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Potential of Painted Terrapin (Batagur borneoensis) Tourism as a Source of Ecotourism Learning

Muhammad Al Dilwan

Universitas Samudra, Langsa, Indonesia Correspondence: E-mail: aldilwan@unsam.ac.id

ABSTRACT

Painted terrapin is a rare species of animal facing extinction. Tourism management based on ecotourism has been implemented to preserve the painted terrapin and improve the local community's economy. Painted terrapin tourism holds the potential as a learning resource, but there is a lack of research on this subject. This research aims to analyze the relevance of painted terrapin tourism as a learning resource for ecotourism. The research was designed using a qualitative method. Data collection techniques included interviews, observations, and literature reviews. Data analysis was presented descriptively, which included reviews of the potential of painted terrapin tourism and its relevance as an ecotourism learning resource. The results indicate that painted terrapin tourism is relevant as a learning resource for ecotourism. This is because the tourism potential, involving observation and educational activities related to the painted terrapin's conditions and ecotourism-based tourism management, aligns with the learning objectives. It can effectively support the achievement of learning goals and can be integrated into the educational process.

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1. INTRODUCTION

Learning resources are essential components in the learning process. Learning resources can come from objects, people, and events that provide information that can enhance knowledge, experiences, and skills (Abbas et al., 2020). The effective use of learning resources can improve motivation, participation, and learning outcomes (Bušljeta, 2013). The environment is one of the learning resources that facilitate authentic learning, capable of supporting the improvement of learning quality (Zaki et al., 2021).

The painted terrapin tourism is an environmental element with the potential as a learning resource. The painted terrapin (Batagur borneoensis) is a rare species in the world that exists on the coast of Aceh Tamiang. The painted terrapin is a type of turtle that is critically endangered due to environmental degradation, hunting, and illegal trade (Government Regulation No. 7, 1999). These animals inhabit estuaries affected by tidal changes (Mawardi et al., 2022). The primary supporter of the painted terrapin's existence is the mangrove forest. This forest area also serves as a habitat for various other fauna species. Fruits from the mangrove forest serve as food sources for painted terrapins, while painted terrapins aid in the dispersal of tree seeds (Saputra, 2019).

The painted terrapin is a main attraction for tourism in Pusung Kapal Village, managed by the community using ecotourism approaches. Ecotourism is a sustainable natural tourism management strategy that involves the active participation of local residents (Dilwan & Astina, 2019). Community participation in tourism management shows that communities play a crucial role in improving their livelihoods through sustainable tourism management (Li et al., 2023). Ecotourism is considered an effective solution in supporting nature conservation campaigns to local and general communities (Beall et al., 2021; Hasana et al., 2022). This campaign aims to make all people aware that tourism activities can boost the local economy without harming the environment.

Ecotourism is multidisciplinary as it involves various scientific disciplines. Geography is one of the scientific disciplines that study ecotourism phenomena. Hall & Page, (2009) state that geographical studies in ecotourism focus on spatial, ecological aspects, as well as regional planning and development. Ecotourism learning at universities aims to enhance students' understanding and concern for the environment and improve their ability to analyze disasters and plan regional development. This study brings ecotourism into a significant topic in Geography learning at Samudra University.

So far, painted terrapin research tends to focus on physiography, lifestyle patterns, and painted terrapin habitat conditions. Research on painted terrapin tourism as an ecotourism learning resource has received less attention. Painted terrapins are not only useful as attractions for tourists but can also serve educational purposes. Taufik et al., (2021) state that the environment is a learning resource that can support learning activities.

This study aims to analyze the potential of painted terrapin tourism that can be used as an ecotourism learning resource. To achieve this goal, exploration of the potential of painted terrapin tourism and elaboration in ecotourism learning is necessary, considering the topics, objectives, and learning activities. This research is expected to contribute to the development of various learning resources and help improve the quality of ecotourism learning.

2. METHOD

This research was conducted in Kuala Pusung Kapal Village, Seruway Subdistrict, Aceh Tamiang Regency. This village manages painted terrapin tourism with an ecotourism approach. The research was designed using a qualitative method. Data collection techniques included interviews, observations, and literature reviews. Interviews involved two informants

from the local community involved in tourism management and informants engaged in conservation activities. Interviews were conducted to obtain information about tourism management strategies. Informants were purposively selected. Observation activities aimed to directly observe tourism activities, including the educational patterns of managers towards tourists, and the interaction between tourists and the environment. Literature review was used to obtain information about ecotourism learning topics and objectives, as well as to review relevant literature data for the research. Data analysis techniques involved stages of data reduction, data presentation, and data verification. The results of the analysis were presented descriptively, which included reviews of the potential of painted terrapin tourism and its relevance as an ecotourism learning resource.

3. RESULTS AND DISCUSSION

3.1 Painted Terrapin Tourism Potential

The research findings indicate that the painted terrapin is the main attraction for tourism in Pusung Kapal Village. Tourists tend to come from primary and secondary educational institutions in Aceh Tamiang Regency and higher educational institutions in Aceh Province. The main purpose of tourists is to observe painted terrapins because they are a rare species in the world that is endangered. Tourist observation objects include painted terrapin eggs, hatchlings, adult painted terrapins, and the carcasses of adult painted terrapins.

Various types of wildlife also attract tourists' attention. Other objects of interest include estuarine crocodiles, birds, monkeys, mangrove forests, nipah palms, pine trees, river trekking activities, and observations of painted terrapin nesting sites located at Ujung Tamiang Beach and Pusung Cium Beach. In addition to the painted terrapin collection, tourism managers also provide educational activities by explaining the anatomy and lifestyle patterns of painted terrapins, conservation activities, and painted terrapin habitat conditions. Educators come from the Tourism Awareness Group team and the Indonesian Satucita Lestari Foundation. The educational activities aim to enhance tourists' knowledge and environmental awareness.

Painted Terrapin Tourism in Pusung Kapal Village can be accessed using two-wheeled and four-wheeled transportation. The distance from the center of Aceh Tamiang City to the tourism location is approximately 33 km, and it is 41 km from Langsa City. The road topography is mostly flat to gently sloping and dominated by paved roads. Approximately 3.18 km before reaching the tourism location, the road surface changes to compacted earth. Pokdarwis also provides boat facilities and life jackets for river trekking activities. Tourism supporting facilities in Pusung Kapal Village include a painted terrapin and mangrove information center, homestays, mosques, grocery stores, and eateries.

The Tourism Awareness Group has been managing painted terrapin tourism since 2017. Tourism managers come from Pusung Kapal Village residents, formed through the initiative of the Indonesian Satucita Lestari Foundation, Pertamina, and local residents. Local communities are the main actors in the decline of the painted terrapin population. The community hunts painted terrapins and their eggs for consumption and trade. The Indonesian Satucita Lestari Foundation initiated painted terrapin conservation efforts in 2009, starting with research, conservation, and education phases. Conservation efforts are supported by Pertamina EP Rantau Field and several other organizations. The establishment of Pokdarwis in 2017 indicates that conservation efforts have received support from the community. Ecotourism-based tourism management was chosen as a strategy to save the painted terrapin population with active community participation. Ecotourism-based management emphasizes community involvement in preserving painted terrapins while simultaneously improving their economy without harming the environment.

3.2 Integration of Painted Terrapin in Learning

The potential of painted terrapin tourism can be integrated into ecotourism learning. Ecotourism learning in the Geography Education Program at Samudra University consists of seven learning topics, namely natural and ecotourism, biodiversity in ecotourism, potential and disaster risks in ecotourism areas, ecotourism in conservation areas, ecotourism management strategies, ecotourism spatial planning, and ecotourism product evaluation. Considering the learning topics and objectives, as well as activities that students can conduct, integrates the process.

Natural and ecotourism is a topic that discusses the basic concepts and principles of ecotourism. Through this topic, students are expected to differentiate between natural and ecotourism, as well as understand the basic principles of ecotourism. Through this topic, students can identify the potential attractions of tourism by considering both attraction and tourism management aspects. After the identification stage, students classify these potentials into categories of natural or ecotourism, and understand the urgency of ecotourism implementation.

Biodiversity in ecotourism is a topic that discusses biodiversity, their functions, and their potential for the environment and society. Through this topic, students are expected to understand the function of biodiversity in ecotourism. Biodiversity plays a role as an environmental health indicator and is a tourism attraction. Students' tasks in this topic include conducting interviews about biodiversity management patterns in the form of ecotourism implemented by the tourism awareness group in Kuala Pusung Kapal Village. Ecotourism potentials that can be examined and relevant to this topic are painted terrapin conservation activities.

Disaster mitigation in ecotourism areas is a topic that discusses the potential and mitigation of natural and non-natural disasters in ecotourism areas. Students can observe, interview, and conduct spatial analysis to understand the topography of the area, soil types, vegetation, coastal morphology and wave conditions, river morphology and discharge, rainfall patterns, land use patterns, economic and social conditions of the population, settlement patterns, and disaster preparedness. Students can analyze various data using weighting methods, scoring, and spatial analysis using geographic information system software to identify disaster potentials and formulate disaster mitigation strategies. Potential tourism as a learning resource includes geographical conditions and non-physical conditions of tourism areas and the social conditions of Pusung Kapal Village.

Ecotourism management can be implemented in conservation and non-conservation areas. The topic of ecotourism in conservation areas aims to provide an understanding of the role of ecotourism in conservation areas. Students can achieve this understanding through interviews with ecotourism managers and compiling the interview results in the form of reports that discuss the causes, processes, and impacts of ecotourism management in conservation areas. The subjects of student research are the tourism awareness group, the government, and the village community.

Ecotourism management strategies are a learning topic that aims to provide students with an understanding of community-based ecotourism management strategies and the role of stakeholders in ecotourism management. Local communities are the main actors in ecotourism management (Widhiatmoko et al., 2020). This happens because local communities are the group most affected by the negative and positive impacts of environmental management in their surroundings. Learning objectives can be achieved by interviewing the tourism awareness group as ecotourism managers. The results of the interviews are presented in the form of written reports and presentations.

Ecotourism spatial planning is a topic that discusses spatial planning components and the urgency of spatial planning in the development of ecotourism areas. Through this topic, students are expected to analyze ecotourism spatial planning and important components that need to be considered in tourism spatial planning. Spatial planning is a spatial analysis aimed at regulating spatial planning, utilization, and use of space (Simamora & Sarjono, 2022). To achieve learning objectives, students can observe and interview tourism managers and local governments regarding ecotourism development spatial planning integrated into the regional spatial planning. Students can also conduct spatial analysis to determine the direction of regional development.

Ecotourism product evaluation is a topic that discusses product evaluation methods and the benefits of ecotourism product evaluation. Students can use SWOT analysis. SWOT is an analysis method that can be used for monitoring and evaluating ecotourism products and management (Widyastuty & Widiana, 2022). SWOT analysis focuses on the weaknesses and threats of ecotourism products, as well as the strengths and potential of ecotourism product development. SWOT analysis data references come from observations of ecotourism attractions, accessibility, and amenities, as well as from interviews with ecotourism managers. The results of the analysis are presented in the form of written reports and presented in front of the class.

To support learning activities, the researchers recommend the use of learning models that refer to the 21st-century education paradigm, which emphasizes the active role of students in contextual learning processes. Student-centered learning is a learning process that makes students the active subjects of learning who analyze and solve problems (Marpaung & Azzajjad, 2020; Werdiningsih et al., 2023). Student involvement in learning not only takes place in the classroom but also occurs contextually outside the classroom. Contextual learning is a learning approach that links concepts with practices in the real world (Rahmawati et al., 2019). Real-world situations are not presented in the classroom, but learning concepts are constructed experimentally through field trips. The potential of painted terrapin tourism is a research object and contextual learning resource that students can learn directly through field trips. Contextual learning allows students to directly link the surrounding environment with learning concepts. Additionally, students can interact with the surrounding environment in real-life contexts to implement learning concepts (Das & Sudarshan, 2023).

Learning models that are suitable for the student-centered and contextual learning paradigm are project-based learning and problem-based learning (Haerani & Jatiraga, 2019; Nasution et al., 2022). Project-based learning emphasizes collaboration and active student participation in the learning process. This model provides opportunities for students to explore communication skills and high-level thinking skills by conducting interviews with communities, field observations, and data analysis (Guo et al., 2020). The results of project-based learning are research reports, recommendations, or creative works (Maros et al., 2023). Creative works can include brochures, documentary videos, and environmental learning modules. Problem-based learning is a learning model that encourages students to actively collaborate in problem-solving (Anazifa & Djukri, 2017). Problem-based learning can have a positive impact on improving metacognitive abilities and skills (Sari et al., 2021). Learning data sources based on problems can be obtained directly in the field through interviews, observations, and supported literature reviews (Trullas et al., 2022).

5. CONCLUSION

Painted terrapin is a rare species of turtle in the world that is endangered. This species has been successfully preserved through active involvement of the residents of Pusung Kapal Village, both in tourism activities and conservation efforts. Painted terrapin tourism offers various observation activities, ranging from observing eggs, skeletons, to the habitat of painted terrapins. Tourism managers also provide educational activities for students, such as explaining the anatomical conditions and lifestyles of painted terrapins, conservation activities, and habitat conditions of painted terrapins. Painted terrapin tourism offers various learning resources, such as objects, data, facts, people, and events that provide diverse information relevant to the topics and objectives of ecotourism learning. Thus, painted terrapin tourism serves as an environmentally based learning resource that supports ecotourism learning in the Department of Geography Education, Samudra University. However, further research is still needed to determine the effectiveness of painted terrapin tourism as an ecotourism learning resource.

Additionally, painted terrapin tourism has the potential to enhance community awareness and involvement in conservation efforts through participatory activities. By engaging visitors in habitat restoration, hatchling release programs, and conservation workshops, this initiative fosters a deeper understanding of the importance of biodiversity preservation. Moreover, the integration of local knowledge and traditions into ecotourism practices further strengthens cultural appreciation and sustainable tourism development. These efforts not only contribute to the protection of painted terrapins but also promote responsible tourism practices that benefit both the environment and local communities. Furthermore, the economic benefits of painted terrapin tourism provide an added incentive for local communities to actively participate in conservation efforts. The revenue generated from tourism activities, such as guided tours, souvenir sales, and educational programs, helps support both conservation initiatives and the livelihoods of residents. This sustainable approach ensures that conservation and tourism can coexist, creating a model where environmental protection aligns with economic development. By fostering a sense of ownership among local communities, painted terrapin tourism encourages long-term commitment to preserving this endangered species and its habitat.

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