrupting the coral reef complex, - cutting mangrove plants or disrupting the mangrove ecosystem, - fishing using inappropriate tool like fish-bom, and the likes as prohibited or against the coastal ecological function. Beside of this law, there are regulations that support and give detail explanation on the main law, to guide and direct further regulation application in the field. Based on the cases, many more regulations must be consulted by the community before they run tourism industrial or business activities. Similarly, many regulations and programs must be looked over and learned before designing tourism activity development, wheter it is in the coastal, on the beach, or inland.

6.2.2. Programs potential at Tiban island. Ecologically, Tiban island functions as a coastal belt from seawater abrasion for the Kartika Jaya. When Tiban island is treated as tourist attraction or destination then it has to follow the tourism business regulation and has to choose the standard for ecotourism. There are at least three reasons to further develop tourism in Tiban island: economic calculation on benefit and cost, infrastructure for serving visitors, and appropriate activities for conservation site and its proper management. First, related to the economic concept of tourism business which rely on the greater number of nature uniqueness. The benefits depend on the cost and income that comes from visitors. Costs incurred will be used to increase access and transportation, and it will require greater number of the motor boat. Unfortunately, the more motor boats operated, the more vulnerable condition of the river wall embankment due to heavily exposed to the rip current of the modern motor boat. It also means more cost required to reinforce the riverside bank from the village to the lagoon of Tiban island, which of course can not be covered by income accumulated from boat ticket prices. Secondly is related to the infrastructure provision to serve the market segment. Aside of the touring type of visit, meant shorter time, the stall will not much required by visitor who usually are characterized as allocentricist. Third, related to the design of tourism activities in environmentally conserved area. Knowledge on the land utilization regulation, community land ownership, village power on the arise land on the sea or a gosong, an accretion, the environment conservation knowledge of community, the impact of increasing tourist arrivals on the economic activities of the village and on the environmental conditions. The question is then on what kind of design is most appropriate for Tiban island alike condition. Protected areas are surely not the recommended places for tourism, especially for the mass tourism type activities. Nevertheless there is still space that can be utilized for tourism business, in the form of special interest tourism activities. Tourism activities in the protected areas or restricted areas are included in ecotourism. In the case of tourism business managed by the community, as the Kartika Jaya case, the most important is the sustainability of business and forever existent of tourism assets, whether it is cultural assets, or natural assets. Public commitment must be drawn and agreed by Kartika Jaya’s villagers, to save Tiban island ecosystem and its main function, to prevent the village and its surrounding from sea water abrasion disaster. Therefore what needs to be done by Kartika Jaya and the surrounding village, is to free the island from the burden of mass visits but still make it as the site for coastal study and marine research. The final question might
be on how to increase the benefit from environment to lift income and welfare of the whole local community through limited tourism activities without disturbing the function of the nature. In Tiban island case, the answer will need more creative thinking using local potentials and done by the locals themselves. The first thing proposed is on creating ecotourism and agrotourism attractions, then trying to manage the attraction for the village community welfare. Based on the village geographical situation, some of the village economic potentials are worthed to be developed as means to develop Kartika Jaya as a village for special interest tourism destination. In example, as the village has two rivers, it can be used for river tracking activity program while heading to Tiban island using traditional boat and many other aquaculture ideas. In one hand, it will widen the village economic growth and people income through opening employment opportunity for mangrove group activists, home industry producers, village culinary business, ponds and other fishing culture owners, etc. In the other hand, the activities will trigger the village toward development as a tourism destination by involving the whole member of community and pose the village as the service zone of the Tiban island. In addition, Bleder beach mangrove forest can also be used as a place to learn in mangrove planting and nursing maintenance. Many home industries that have already operated related to mangrove product such as batik processing, mangrove crackers (tancang) production process, culinary based on brackishwater fish or aquaculture product, and some curiousity goods made of sea shell, mangrove, or sea pine seed. All of those are included in attraction definition, the first ingredient in the concept of tourist development. The second ingredients is on access which is served by the traditional boat and other village ecofriendly vehicle. This is not easy, since it needs to change the mindset of motorcycle and motorboat users. The third ingredient of principle of the tourism development concept, is the amenities in the form of accomodation, such as homestays, food and beverage, rest areas, etc.

7. Conclusion

7.1. The concluding remarks
Based on the field findings and discussion, it can be concluded, that: First, the tourism activities of Tiban Island as a marine tourism object on the coast of Bleder, tend to influence the environment with the negative impact such as, erosion along the riverside up to Tiban island pier, and the sea pine trees logging to establish the food stalls on the Tiban island to serve visitors. The cost of rehabilitation will be greater than the income yield obtained today. In addition, the coastal disaster may happen because of the damage caused by human error and nature will. Second, claim by Wonosari village people that Tiban island was and is part of the Wonosari village due to its past location was within the boundary of their lost ponds as abrasion impact, need to be solved and explained legally and formally by government institution related, to eliminate the possible growth of grassroot conflict seed. Basically, the new land that arises on the sea or accretion, is to be owned by the central government, must be reported to the ministry of landuse and spatial planning, and managed under the authority of the marine fisheries ministry and the forest and environment ministry. By this limitation, the Tiban island formally is an orphan, not owned by either Bleder Kartika Jaya nor Wonosari community or each village administration. Third, the village settlement can be developed to be tourism destination, as replacement or substitution of Tiban island, by creating various tourist attractions inland. When Tiban island is treated as the magnet, the village settlement can be designed as tourist services zone. This will need for feasibility studies on village readiness, the availability of infrastructure, either the existing, the need for reconstruction or provision for the new one, and improving the skills of the community’s tourism awareness group members on ecotourism and visitor management.

7.2. Further actions recommended
There are alternatives for developing Tiban island sectracking activity and Kartika Jaya village ecotourism, such as: First, tourism in Kartika Jaya or Bleder village can still be developed by utilizing the safe zone in the village. Basically, all Kendal coastal area is defined as conservation area for avoiding seawater abrasion disaster, therefore Tiban island cannot be developed for mass tourism.
However, it is still possible to be designed for limited visitor tourism object, considering the ecological function of the island as a natural abrasion inhibitor for the surrounding environment. Second, the need to continuously monitor and to measure the conservation level conducted by mangrove and environmental groups, as an effort to maintain the assets of nature tourism, while protecting the island from further damage. Third, the need to empower village community by providing assistance and coaching, guidance and training especially to the existing tourism awareness group, concerning environment friendly tourist attractions, in order to establish skill on tourism and visitor management inline with environment management. Fourth, the need to built a stronger cooperation with the neighboring coastal villages along the coast of Kendal since those areas considered as a conservation zone that needs to be protected together. Fifth, utilization of other geographic potentials such as rivers, forests, etc. must be carefully planned to avoid another new environment disruption. Further detailed research is required to determine the potential and zones of village settlement, or between villages, that can be used for mass tourism or agrotourism activities while utilizing the Tiban Island as a learning spot on marine ecology and coastal conservation or other eco tourism activities.

References
[1] Gunn C A 1994. Tourism Planning Basics, Concepts, Case, vol 3 (Washington DC: Taylor and Francis) p 120-127
[2] Gunn C A 1994. Tourism Planning Basics, Concepts, Case, vol 3 (Washington DC: Taylor and Francis) p 119-120
[3] Regulation of Indonesian Republic, Act Number 27 Year 2007, Concerning Coastal Area and Small Island Management.

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