

**AREA DEVELOPMENT BASED ON CONSERVATION
AND ECOTOURISM ON THE CEMARA BEACH
(PINE TREES BEACH), PAKIS, BANYUWANGI,
EAST JAVA PROVINCE, INDONESIA**

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Abstract

*Cemara Beach (Pine Trees Beach) is one of the important and vulnerable coastal area with ecotourism development potential in Banyuwangi Regency. Along the coastline of Cemara Beach with tropical weather and black sandy areas is a perfect place for nesting of two endangered species, are the Olive Ridley turtle (*Lepidochelysolivacea*) and the Green Sea Turtle (*Cheloniamydas*). The purpose of the development plan of CemaraBeach is to provide the framework and a strategy which guides all new development in Cemara Beach based on conservation and ecotourism. Researchers used descriptive method in this study. The primary data were collected throughout field visit and interviews to understand the current situation and*

the real condition in Cemara Beach. Additionally, the concept of shared-learning and Focus Group Discussion are used to develop strategic and action plans. The development strategies are: 1) Environmental aspects included the prevention of environmental pollution due to industrial waste, the prevention of damage to coastal ecosystems, erosion control and sedimentation; 2) Improvement of people's welfare; 3) Regulation and law enforcement; 4) Capacity building and human resources; 5) Increased infrastructure; 6) Institutional development of the management area.

Keywords: Ecotourism, conservation, coastal, turtle, development

INTRODUCTION

Banyuwangi Regency has the longest coastline in East Java Province which is 175.8 km. Located in a very strategic position and has the potential of ports, tourist attractions, and prospective businesses in the form of ferry ports to the island of Bali, ports of loading and unloading goods, beach tourism, mangrove forests and mountain tours. One of beach tourism is a Plengkung Beach tour that has the second largest wave in the world after Hawaii. Sukamade Beach, Boom Beach and Cemara Beach are the place for turtles to lay their eggs, and very prospective fishery potential that can develop economic benefits and open investment opportunities in Banyuwangi Regency. Based on the Long-Term Development Plan of Banyuwangi Regency for 2000 - 2025 period, in mission III: creating an independent Banyuwangi Regency based on integrated tourism economy with the main target of increasing the economy of integrated Banyuwangi Regency ecotourism.

One location that has the potential to be developed in Banyuwangi Regency is Cemara Beach which is located in Rowo Hamlet, Pakis Village, Banyuwangi District. In the location, there are various resources that can be managed such as fir, mangrove and even turtle conservation.

Ecotourism can play an important role in attracting support, both political and financial, for the preservation of threatened natural areas (Boo, E., 1990; Agardy, M. T, 1993; Dixon *et al.*, 1993; Lindberg, 1998; Supriharyono, 2000; Lindberg, *et al.*, 1993; Burton, 1997; Honey, 2008; Alatorre, 1999; Gössling, 1999; Gould, 2004). Ecotourism can benefit the protected areas in three ways, namely through generating money to manage and protect natural habitats and species, enabling local people to gain economically from the protected areas. Therefore, encouraging their support of protection of the protected area, and offering a means by which people's awareness of the importance of conservation can be raised (Goodwin, 1996).

The attractions need to be protected in order to ensure sustainable tourism in the long run. It is unlikely that tourism numbers would be controlled as this is against the tourism development policy. What needs to be done is greater control of development and enforcement. Tourist arrivals should not be the main concern of the government. Rather, it is the goose that lays the golden egg that should be protected. In addition, local communities actually benefit little from ecotourism. The dilemma is that the private sector realises the benefits but are exploiting it the wrong way (without proper regulations) and locals hardly have a clue as to how to get involved. Unless politicians and government officials start to educate the locals and inject interests, local people's willingness to participate in ecotourism will be limited. As ecotourism will inevitably entail impacts on the socio-cultural aspects of local communities as well as their access to and usage of natural resources, it is imperative that some economic benefits are realised in order that local individuals can see the long term economic benefits of supporting ecotourism. However, the extent to which these benefits are realised varies greatly from site to site reflecting place specific economic and political factors (Clifton, 2004).

Unrealistic to expect local tourists and local communities with low awareness to support and implement conservation-oriented activities. Hence it is up to the political masters to develop and implement policies that strike a balance between economic gains and environmental conservation. Policies must favour and encourage local involvement in decision-making under a collaborative approach to management activities (Wall, 1993).

Previous study by Clifton (2004), suggests that local participation in conservation activities will not result in environmental benefits if the activities do not reflect the needs of both local communities and the environment. An appropriately designed and implemented management plan for ecotourism and conservation is therefore essential. There are many components to such a plan, but some of key interest to the present discussion include: (i) Documentation of field data and quantitative information relating to the natural environment, especially natural heritage areas and attributes that are attractions; (ii) Master plans on conservation goals and strategies and a road map on how to achieve them; and (iii) Monitoring and evaluation of achievement status of plans and objectives whereby any shortcomings can be used to alter and adapt existing plans. In terms of ecotourism, feedback and consultation with local communities should be a fundamental part of this process.

The open access to the resources and environmental services (natural protected areas) was a problem identified by the conservation sector (NGO). This had created conflicts, or had the potential to do so, between users. One of them is the lack of knowledge about the carrying capacity especially in the use of beaches, diving and wildlife observation sites, together with

conflicts between consumptive and nonconsumptive activities (i.e. fishing vs. ecotourism) (Miller, 1993).

Methodology

The time and location were carried out at Cemara Beach, Pakis Subdistrict, Banyuwangi District, Banyuwangi Regency, from March to August 2018. The material used was conservation activities at Cemara Beach, Banyuwangi Regency.

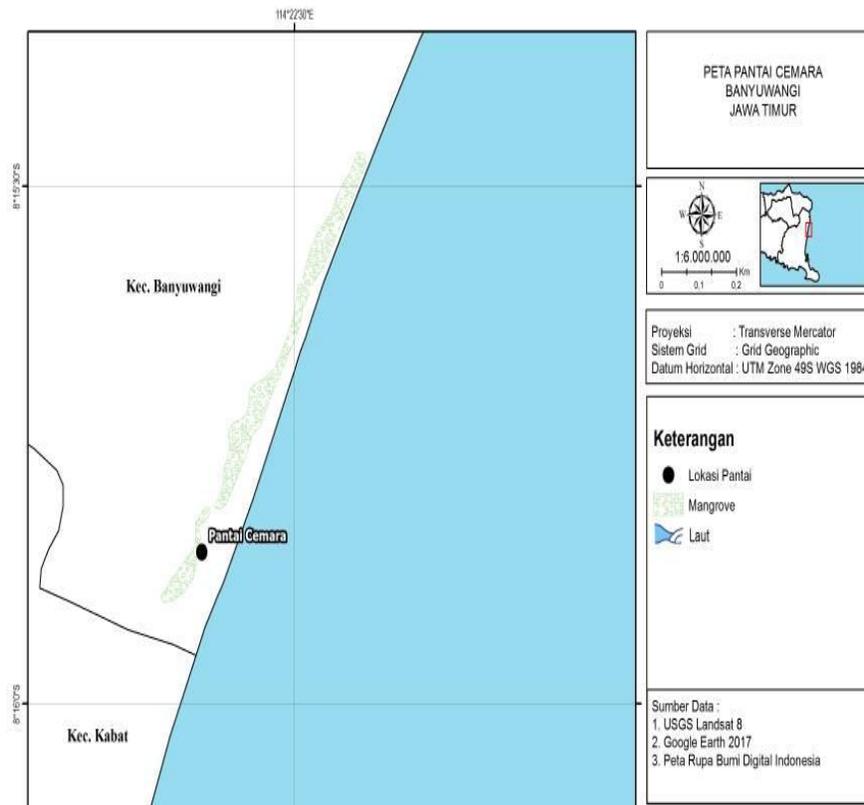


Figure 1. Location of Cemara Beach

The method used is descriptive data collection began with field visits to understand the fact and fact finding conditions. Then using the concept of shared-learning and Focus Group Discussion (FGD), which in this concept all participants have the opportunity to experience various and learn the background, potential, issues and efforts or activities that can be developed in the management of Cemara Beach for the sake of regional sustainability and improving the welfare of the community. A strategy is developed that produces an action plan.

The data taken were data on human resources and institutional of Cemara Beach Group, the condition of Cemara Beach area including mangroves and cypress, as well as its

utilization by the Pantai Cemara community. The data collection process is carried out simultaneously by conducting semi-structured interviews and observations. All members of the Cemara Beach Group were used as informants in providing information. After all data is collected, then it will be concluded / determined some internal and external factors related to mangrove rehabilitation area management activities which will then be discussed with all members of the Cemara Beach Group together with other stakeholders involved in developing the area in the FGD.

RESULTS AND DISCUSSION

Locations Overview

Cemara beach has a small turtle breeding place. This breeding place protects turtle eggs from attacks by predators or humans who want to sell the eggs. In addition, Cemara Beach also has many cypress trees along its coastline. Two kilometers along the beach, stretching from the north to the south is full of shrimp pine trees lined up with more than 16 thousand trees that thrive. Evergreen plants that grow lush make it look like a cave alley along the coastline.

Other observations were made on mangrove vegetation along the estuary of Cemara Beach. Based on observations, 11 species of mangroves were scattered from rivers or estuaries from the south to north. The following types of mangroves are as below.

Table 1. Types of mangrove on Cemara Beach

No.	Species
1.	Holly-leaved acanthus, sea holly, holy mangrove (<i>Acanthus ilicifolius</i> L.)
2.	Derris, Ketui, Salang (<i>Derris trifoliata</i> Lour)
3.	Sia-sia, api-api, unimorf (<i>Avicennia alba</i>)
4.	Seaside clerodendron (<i>Clerodendron inerme</i> Gaertn)
5.	Crabapple Mangrove, Mangrove Apple, Firefly Mangrove, Berembang (<i>Sonneratia caseolaris</i>)
6.	Oil mangrove, tandok mangrove, agate mangrove (<i>Rhizophora apiculata</i>)
7.	Sia-sia putih, api-api, sie-sie, pejapi, nyapi, api, sia, hajusa, pai (<i>Avecennia marina</i>)
8.	Madangan, buta-buta, menengan, kalibuda, kayu-buta-buta, betuh, warejit, bebutah (<i>Excoecaria agallocha</i> L)
9.	Serunai laut (<i>Cydaisy serrenai</i>)
10.	Sesepi, gelang-laut, gelan-pasir (<i>Sesuvium portulacastrum</i> L.)
11.	Nipah(<i>Nyepafruticans</i>)

Cemara Beach with an area of 10.2 Ha, has the potential of evergreen plants in the north and south. The area that is often used by turtles to lay eggs is 8.2 Ha. West of Cemara Beach is an estuary surrounded by mangrove forests with an area of about 2.62 ha on its right and left side. The management is carried out by the fisherman community in Pantai Rejo Hamlet, which is part of the Rejo Beach Joint Business Group (KUB) with the legality of the Lurah SK Number 600/13 / 429.601 / 2015, and Menkumham's Decree Number AHU.0036497.AH.01.07 Year 2016.

Action Plan

Based on the results of field visits, fact finding and discussions with participants in the preparation of the Cemara Beach Area Development Action Plan, Banyuwangi Regency, then further developed into 6 (six) key issues, namely:

- a) **Environmental aspects**, which including environmental pollution prevention due to industrial waste, prevention of damage to coastal and coastal waters (Mangrove, Aquatic and Animal Quality), erosion and sedimentation control.

Based on the surveys and observations at Cemara Beach, the expansion of cover for fir can still be carried out so that abrasion in the coastal area can be prevented even the land might be expanded. In addition, based on the results of mangrove analysis, the density also the diversity below the average value, but based on the important value index has an influence to the surrounding ecosystem. The expansion of mangroves by planting mangroves is very necessary to involve all elements of society, not only government agencies, the community and educational institutions, but also private institutions such as the fishpond businesses around Cemara Beach.

The expansion of mangrove areas is done by planting mangroves. One of the important things in planting is to get mangrove seedlings, so that mangrove nurseries are needed. Thus, people who will plant mangroves do not have to buy the seeds, but enough obtained from nurseries managed by community groups at Cemara Beach. Later, mangrove seeds are not only used internally, but also can be sold outside Cemara Beach for those who want to plant mangroves elsewhere. This provides a quite high opportunity, considering that there are several types of mangroves that rarely grow in other places. Mangrove growth density in Cemara Beach such as the *Sonneratiacaseolaris* type that can be used for mangrove syrup, *Daruju* which can be processed into chips and mangrove coffee and tea, *Avicennia* or api-api can be processed into gelatin.

The most appropriate step in managing mangrove forests is if the government and the community jointly manage and develop mangrove forests. With the decreasing quality and number of mangroves around the coast, it is necessary to carry out sustainable mangrove

planting carried out by the community in collaboration with the government. Thus the mangrove ecosystem will be maintained. In addition, the government and the community also need to jointly maintain and conserve mangrove forests (De Los Monteros, 2002).

- b) **Improving community welfare**, including developing alternative livelihoods, developing Cemara Beach Tourism, increasing business capital from the government and the private sector / investors.

Not only mangrove species, FGD results also found other potentials around pine trees, namely some types of plants included in the fir association. The types of plants found such as *alor* and *turibang* are quite a lot scattered in Cemara Beach and can be processed into food, so in this case, culinary tours can also be held based on the local wisdom of Cemara Beach. In addition, the community also wants the processing of fishery products such as fried anchovies, "*gerang petek*", and so on. So that during the harvest season and many unsold fish, it can be processed into value-added products with a high market share. It is shows that the concept of mangrove ecotourism and turtle conservation is very influential to livelihoods alternative at Cemara Beach. However, all of that is the principles of integrated coastal management, considering that there are various natural resources, and participating stakeholders also including various private sectors involved.

Looking from an economic perspective, ecotourism is believed to have potentials to contribute to local economic development through a substantive channel. More specifically, it can help to provide jobs for local people, as well as drive the development of related industries such as, the transportation and accommodation sectors (Lindberg, et.al., 1996; Amalu, 2014). In addition, ecotourism can also facilitate the upgrading of local infrastructure through its economic earnings. Moreover, ecotourism development can stimulate production and consumption which in turn, drives the local economy (Amalu, et.al., 2017).

Previous study by Gould (2004), specifies employment benefits by using the Uganda Community Tourism Association Program as a case of study; which he pointed out that ecotourism provided local people with variety of jobs, ranging from tour guiding, camp ground operators, hotel and restaurant owners; craft and transporters. Similarly, previous study ,De Los Monteros (2002), also emphasized in their study in Belize, that nearly 70% of new jobs are dependent on the ecotourism industry. Weinberg *et al* (2002) also emphasized that in Costa Rica, ecotourism activities were initiated to diversify the economy and today, ecotourism has contributed immensely to the growing economy of the country with recorded 72% impact of the employment opportunities.

In this connection, there are quite a number of problems faced by the development of coastal community resources. To overcome all this, needed to make the integration and

coordination among the development executor, especially for the coastal communities themselves. The problems faced is specified as a problem of knowledge and skills, capital, mastery of technology and management. But, all of these problems cannot be solved individually, for example by fulfilling technological needs. But it must be comprehensive covering socio-economic factors that lead to the use of natural resources and human resources as a whole (Dahuri et. al., 2008).

c) Regulations and Law Enforcement.

The results of the SWOT analysis carried out through FGD with stakeholders, the third recommendation is a solution to the threat that might occur to the degradation of existence and natural resources in Cemara Beach. For the ecotourism management, principle is that already exists in this area itself, but it still only focused on coastal tourism, the concept of turtles education that have been built has not become the main destination for tourists, they only come for recreation in the beach and pine. It is even feared if the awareness only belongs to the Pantai Cemara community, while the surrounding community and visitors who come do not, then the principle of sustainability does not exists furthermore.

Sustainable management at Cemara Beach is underway, this can be seen from the existing community groups that are sufficiently independent and even committed to maintaining the existence of the concept of turtle and pine conservation. They have successfully run the savings and loan system for more than one year and now the capital has reached 60 million rupiahs. So it is necessary to develop into a real cooperative system so that the sustainability of the program exists.

Based on the explanation above, it is necessary to have legalization regarding the management of Cemara Beach ecotourism with a focus on conservation values, at least with the establishment of the Banyuwangi Regent Decree concerning to the area determination. So that all stakeholders can participate in developing the Cemara Beach area. However, Pantai Cemara ecotourism management is still based on natural resources / potential that is conservation of turtles, mangroves and cypress. These three potentials become advantages of Cemara Beach which deserve to the attention of the District Government, because not all coastal areas have some natural resources in one area unless the area is indeed a conservation area designated by the state such as National Parks or Protected Forests.

Another problem with improper administration is that it leads to disharmony and social tension among local people. Unfairly distributed income and the lack of clear regulation on who is allowed to bring guests to the islands frequently creating jealousy among the local ecotourism actors. Administrative indiscipline leads to missing records of visitors entering the Sugian village. Without clear records from the local community, there will be no official record for the

government. This will slow the decision making process, which can potentially impede the development of Sugian village (Patang, 2012).

According to Supriharyono (1999), several considerations on the management of natural resources in coastal areas include economic considerations, consideration of environmental aspects and socio-cultural considerations. Economic considerations relate whether or not it is important to the needs of the everyday community, the producer of marketable goods, is a local, national or international asset and is a tourism asset that can generate money besides goods. Environmental considerations concern to the physical stability of the coast, the unique community environment, the supply of animal and plant stock including those that have the potential to be utilized, the preservation of germplasm, aesthetics and cultural identities, as well as whether environmental damage caused by sedimentation, construction, agriculture, logging, mining, overfishing, eutrophication due to waste disposal containing nutrients, and contamination by various types of waste. While socio-cultural considerations include the recognition of tradition, the value of social culture, maintaining the tradition of future generations, religious goals.

d) Capacity Building and Human Resources

Including training in supporting tourism activities, socialization, comparative study of coastal management. The natural resources contained in Cemara Beach in principle can provide value added to the welfare of the community. To provide value added, a community capability is needed. The intended capacity is related to increasing of human resources capacity, the capacity involves increasing knowledge and technology related to the creation of livelihoods alternative. To support this, capacity building must be adjusted to the availability of natural resources at Pantai Cemara, this is to maintain sustainability rather than livelihoods alternative in the community.

The results of the FGD conducted, at Cemara Beach there were several livelihoods alternative that could provide value added, it was based on existing natural resources. So far the potential of cypress is indeed the beginning of the emergence of Cemara Beach tourist destinations, in which there is a value of sea turtle conservation because Cemara Beach is one of the places used as turtles to lay eggs. However, other natural resources are found in Cemara Beach, namely mangroves. The socialization of mangrove potentials has been given to stakeholders and the community of Cemara Beach, so that the community has high hopes that there is an increase in capacity regarding mangrove management. The management includes managing mangrove tourism to processing mangrove products (leaves and fruit) into processed food products according to the type of mangroves that can be used such as mangrove chips, coffee and mangrove tea.

Although the impacts in socio-culture are more difficult to measure than those on economics and environment, local participation is considered a strong and solid ground for the implementation of ecotourism. Ecotourism is a development strategy that respects the rights of local people and economic distribution. With local participation, social empowerment is boosted, meaning a community's sense of cohesion and integrity has been enhanced or strengthened by activities such as youth and women groups (Burton, 1997).

According to Geospatial TPP & IT Agency I(2012), develop ecotourism mangroves in Pulau Pramuka with priority coordination between the public and stakeholders, spatial planning for ecotourism activities, providing knowledge to the public regarding ecotourism management and effective management training, improvement of infrastructure, perform environmental impact and explore the potential of nature and charming with guidance to the public.

e) Infrastructure Improvement

Supporting the development of a tourist area is not only a matter of human resources but how to access the road to the tourist destination is easy to pass. Indeed there are tourist sites that are deliberately packed with the concept of adventure so that to get to the location must go through a quite difficult road track. However, the concept cannot be applied at Cemara Beach, because besides this location it is close to the city center, it is also very close to the population even adjacent to the pond company, so logically the road access to Cemara Beach is easy. The reality is that the location of Cemara Beach is not difficult, but the road is very damaged, even if the rainy season, road access becomes uncomfortable. Not only that, the road sign to Cemara Beach was also very minimal so many people could not see the sign to Cemara Beach. This will obviously cause difficulties towards Cemara Beach and expected visitors are not suitable in terms of quantity.

The results of the FGD conducted, the community at Cemara Beach hopes so much to the government to improve road access to Cemara Beach, even this was agreed by the village and several other stakeholders. Not even just that, the road sign is striking so that it can attract the attention of prospective visitors and is also expected to be given at several corners of the road to Cemara Beach. The concept of the gate or billboard to the location is also expected to show the existence of Cemara Beach.

If a coastal area is built for recreation, usually other supporting facilities are also growing rapidly. Therefore coastal tourism development planning should be carried out thoroughly, and the preparation of regional management plans must precede development and building without reducing the value of the preservation of the original coastal environment (Dahuri *et.al.*, 2008).

According to Amalu, T., *et al.* (2017), the ecotourism industry is widely known for its numerous benefits to host community people and it brings or attracts a lot of corresponding

benefits to destination areas. Table 3 revealed that the ecotourism industry has some benefits to the area. It was also revealed that the ecotourism attractions attracted benefits such as; provision of business opportunities, provision of jobs, improved transportation facilities and patronage of local products were topmost in the observed benefits ranking 1st and 2nd on the scale of ranking. Meanwhile, items such as; improved educational facilities, improved health care facilities, improved security system, provision of portable water and provision of electricity were recorded as the least beneficial to the people and the area ranking 6th and 7th on the scale of preference. This implies that although there were a lot of benefits accruing from ecotourism attractions in the area, there were also much to be put in place if the ecotourism attractions are to bring forth a more sustainable development within the area.

f) Development of Regional Management Institutions.

Collaboration will encourage government organizations, universities, communities and the private sector to be open ideas and suggestions from other stakeholders. Through collaboration, stakeholders can jointly identify options to minimize the negative impact of production practices on the conservation of Cemara Beach area.

The effectiveness of multi-stakeholder forums depends on the commitment of its members, such as the management of Cemara Beach which is managed by community groups with the encouragement of various stakeholders. This means that they must hold the commitment made, the commitment to the process from the parties also implies a willingness to compromise and jointly identify solutions that can reduce bargaining and maximize synergies among various interests.

In addition, trust is the key to the development of institutional management of an area including Cemara Beach. The absence of mutual trust between internal groups and stakeholders seems to result in lack of transparency, understanding and commitment. Ideally, all parties are safe sharing platforms where stakeholders feel comfortable to share concerns, values and preferences.

Ecotourism provided an alternative microenterprise to the deprived community, thereby bringing increased incomes. This has changed the attitude of the community to the PA and they are now supporting the PA management in wildlife conservation efforts. The ecotourism groups and the community supports the forest department in forest protection, fire prevention, providing intelligence inputs on movement of poachers, prevents illegal fishing etc. Hence the community has gained through increased incomes; the PA managers have gained enhanced support from the community towards conservation; the tourists have benefited from better visitor experiences and conservation education values; and finally the PA is benefitted through enhanced biodiversity conservation.

Ecotourism was providing benefits to the conservation of the protected areas and fulfilled the expectations of the different stakeholders involved in ecotourism, the level of involvement of tour operators in either environmental education or research programmes is quite heterogeneous. For instance, some companies cleaned up beaches and gave support to scientists as a means of involvement in environmental and education programmes, while some others offered environmental education talks in schools and designed their own research programmes. It is not only a matter of involvement but also the level of involvement and participation; the 'optimum' tour operator in the reserve may be defined as the one who accepts and internalises the risks of the activity (e.g. introduction of exotic species) as costs (e.g. monitoring of introduced species and eradication programmes). The federal government and the owners of the areas concerned have been paying the costs of conservation, and tour operators have taken the benefits. Ecotourism operators must be pro-active and co-responsible within the protected areas involved in all aspects, including political, legal, economical, social and environmental facts (Miller, 1993).

CONCLUSION

Based on the results of the field visit, fact finding and discussion of participants for the preparation of the Action Plan for Cemara Beach City Forest Area in Banyuwangi Regency, then developed became 6 (six) main issues of the Action Plan, namely: 1) Environmental aspects included pollution due to industrial waste, the prevention of damage to coastal ecosystems, erosion control and sedimentation; 2) Improvement of people's welfare; 3) Regulation and law enforcement; 4) Capacity building and human resources; 5) Increased infrastructure; 6) Institutional development of the management area.

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REFERENCES

- Agardy, M. T. 1993. *Ocean and Coastal Management*, 20(3) 219-239.
- Amalu, T. E. and Ajake, A. O. 2014. *Global Journal*, 1(1) 67-81.
- Amalu, T. E., Duluora, E. I., Otop, O. O., Emeana, K. S. and Omeje, V. U. 2017. *Journal of Hospitality Management and Tourism*, 8 32-41.
- Alatorre, R. 1999. *Programa de gestión ambiental de sustancias tóxicas de atención prioritaria*. Mexico: Scielo
- Boo, E. 1990. *Ecotourism: the potentials and pitfalls*. Washington D C: WWF.
- Burton, R. 1997. *The sustainability of ecotourism*, 357-364.
- Clifton, J. 2004. *Ecotourism: issue and challenges*.

- Dahuri, R., Rais, J., Ginting, S. P. and Sitepu, M. J. 2008. Pedoman Sumberdaya Wilayah Pesisir dan Lautan Secara Terpadu. Pradnya Paramita: Jakarta.
- De Los Monteros, R. L. E. 2002. *Biodiversity & Conservation*, 11(9) 1539-1550.
- Dixon, J. A, Fallon, Scura L and Van't Hof T. 1993. Meeting ecological and economic goals: marine parks in the Caribbean. *Ambio*: Sweden.
- Geospatial T P P & I T Agency I. 2012. Geospatial Information Mangrove Indonesia. PPIT BIG: Jakarta.
- Goodwin, H. 1996. *Biodiversity & Conservation*, 5(3) 277-291.
- Gössling, S. 1999. *Ecological economics*, 29(2), 303-320.
- Gould, L. A. 2004. *Ecotourism and sustainable community development*. Brandon: Ecclectica, Brandon University.
- Honey, M. 2008. *Ecotourism and Sustainable Development: Who Owns Paradise?*. Washington: Island Press
- Lascuráin, H. C. 1994. *Estrategia nacional de ecoturismo para México*. Mexico: Secretaría de Turismo.
- Lindberg, K and Hawkins, D. E. 1993. *Ecotourism: A Guide for Planners and Managers*.
- Lindberg, K., Enriquez, J. and Sproule, K. 1996. *Annals of tourism research*, 23(3) 543-562.
- Lindberg, K. 1998. Economic aspects of ecotourism. *Ecotourism: a guide for planners and managers*. USA: Ecotourism Society.
- Miller, M. L. 1993. *Ocean & Coastal Management*, 20(3) 181-199.
- Patang. 2012. *Jurnal Agrisistem* 8(2) 100-109.
- Scheyvens, R. 1999. *Tourism management* 20(2) 245-249.
- Supriharyono. 2000. *Pengelolaan Ekosistem Terumbu Karang*. Jakarta: Djambatan.
- Wall, G. 1993. Ecological reserves and protected areas: the challenge of ecotourism (In Prq) ared for a Seminar on the Environment of the Academic and Scientific Community of Mexico, National Association of Mexican Universities and Inter-American Organization for higher Education, Toluca, Mexico, Feb (Vol. 199).
- Weinberg, A., Bellows, S. and Ekster, D. 2002. *Society & Natural Resources* 15(4) 371-380.