New Model for Development of Tourism Based on Sustainable Development

G N Ikhtigung\textsuperscript{1} and M R Radyanto\textsuperscript{1}

\textsuperscript{1}Cilacap State Polytechnic, Cilacap, Indonesia
\textsuperscript{2}Stikubank University, Semarang, Indonesia
ganjar@pnc.ac.id

Abstract. The concept of developing tourism in the region must be based on sustainable development that is supported ecologically, economically, and ethically also socially fair to the community to establish the quality of life by regulating the supply, development, utilization, and maintenance of resources in a sustainable manner. This research is a qualitative exploratory study that emphasizes aspects of enrichment in the field as research strength to create a model. The results of this research are in the form of policy recommendations, as outlined in the new model. The Pentacyclus Concept model consists of three areas, namely the Penta Helix Area; Green Tourism Marketing Area; and the Strategic Sustainable Development Environment with indicators of success involving Penta helix elements, namely: Academic as a concept, Business as an Enabler, Government as a regulator, community as an accelerator and finally the media as a promoter. This model is expected to be applied as a sustainable tourism development planning model that is not only in space local scope but can be used in the national range, especially in some green tourism destinations in Indonesia.

1. Introduction

The key to the success of a regency/city/province region in development lies in the ability of the region to optimize the potential resources of the area. Development of an area is a community capacity building process in the long term [1]. Community participation referred to by [1] is the full involvement of the community in the process that begins with the conditions and needs, so that the community will trust the development program more if they feel involved and the growth of a high sense of ownership to participate in overseeing the course of a development, so that the development carried out more effective and efficient. One of the regional developments which is now encouraged by the Government of Indonesia in the development of the tourism sector based on local wisdom, where tourism is positioned as one of the mainstay sectors in Indonesia's national development [2].

Tourism, as the industry has been able to create tremendous changes in the activities of the global economy and tourism, was able to put the third largest economic activity of the fastest growing [3]. From
the question that, tourism will emerge and increase the requirements which will always increase the economic value of growth trends, the economic value of tourism is the emergence of financial interaction of society with tourists, the government with the area and encourage investment that will generate tourists destinations developed for competing and expanding markets [4]. Although tourism can provide significant benefits to the economic value of an area, tourism development is also referred to as one of the primary sources of environmental damage.

Reports World Tourism Organization are many cases in the region in the provision of infrastructure, construction of tourist resorts and hotels region have participated in the damage to the beach, the ocean, and a variety of ecosystems [2]. Besides, the development of tourism will bring about changes in the value of local culture due to the entry of foreign cultures. However, the damaging effects of tourism development are now increasingly recognized by all parties and realize that the natural environment as an essential tourism resource [4]. Growth in the tourism sector in a region that is done by the public or private sector industry is increasingly adopting and implementing environmentally compatible with the development steps that limit the negative environmental impacts associated with the development of tourism [4].

Key elements from developing environmentally sensitive tourism, generally restrict and regulate new developments, preserve and protect the natural beauty and biodiversity and rehabilitate [5]. Thus, if you see the opinions of some experts above, the concept of tourism development with the use of the environment that can be used as a tourist attraction in an area that is based on the environment and community empowerment is Green tourism. Green tourism whose spirit is basically built from a consistent attitude towards the values of natural, social and community resources, where visitors or tourists can directly interact to enjoy the beauty of the forest environment with its ecosystem, study the types of plants so that tourists are expected to have a memorable tour experience [6].

Tourism will develop because of human movements in searching for something that is not yet known, not yet exploring new territories, looking for changes in the atmosphere, or to get new trips. But a broader understanding of Law No. 10 of 2009 concerning tourism explains the meaning of tourism as a whole activity related to tourism. It is multi-dimensional and multi-disciplinary, which emerges as a manifestation of the needs of each person and the State as well as interactions between tourists and the local community, tourists and government, domestic government tourism, and entrepreneurs. Tourism development will develop if it can attract the attention of tourists. For this reason, a tourist attraction must improve the quality of the object to be better to get a positive perception, form a positive impression about the tourist destination with a variety of tourism attributes in tourists become one of the keys to guaranteeing the development of a tourist destination. Therefore, the concept of development must be able to arrange or realize integration and sustainability in the development (sustainable development) of tourism resources and integrate all forms of aspects outside of tourism that are directly or indirectly related to the continuity of tourism development.

In 2001 the Regional Government of Cilacap Regency issued Regional Regulation Number 17 of 2001 concerning the management of mangrove forests. The Regional Regulation regulates community activities in the Brackish Mangrove Forest area of the Segara Anakan areas where tourism activities are within it and are regulated while maintaining biodiversity and not causing ecological damage. Therefore, the development of forest tourism in brackish mangrove is not only seen as one of the only economic activity, but rather as an essential vehicle for individual and human development. Amid the intense competition in the tourism industry, which is oriented towards the potential of natural resources, the utilization of mangrove brackish forests can be used as a new tourism destination in the Cilacap Regency with a green tourism model. Consumers’ awareness of the environment, evidenced by the willingness of consumers to pay at a higher price level for eco-friendly products [4]. Thus the concept of green tourism will be a
The development of the tourism sector based on green tourism coastal mangrove forests and culture has various problems, including 1). The readiness of tourism destinations that have not been evenly distributed from the aspect of management of cultural tourism attractions based on local wisdom; 2). Community readiness around tourist destinations that are not optimal in the area of mastery of Communication Information Technology (ICT) or e-tourism; 3). Limited human resources management or management of tourist attractions that have a world-class level; 4). Inadequate infrastructure and accessibility facilities, connectivity to tourist destinations and regional, national and international hubs, and limited availability and quality of tourist support facilities (amenities). Portfolio of tourism products that are included in nature tourism includes marine tourism, ecology, adventure, while cultural tourism includes: cultural heritage, history, shopping, and traditional culinary tourism and village tourism.

As a matter of discussion and comparison is the performance of Indonesia's tourism sector with several neighboring ASEAN countries, still below in terms of 1). Indonesia's tourism foreign exchange receipts are only half of Malaysia and a quarter of Thailand; 2). The number of foreign tourists visiting Indonesia in 2014 was only one third compared to Malaysia and Thailand; 3). Indonesia's Wonderful Branding Strategy for online penetration is still far behind Singapore, even though it is better than Thailand and Malaysia. Some of these things need to get the attention of all parties, including universities, as a pioneer of research, development, and innovation. To obtain optimal results in the research, development and innovation and cultural nature requires interdisciplinary expertise. The development of the tourism sector needs the support of specific science and technology regarding the coastal tourism of mangrove forests and the culture of universities.

2. Planning method for sustainable tourism development

For the development of Brackish Mangrove Forest tourism in the Cilacap Regency to have a sustainable effect, it is deemed necessary to take strategic approaches to minimize the impact on the environment. Based on the input of the Green Tourism Marking model in planning for sustainable tourism development based on Pretahelix, the policy recommendations outlined in the Pentacyclus Concept method. The method is expected to be implemented as a policy for sustainable tourism development planning that is not only in the local scope but can be applied in the national range. Dramatically, the Pentacyclus Concept pattern as a strategic sustainable tourism development planning approach to sustainability, such as the following:
Figure 1. Pentacyclus Concept - a model for green tourism marketing development

The pattern of sustainable tourism planners’ development is directed more as an effort to conserve or protect nature while still taking into account the physical functions of the forest, economic functions, and biological functions. The Pentacyclus Concept Method consists of 3 (three) areas, namely the Penta Helix area; Green Tourism Marketing area; and Strategic Sustainable Development Environment with an indicator of success is the level of responsiveness participation that can be (1) opposed to environmentally friendly tourism (Antagonistic), (2) Apathy towards environmentally friendly tourism, (3) and eager to support ecologically friendly tourism (Euphoria) [7].

3. Penta helix area

The Pentacyclus Concept in tourism development planning is directed at the Sustainable Development Environment, which is elaborated from the planning process of the stakeholders, namely (1) the Government as a regulator by establishing a vision of environmentally friendly tourism development and management patterns as outlined in the Strategic Plan; (2) Community as an accelerator in forming an adaptive and progressive Knowledge Society to address the challenges of changing the physical function of mangrove forests, economic functions and biological functions of mangrove forests; (3) Business as an Enabler to strengthen market-driven performance by controlling economic demand pressures so as not to exceed natural carrying capacity; (4) Media as a promoter functions to campaign for the appeal of natural potential which will focus the attention of prospective tourists; and (5) Academic as a conceptor, Academic has responsibility as coordinating. This is because the academic role has a function as access to the development of environmentally conscious tourism programs through research and community service in creating added value and maintaining sustainable growth.
4. Green tourism marketing area

Green Tourism Marketing area must be able to build and maintain awareness to consume environmentally friendly products. Green Tourism Marketing area will be beneficial to encourage economies that are insightful on the protection of nature or environmental sustainability. The GTM factors in this study refer to the green tourism marketing mix. Green marketing must be able to build and maintain awareness to consume environmentally friendly products [4]. The matter is emphasized that green marketing will be beneficial to encourage economies that are oriented to the protection of nature or environmental sustainability [8]. Element green tourism marketing in the method Pentacyclus Concept is a Green Product, Green Pricing, Governmental Pressure, Cost-Profits Issues, Green Tourist, and Green Promotion.

4.1 Green product

Products are all things that can be offered to the market to get attention, purchased, used, or consumed to satisfy the desires or needs. But concerning Green Marketing, a product can be said to be a green product if the product produced uses the positive benefits for society and the environment [9]. So, in essence, green products are not only limited to producing activities and the composition or characteristics of the products produced, but also to the production processes and techniques that are oriented to the ecosystem. Therefore, the development of green products in green tourism marketing for sustainable development in the context of developing mangrove brackish forest tourism in Cilacap Regency focuses on evaluating the product life cycle that is sustainable in terms of the economic value of the environment as the basis for the manufacture, utility, and sale of products.

4.2 Green pricing

Discussion on the determination of green-based prices or green pricing in Indonesia has not been much discussed. The price in Green Marketing Tourism is the most important part that must be considered and maintained a balance between the cost-profit center with environmental factors, so determining the price plays an important role in environmental control. As described in the green product element above, the potential contained in mangroves are of economic value, but if the potential is exploited excessively, it will cause environmental damage. So that the price determination (Green Pricing) is determined by considering environmental conservation. In a study conducted by the Queensland Government, most consumers are willing to buy at high prices if the product they bought has added value compared to ordinary products. Therefore, to calculate green pricing for potential green products is as follows:

\[ P = (AVC + FxC\%) \times (1 + KV\%) \]  

Where:

- \( P \) = Price
- \( FxC\% \) = Percentage Fix Cost
- \( AVC \) = Average Variable Cost
- \( KV\% \) = Allocation of conservation costs (5-10%)

4.3 Cost-Profits issues

Environmental issues are the main focus in the concept of Green Tourism Marketing, which acts as profits from natural potential and costs as a result of green tourism activities themselves. If you see the potential contained in brackish mangrove forests, Cost-Profits Issues will affect business activities in carrying out environmental exploitation activities, making two-fold in the development of green products while maintaining environmental sustainability. So with the Cost-Profits Issues, there will be a balance between...
economic activity and environmental sustainability in the brackish forest tourism area. Therefore, the role
of community empowerment is important in cost-profits issues.

Rural Development in the concept of Green Marketing Tourism in Brackish Mangrove Forest Tourism
is aimed at fostering and improving the economy and integrating natural assets or assets owned to achieve
a productive scale economy for the greatest prosperity of the community, developing sources of income,
improving community welfare, developing social and cultural life the community, utilizing appropriate
environmentally friendly technology and coordinating participatory development while remaining
principled on mangrove conservation. Management of Cost-Profits following the provisions can be carried
out by Village-Owned Enterprises (BUM Des) as management of business management owned by the
village community through direct participation from natural resources of brackish mangrove forests that
are separated to manage assets, services, and other businesses for the maximum welfare of society.

4.4 Governmental pressure

Governmental pressure, in this case, is interpreted as a form of support as well as pressure from the
Regional Government to support the existence of green tourism marketing, support, and pressure referred
to in the way of Regional Regulations or public policies. Local Governments use legal regulations to
influence the activities of stakeholders (community/stakeholders). Thus, Local Regulations are
authoritative directives for implementing Local Government actions in local jurisdiction or autonomy.
Still, one thing is certain that the formulation of public policy through Regional regulations leads to one
goal, which is to fulfill the public interest.

According to the Cilacap Regency Regulation Number: 24 of 2012 concerning Tourism Business
Licensing and the Licensing for Tourism Objects and Attraction in Cilacap Regency, it is stated that the
authority of the Regional Government in the field of tourism includes planning, development, guidance,
supervision and control policies which need to be carried out efficiently and effectively in order to
improve services in the field of tourism, this was confirmed through the Cilacap Regency Regional
Regulation Number: 17 of 2001 concerning Management of Mangrove Forests in the Segara Anakan Area,
that to ensure the implementation of life and sustainable development, as well as the preservation of
environmental functions and the preservation of fishery habitat, as a result of actions, threats to use, and
environmental destruction and in the context of ensuring conservation areas, each person is obliged to
protect, monitor and preserve conservation areas. Regarding how big the role of Governmental Pressure
as contained in the Local Regulation to support green tourism marketing is motivated by a commitment to
the process of implementing policies to regulate the public and stakeholders to minimize negative impacts
on the environment.

The implementation of the policy is expected to have a sustainable development impact, consisting of
four indicators that can be used as a simple benchmark for sustainable development, which can be used as
a measure of the success of an area in implementing a sustainable development process [10], these
indicators include:

1) pro-economic welfare is economic growth aimed at the welfare of all members of the community,
can be achieved through innovative technology that has a minimum impact on environmental
damage,

2) a sustainable environment is concerned with non-anthropocentric environmental ethics that guide
the lives of the people, so that they always seek environmental sustainability and balance,
conservation of vital natural resources, and give priority to improving the quality of non-material
life,

3) pro-social justice is justice and equality of access to natural resources and public services,
respecting cultural diversity and gender equality, and
4) pro-environment, namely the number of indicators that can be used to measure it. One is the suitability index, such as the ratio of forest area to area (decreasing or not), a ratio of river water discharge in the rainy season to the dry season, air quality, and so on.

4.5 Green tourist

One of the tourism destinations is to bring tourists with a large number, where the more tourist activity, the higher the economic activity therein. In-Law No. 9 of 1990 concerning Tourism it is explained that what is intended by tourists is people who carry out tourism activities, concerning Green Marketing Tourism, green-minded tourists are tourists who are aware of environmental problems and feel that natural resources increasingly limited and the environment becomes more easily damaged. Environmental awareness (Eco-friendly attitudes) evokes a positive attitude towards environmentally friendly activities and encourages people to be more involved in environmentally friendly behavior in their daily lives.

In several studies such as those conducted by [11] [12] [13] regarding tourist behavior and motivation, the results show that the average primary motivation of a person to travel is to relax, refresh physically and mind. But concerning the motive according to [14] [15] that motivation is still the main push factor, while the pull factor is still dominated by destination attributes such as natural beauty and local culture or local life-style and eco-activities. With the change in tourism trends, tourists who come to brackish mangrove forests must have a shift in values in the tour, where tourists must be directed into activities that are more environmentally responsible and experience that can benefit both themselves and the area visited.

The key to the success of the shift in travel is to carry out Educational opportunities by packaging into green tourism programs, such as that carried out by The Mangrove Information Center (MIC), by utilizing natural and man-made potentials to be attractions and attractions for eco-tourism. Reflecting on what MIC has done in managing mangrove forest areas in Bali, the potentials that can be developed in the Mangrove Brackish Forest Tourism area such as mangrove tree plantation or adoption, mangrove educational tours and trekking, and bird watching. It is hoped that utilizing these potentials will motivate Eco-friendly attitudes for tourists, which will ultimately have an impact on environmental sustainability.

![Figure 2. Green tourist process](image)

Mangrove forest tourism destinations have a purpose in communicating that tourism management cares about the environment, at this stage tourists are given an understanding of the function of mangroves for environmental sustainability and the types of mangroves around the mangrove brackish forest areas. The green stage is the initial stage for implementing green tourists. Furthermore, the Greener stage aims to influence tourists to be more sensitive to the environment, especially mangrove forests. How to influence these tourists by providing experiences, such as doing a mangrove tree plantation, spreading fish, or bird seedlings. Greenest is the stage of changing the habits/culture of tourists visiting the Brackish Mangrove Forest Tourism in the direction of caring for the environment, the desired habits/culture of tourists is to become more concerned about the environment in all their daily life activities (environmental sustainability).
4.6 Green promotions
Promotion is part of the company's marketing activities in communicating products or services to the target market because the promotion has the primary purpose of providing information, persuading, and reminding consumers or potential customers. So that the right promotion is one effective marketing strategy because producers stimulate consumers or prospective consumers to buy products or services offered and can also form the desired consumer perception. But from the perspective of green promotions, promotion is better understood in the direction of attention and respect for a sustainable environment so that it will create a higher return than just a positive image.

Green Promotions that are carried out in Brackish Mangrove Forest Tourism are a form of long-term investment made to arouse the view of tourists against environmental damage. In addition to promotions aimed at tourists, green promotions become very important aimed at communities around brackish forest tourism as a long-term investment.

5. Strategic sustainable development environment
Based on the description above, the strategic model of tourism development (economic aspects), its integration with natural resource-based tourism planning efforts (ecological aspects) can be described with the model of relations between humans/individuals as tourists, society and the environment, as in the following environment:

![Diagram of human relations with the environment](source)

**Figure 3.** Model diagram of human relations with the environment

From the diagram of the relationship model above, it can be explained: 1) Humans, in this case, are tourists (individuals) will utilize tourism development to meet their needs, such as curiosity about new areas, changes in atmosphere/situation, and new trips. Therefore tourists need to be educated or open in nature so that in addition to meeting their needs, tourists also need to be made aware of the impacts of tourism activities; 2) Society as part of the social environment where tourism/human/ individual is in the control group (social control). Social control will emerge because of a common interest in achieving a better life through tourism. This social control will often be more effective than formal rules created by parties outside the local community such as government regulations; 3) The environment as an object of human (tourist) and community activities, because as an object, tourists and the public must realize that the environment is the main element that will be enjoyed as a natural atmosphere, not man-made amenities.

6. Conclusion
Based on a study of the results of the research, it is known that the application of Green Tourism Marketing in the Brackish Mangrove Forest tourism can work if (1) is able to increase local business
participation, increase diversity, and competitiveness of destination products; (2) able to build a local community tourism business; (3) able to contribute to regional original income; (4) able to encourage or at least facilitate investment in tourism businesses; and (5) able to integrate tourism ecosystems with the environment, economy, society and culture.

References

[1] M Ashari, Wahyunadi, and Hailuddin 2015 Analysis of Regional Development Planning in North Lombok Regency *Journal of Economics & Public Policy* 6 (2) 163-180
[2] Haryanto T J 2014 Ecotourism Development Model in Supporting Regional Economic Independence (Case Study of DIY Province) *Kavistara* 4 (2) 271-286
[3] Batta R N 2009 Green Tourism Certification Annual *Annals of Tourism Research* 23 (1) 48-70
[4] Hasan A 2014 Green Tourism *Journal of Tourism Media* 12 (1) 1-15
[5] Furqan A, AP Mat Som and R Hussin 2010 Promoting Green Tourism for Future Sustainability *Theism and Empirical Researches in Urban Management* 8 (17) 64-74
[6] Wardhani S R and Valeriani D 2016 Green Tourism in the Development of Bangka Belitung Tourism *Scientific Journal of Today's Global Economy* 7 (1) 24-29
[7] Bharuna A D S 2009 Planning and Strategic Patterns of Sustainable Nature Tourism Development and Environmental Insight *Jurnal Bumi Lestari* 9 (1) 121-128
[8] Kinoti M M 2011 Green Marketing Intervention Strategies and Sustainable Development *International Journal of Business and Social Science* 23 (5) 263
[9] Peatti K and Crane A 2005 Green Marketing: Legend, Myth, Farces or Prophesies? Qualitative Market Research *An International Journal of Research* 64 (12) 1311-1319
[10] Sutisna N 2006 Six *Benchmarks for Sustainable Development* Jakarta: Regional Development Institute
[11] Reindrawati D 2010 Ecotourist Motivation in Eco-Tourism: The Case in the Coban Rondo Malang Tourism Area *Journal of the Cultural and Political Society* 21 (2) 187-192
[12] Fandeli C 2002 *Nature Tourism Planning* Yogyakarta: Faculty of Forestry Gajah Mada University
[13] Abbas R 2000 *Prospects of the Application of Ecotourism in the Mount Rinjani National Park in West Nusa Tenggara* Bogor: Bogor Agricultural Institute
[14] Chan J K L and Baum T 2007 Motivation Factors of Ecotourists in Ecolodge Accommodations: The Push and Pull Factors *Asia Pacific Journal of Tours Research* 12 (4) 349-364
[15] Ross and I Ahola 1991 *Annals of Tourism Research Routledge, part of the Taylor & Francis Group* 18 (2) 226-237