



Development of a Culturally Integrated Ecosport Tourism Model Based on Tsunami Heritage in Aceh Province

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ABSTRACT

This study originates from the underdeveloped management of tourist attractions in Aceh, which has not been optimized to its full potential. Aceh currently requires a marketable tourism model that leaves a lasting impression on visitors. One promising alternative is ecosport tourism, an integration of sports activities and tourism that fosters interaction between tourists and local destinations. The objective of this study is to develop a tourism model that addresses the needs of the sports sector in Aceh. This research employs a qualitative research and development (R&D) approach, using interviews, documentation, and field observations as data collection methods. The data were analysed through the identification and description of tourism sites, as well as the formulation of appropriate ecosport models. The study findings reveal three potential ecosport tourism models based on regional characteristics: (1) walking or trekking in Banda Aceh, with six tourism stops featuring tsunami heritage sites; (2) cycling in Aceh Besar, covering seven cultural and natural destinations; and (3) a mixed-sport model in Central Aceh, which includes swimming, paragliding, rafting, and horseback riding. Expert validation results indicated a content validity score of 92%, categorized as "very valid," while media validation achieved a score of 96%. Response data showed high approval from students (86.6%), lecturers (81.6%), and tourism practitioners (85.8%). These results confirm that the developed ecosport tourism model falls within the 81%–100% range, qualifying it as very valid or very practical for implementation in real-world conditions.

Keywords: Ecosport, Tourism, Culture, Tsunami, Aceh

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INTRODUCTION

Sports and tourism are two of the most favored activities worldwide. In Indonesia, sports enjoy a significant following, which aligns with the public's interest in tourism. Consequently, the economic development resulting from the synergy of tourism and sports has been highly significant. Various attractions and events combining sports and tourism have been organized to leave the best possible

impression on tourists. Today, this synergy is known as ecotourism, classified as a form of special interest tourism. Ecosport tourism is a type of sports activity development conducted at tourist destinations by integrating natural life, local customs, and cultural traditions.

The development of the Ecosport in Indonesia began in 1924. This process led to Bali becoming the country's epicentre of tourism, combining culture, sports, and tradition. Ecotourism is one of the fastest-growing sectors in the global tourism industry, with a growth rate of approximately 10–15%; this highlights the significant economic value and tourist appeal of ecosport.

To create ecosport tourism that holds cultural value and attracts public interest, it is essential to examine attractions and key issues in tourism comprehensively. Several criteria must be fulfilled for a tourism attraction to deliver satisfying experiences to visitors. Tourism development should involve and connect all relevant and affected elements according to their capacities to strengthen and improve the local economy. One essential factor to consider is the encouragement of supporting industries for tourism activities; equally important is the adoption of local culture and community lifestyles.

Currently, governments around the world are striving to enhance tourism appeal through various policies and initiatives. Indonesia is also actively improving its tourism sector by focusing on ecosport. Recently, significant events such as the Mandalika Circuit in Lombok, the FIFA U-17 World Cup, and the Sail Toba event have been launched to attract tourists interested not only in sports but also in travel experiences. Tourism is defined by the activities and outcomes that foster interaction among visitors, destinations, governments, and the environment. However, challenges remain in the development process, one of which is urban transformation and the restructuring of tourism clusters.

This study aims to examine and propose a tourism development model based on the ecosport concept in Aceh. Currently, the concept of ecosport in Aceh lacks a clear framework and requires active involvement from stakeholders through human resource development initiatives. Tourism in Aceh remains predominantly focused on maritime areas, particularly in Sabang. According to RRI data, the number of marine tourists visiting Sabang in 2024 was recorded at 269,823 people.

In addition to marine tourism, Aceh Province also offers cultural and natural tourism, especially in Banda Aceh, Aceh Besar, and Central Aceh. Other regencies have yet to fully utilize their tourism potential. The province is rich in maritime, natural, and tsunami heritage tourism resources that currently serve as key attractions.

The development of an ecosport tourism model is conducted using a SWOT analysis of tourism and sports potentials appropriate to each region, considering practical, effective, efficient, and enjoyable aspects. However, several issues need to be addressed, such as tourism potential, accessibility, and the integration of suitable sports with the geographic conditions of each location. The main research problems addressed in this study include: What are the top tourism potentials in Aceh that can be developed through integration with sports? Which types of sports are relevant to the stages and geographical conditions of the regions in Aceh? Moreover, what ecosport tourism model can be developed by integrating local culture and tsunami heritage in Aceh?

Several previous studies have discussed the development of ecosport models. For example, I Nengah Alit Nuriawan (2022) focused on special interest tourism, ecosport, as an alternative in Gobleg Village, Buleleng, Bali, using a qualitative method through observation. The findings revealed that the Gobleg Village waterfall area has excellent potential for tourism development. Another study by Syarief Hidayat and Wasti Danardani (2023) explored the development of a city ecosport tourism model in Singaraja, utilizing the ADDIE model, which resulted in a draft ready for trial implementation.

This study integrates ecosport with culture and tsunami heritage in Aceh. In 2004, Aceh experienced a devastating natural disaster, an earthquake followed by a tsunami, that destroyed much of the region. Tejakusuma (2005) described a tsunami as a wave caused by the constant movement of the Earth's crust. These waves are usually large and high, capable of destroying coastal areas in an instant. The earthquake that triggered the 2004 Aceh Tsunami on December 26 was one of the most catastrophic disasters of the 20th century, causing immense infrastructure damage and a significant loss of life. Hundreds of thousands of Acehnese perished in the tragedy. Today, Aceh possesses a new tourism landscape shaped by this

heritage; numerous tsunami-related tourist sites have become major attractions for visitors.

This research is the first of its kind in Aceh to propose a cultural and tsunami-heritage-based ecosport tourism model. The cultural elements selected as the foundation for this development are traditional Acehnese culture and its preserved heritage, which have become key attractions for tourism in the region. This model is expected to attract new interest from sports and recreation enthusiasts across Indonesia.

METHODS

The type of research used in this study is descriptive qualitative, aiming to analyze data through interviews, observations, and documentation. The development of the ecosport tourism model follows the Borg and Gall model to produce the best possible version of an Ecosport Tourism Model Integrated with Culture and Tsunami Heritage in Aceh Province. The Borg and Gall model consists of ten stages: (1) identifying potentials and problems; (2) collecting data; (3) designing the product; (4) validating the design; (5) revising the design; (6) conducting product trials; (7) revising the product; (8) conducting usage trials; (9) revising the product; and (10) producing the final product (Borg & Gall, 1984).

The primary data sources in this study are descriptions of existing tourist attractions in Aceh, particularly those related to cultural tourism and tsunami heritage sites. Based on this scope, the selected regions for data collection include Aceh Besar for natural and tsunami heritage tourism, Central Aceh for natural tourism, and Banda Aceh to represent cultural tourism and tsunami heritage in Aceh.

The data were collected using several techniques: observation, documentation, and interviews. Interviews were conducted with tourism actors and local communities surrounding the tourist locations to gather real-time data on the characteristics of each site. The data analysis was conducted using qualitative analysis methods involving expert and user validation forms. The validation was performed using questionnaires based on a Likert scale, as presented in the following table:

Table 1. Likert Scale for Validation

Criteria	Score
Strongly Agree	4
Agree	3
Disagree	2
Strongly Disagree	1

The results were then converted into qualitative data using the criteria below:

Table 2. Criteria for Validity and Effectiveness of Learning Materials

Percentage (%)	Feasibility Level	Description
81-100	Very Valid or Very Effective	Highly valid and highly effective for implementation
61-80	Valid or Effective	Valid and effective for implementation
41-60	Reasonably Valid or Fairly Effective	Moderately valid and moderately effective
21-40	Less Valid or Less Effective	Less valid and less effective
1-20	Not Valid or Not Effective	Not valid and not effective

At the time of this research, preliminary data regarding cultural characteristics and natural conditions at the study locations were collected, along with data on the tourist attractions available at those sites. Ecosport tourism development in Aceh was primarily focused on Banda Aceh and Aceh Besar, with an emphasis on cultural and tsunami heritage tourism. In contrast, natural tourism was concentrated in Central Aceh, which boasts the most notable landscapes in the province. These three study locations were selected as representative regions of Acehnese culture, encompassing the diversity of local ethnic groups within the Acehnese community.

RESULTS AND DISCUSSION

Model Development Description

The product developed in this research is an ecosport tourism model, designed using the ten stages of the Borg and Gall model. However, in the implementation process of this research, the product trial was limited to a simplified usage trial involving physical education students and tourism practitioners. The development steps are described as follows: the first stage involved analyzing potentials and problems. At this stage, the researchers identified the tourism and sports potentials and challenges based on literature reviews and comparisons with actual conditions in Aceh. It is recognized that ecosport requires specific skills in its implementation. The development of ecosport tourism in Indonesia, according to Hidayat & Toho Cholik Mutohir (2018), began in 1924 when tourists traveled to

Bali by sea. This later evolved into activities such as surfing, parasailing, jet skiing, and banana boating. This evolution indicates that nature-based sports integrated with tourism are beautiful to tourists. Isnaini and Hasbi (2020) emphasized that the combination of sports and tourism, if managed properly, can have a positive impact on social welfare and local economic growth.

Hidayat, Giorgio, and Spinelli (2009) explain that ecosport tourism integrates natural environments, cultural traditions, and local customs with sports. This implies that the sports activities involved must be designed with appropriate models and structures to meet the needs of tourists, as well as the amenities and sports facilities. Furthermore, the safety of tourists must be prioritized, as ecosport involves outdoor sports with various risks. Referring to the above literature, the locations suitable for ecosport tourism development in Aceh include Banda Aceh and Aceh Besar for cultural and tsunami heritage tourism, and Central Aceh for natural tourism due to its outstanding landscape.

Based on the results of interviews and documentation, several aspects were identified as underdeveloped in Aceh's tourism sector, particularly in the ecosport sector. These include the need to optimize the best tourism potentials that can be integrated with sports; the identification of sports relevant to each region's stage and condition; and the formulation of an ecosport tourism model that incorporates Acehnese culture and tsunami heritage. These challenges can be addressed through the design of an integrated tourism model that aligns with the natural environment and cultural assets of Aceh, namely ecosport.

The next stage involved collecting field data and planning the product. This stage aimed to design an ecosport tourism model to enhance Aceh's tourism sector. The model was designed to utilize the region's natural and cultural resources, integrating them with sports. The researchers developed the design and mapped out the tourist locations and relevant sports activities according to Aceh's geographical conditions. The model specifications include visuals, types of sports, and tourism experiences that can be offered through physical activities. Across the three research sites, several popular tourist destinations have been identified in recent years, as illustrated below:



Figure 1. Tourist Destinations in Research Locations

These destinations are among the most favored by the local population. Based on interviews with local communities and tourism stakeholders, each region has distinct tourist destinations. Central Aceh features natural and mountainous tourism with extreme attractions. Aceh Besar promotes cultural and coastal tourism. Banda Aceh, the administrative capital, emphasizes cultural tourism and tsunami heritage. Observations by the researchers confirmed that amenities at these tourist sites are generally well-provided.

Product development stages. This stage was conducted to formulate an ecosport tourism model that aligns with actual needs. The model highlights the identification of tourism sites and the available amenities. These tourist sites are visually represented and integrated with the types of sports that are suitable for accessing destinations in Aceh Besar, Banda Aceh, and Central Aceh. The results of this development are categorized into three types of tourism areas.

Ecosport Tourism Modeling

Based on the field observations and interviews with tourism stakeholders and local communities, the ecosport models developed for the research locations are as follows:

1. Banda Aceh

Banda Aceh is a coastal region; most of its natural attractions revolve around the marine environment. However, its main appeal lies in the tsunami heritage landscape. The proposed ecosport tourism model for this central city area is walking or trekking.

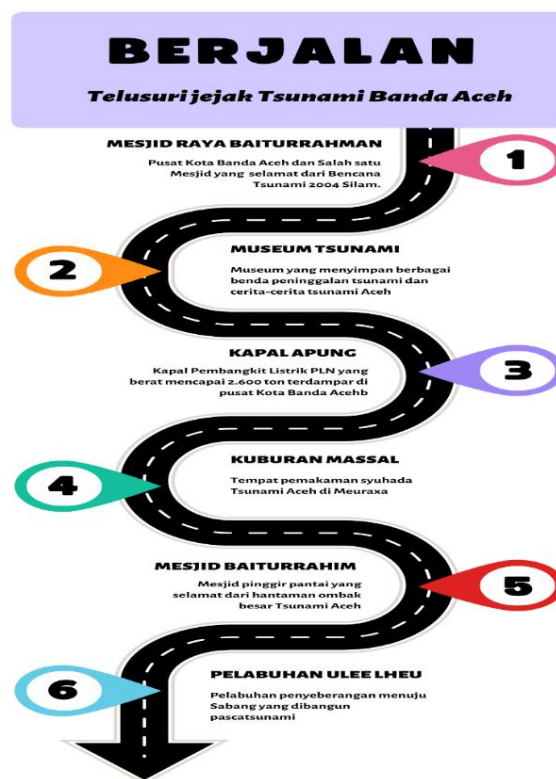


Figure 2. Ecosport Model in Banda Aceh Region

In this model, tourists are invited to walk through several tourism destinations in Banda Aceh. The route consists of six stops where participants follow the traces of the 2004 tsunami. The journey is completed entirely on foot, beginning at Baiturrahman Grand Mosque and ending at Ulee Lheue Harbor. Along the route, participants encounter key heritage sites, including the Tsunami Museum, the PLN ship carried inland by the tsunami, the mass grave, and the Baiturrahim Mosque, which stood firm during the tsunami disaster. This model is ideally

implemented as a tourism event scheduled in Aceh Province's tourism calendar to ensure maximum participant engagement.

2. Aceh Besar

Aceh Besar spans a vast area and is one of the largest regencies in the province. The region boasts a unique combination of coastal and mountainous landscapes, making it a significant tourist destination. Given the vast terrain, a suitable sport for the ecosport tourism model in this area is cycling, specifically cyclo-sportives, a type of cycling that integrates natural and cultural tourism experiences.



Figure 3. Cycling Ecosport Model

Several interesting destinations can be included in the cyclo-sportives route: the Aceh Museum, Cut Nyak Dhien's Heritage House, Lampuuk Beach, Lhoknga Beach, Krueng Sarah River, Leupung Beach, and Lhong Waterfall. These seven destinations present a combination of beach, mountain, and cultural tourism, which are highly popular among locals and visitors.

According to the interviews, most coastal destinations in Aceh Besar feature attractive white-sand beaches, combined with cultural elements. Lampuuk Beach, for instance, offers religious tourism due to the presence of a mosque that survived the tsunami. The total distance of the proposed route is 40 km, with each segment between destinations spanning approximately 7 km. This ecosport cycling model can be implemented through cycling events. The cycling ecosport model in Aceh Besar can be integrated with major annual tourism events held in Aceh.

3. Central Aceh

A mountainous topography characterizes Central Aceh. The sports commonly practiced in this region differ from those in other areas of Aceh. Central Aceh promotes natural and special-interest sports tourism. The suitable ecosport model for this region involves mixed sports, including swimming, paragliding, rafting, and horseback riding.

The river systems and land formations in Central Aceh are highly conducive to activities such as rafting and horseback riding. Horses are an integral part of the local culture and have become a unique tourist attraction.



Figure 4. Mixed Ecosport Model

Expert validation stage. Subject matter experts and media experts subsequently validated the draft product developed. Validation by subject matter experts was conducted using an instrument filled out by professionals in the fields of tourism and sports. Meanwhile, media validation was carried out by lecturers specializing in media and illustrators. The results of the validation process are presented in the table below:

Table 3. Expert Validation Results

Product	Validator	Percentage	Description
Ecosport	Subject Expert	92%	Valid
Model	Media Expert	96%	Valid

Based on the table above, the validation results indicate that the content applied in the model achieved a score of 92%, which is categorized as very valid.

The media validation results indicate a percentage score of 96%, which also falls into the very valid category. These results confirm that the media used is appropriate and applicable.

Following the expert validation of the design and product, it can be concluded that the ecosport models developed for the three regions described earlier have reached a high level of quality. The experts concluded that the model could be implemented effectively by the geographical features of Aceh and the region's cultural heritage and tourism destinations. The development of ecosport in Aceh can be evaluated and integrated with the natural environment, local customs, and cultural traditions (Giorgio & Spinelli, 2009).

Product Revision stage. The product revision process was conducted by reviewing notes and suggestions provided by the expert validators. The revisions made were categorized as minor, primarily involving the addition of illustrations and more detailed stages in the model planning process. The proposed model requires real data on natural conditions and field situations that can be recommended for implementation. Moreover, the model also requires the formulation of preparatory steps; however, such steps can only be executed with a realistic budget and funding for on-site operations. This stage cannot be carried out without support from stakeholders to ensure the integration of tourist amenities and field readiness in actual conditions.

Product Trial and Final Revision Stage. The trial conducted at this stage focused on assessing the readability and logical structure of the model through participant responses. A full-scale implementation trial could not be conducted due to the absence of a formal event and a sufficient number of participants. Therefore, the trial was limited to collecting feedback on the readability and usability of the model from students, lecturers, and tourism practitioners. The results of this usage trial are summarized in the table below:

Table 4. Summary of Response Results

Respondent Group	Score Obtained	Maximum Score	Percentage
Students	52	60	86,6%
Lecturers	49	60	81,6%
Tourism Practitioners	51,5	60	85,8%

The table shows that the students' responses scored 86.6%, lecturers' responses reached 81.6%, and tourism practitioners' responses were at 85.8%. These responses indicate that the developed ecosport model achieved an average score range of 81%–100%, falling under the criteria of very valid or very effective for practical implementation in real field conditions.

CONCLUSIONS

The development of a culturally integrated ecosport tourism model that incorporates tsunami heritage in Aceh has demonstrated significant potential to enhance local economic development. The three research regions, Banda Aceh, Aceh Besar, and Central Aceh, offer distinct ecosport concepts, each accompanied by unique tourist destinations. The Aceh provincial government can promote cultural and tsunami heritage tourism through scheduled ecosport events.

The ecosport models produced in this study include walking or trekking activities in Banda Aceh, cycling in the form of cyclo-sportives in Aceh Besar, and a mixed-sport model in Central Aceh, featuring swimming, paragliding, rafting, and horseback riding. The material validation results show a score of 92%, indicating a very valid category. The media validation yielded a score of 96%, confirming that the media used is highly suitable.

The survey data revealed that students gave a score of 86.6%, lecturers scored 81.6%, and tourism practitioners scored 85.8%. These results confirm that the developed ecosport model achieved an average score range of 81%–100%, qualifying it as very valid or very practical for use in real-world conditions.

The development of this ecosport model requires strong support from local tourism stakeholders and contributions from regional governments to institutionalize it as an annual tourism event and include it in the official tourism calendar. Such institutionalization is essential for the sustainable implementation of the program and for attracting participants from both domestic and international tourism markets.

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