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A Conservation-Based Strategy for Ecotourism Development in Olele Marine Park, Gorontalo, Indonesia

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ABSTRACT

Background: Olele Marine Park in Gorontalo, Indonesia, is a coastal and marine tourism area with considerable potential for conservation-based ecotourism development. Its natural attractions, including coral reef ecosystems, clear seawater, diverse marine biota, and coastal landscapes, provide strong opportunities for sustainable tourism activities such as snorkeling, diving, environmental education, and community-based tourism. **Objectives:** This study aims to formulate a conservation-based strategy for ecotourism development in Olele Marine Park. A literature-based research method was applied by reviewing relevant scientific publications, planning documents, and secondary data related to marine ecotourism, coastal resource management, conservation, and community participation. **Methods:** The tourism potential was assessed using an ecotourism feasibility approach based on several criteria, including natural attractiveness, accessibility, tourism facilities, environmental and community conditions, market potential, and management services. **Results**: The assessment results show that Olele Marine Park obtained a total score of 4,459 out of a maximum score of 5,695, resulting in a feasibility index of approximately 78.30%. This indicates that the area is feasible for further development as a conservation-based ecotourism destination. The strongest aspects are natural attractiveness and accessibility, while tourism facilities, management quality, and community empowerment still require improvement. Therefore, a Community-Based Tourism approach is recommended to strengthen local participation, improve tourism services, support environmental conservation, and ensure equitable economic benefits for coastal communities. **Conclusion:** The study highlights the importance of integrated, participatory, and conservation-oriented management in developing Olele Marine Park as a sustainable marine ecotourism destination.

KEYWORDS: Ecotourism; Coastal management; Community-based tourism; Marine conservation; Olele Marine Park; Sustainable tourism

1. INTRODUCTION

Marine tourism is one of the most important forms of special-interest tourism in coastal and archipelagic regions. It utilizes the natural potential of marine and coastal landscapes through both direct activities, such as boating, swimming, snorkeling, diving, and fishing, and indirect activities, such as beach recreation, coastal sightseeing, and enjoying the marine atmosphere (Nurisyah, 2021). Coastal areas are not only attractive for tourism development but also serve as important ecological zones that support biodiversity, fisheries, local livelihoods, and environmental stability. However, the high economic value of coastal resources is often accompanied by ecological vulnerability, making sustainable, conservation-oriented management essential to maintaining their long-term benefits (Marzaman & Rasyid, 2020).

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Gorontalo Province has considerable coastal and marine tourism potential, particularly in areas with rich underwater biodiversity and distinctive coastal landscapes. One of the most prominent destinations is Olele Marine Park, located in Bone Bolango Regency. This area is recognized for its coral reef ecosystems, clear seawater, reef fish diversity, and underwater attractions that support marine tourism activities such as snorkeling, diving, and environmental education. Previous studies have reported that Olele Marine Park has coral reef cover exceeding 50% and approximately 36 reef fish species, indicating its strong ecological and tourism value (Mahale et al., 2018). These characteristics make Olele Marine Park a strategic area for the development of conservation-based ecotourism.

Despite its high potential, the development of Olele Marine Park as a sustainable ecotourism destination still faces several challenges. Tourism management in the area has not been fully optimized, and several aspects, including tourism facilities, human resource capacity, community empowerment, environmental management, and stakeholder coordination, require further improvement. Limited infrastructure and insufficient integration between tourism development and conservation efforts may reduce the quality of visitor experiences and increase pressure on coastal and marine ecosystems. Therefore, tourism development in Olele Marine Park should not focus solely on economic growth, but must also prioritize environmental protection, local community participation, and sustainable resource management.

Conservation-based ecotourism offers an appropriate framework for addressing these challenges. This approach emphasizes environmental protection, education, responsible tourism practices, and the involvement of local communities in tourism planning and management. In this context, Community-Based Tourism (CBT) is particularly relevant because it positions local communities not merely as beneficiaries but also as active actors in managing tourism resources. Through CBT, residents can participate in decision-making, tourism services, conservation activities, and the distribution of economic benefits. Such an approach is expected to strengthen local ownership, improve community welfare, and support the long-term conservation of marine and coastal ecosystems (Suansri, 2015; Usman et al., 2022).

Although several studies have discussed the tourism potential and local economic development of Olele Marine Park, a comprehensive strategy integrating ecotourism development, conservation principles, community participation, and a destination feasibility assessment is still needed. A systematic assessment of tourism potential can help identify the area's strengths and weaknesses and provide a basis for formulating appropriate development strategies. Therefore, this study aims to formulate a conservation-based strategy for ecotourism development in Olele Marine Park, Gorontalo, Indonesia. The findings are expected to contribute to sustainable marine tourism planning and provide practical recommendations for local governments, tourism managers, conservation stakeholders, and coastal communities.

2. MATERIALS AND METHODS

2.1 Research Design

This study employed a qualitative-descriptive research design supported by a literature-based assessment approach. The research was conducted to formulate a conservation-based strategy for ecotourism development in Olele Marine Park, Gorontalo, Indonesia. Since the study relied on secondary data, the analysis focused on identifying, synthesizing, and evaluating relevant information from previous scientific studies, government documents, conservation reports, and tourism-related publications.

The study combined descriptive literature analysis with an ecotourism feasibility assessment using the Analysis of Natural Tourism Attraction Objects and Areas framework, commonly known as ADO-ODTWA. This framework was used to evaluate the development potential of Olele Marine Park based on several key criteria, including natural attractiveness, accessibility, tourism facilities, environmental and community conditions, market potential, and management services.

2.2 Literature Search Strategy

The literature search was conducted systematically to obtain relevant information related to marine ecotourism, conservation-based tourism, community-based tourism, coastal resource management, and the development potential of Olele Marine Park. The search focused on academic and institutional sources published primarily between 2015 and 2025 to ensure the relevance and recency of the data. However, several older sources were also considered when they provided foundational concepts or methodological frameworks.

The search process used several keywords and keyword combinations, including: marine ecotourism, conservation-based tourism, community-based tourism, coastal tourism management, Olele Marine Park, Gorontalo marine tourism, coral reef conservation, and sustainable coastal tourism. Indonesian keywords were also used to retrieve local studies, such as ekowisata bahari, Taman Laut Olele, wisata berbasis konservasi, pengelolaan kawasan pesisir, and pemberdayaan masyarakat pesisir. The inclusion criteria were:

a. studies or documents discussing Olele Marine Park or coastal and marine tourism in Gorontalo;
b. publications related to ecotourism, conservation, community-based tourism, or sustainable tourism;
c. sources containing relevant data on natural attractions, accessibility, facilities, community conditions, market potential, or tourism management; and
d. scientific articles, government documents, institutional reports, or credible conservation-related publications.

Sources were excluded if they were not directly relevant to marine ecotourism, lacked clear authorship or publication information, contained unsupported claims, or did not contribute to the assessment criteria used in this study.

2.3 Data Sources

The data used in this study were obtained from secondary sources. These included peer-reviewed journal articles, academic books, government planning documents, tourism reports, conservation publications, and previous research on Olele Marine Park and coastal tourism development in Gorontalo. The data were used to describe the ecological, social, infrastructural, and managerial conditions of the study area. The main types of data analyzed in this study included:

a. ecological data, such as coral reef conditions, marine biodiversity, water clarity, and coastal landscape characteristics;
b. tourism data, including tourism attractions, snorkeling and diving potential, visitor facilities, and accessibility;
c. social and community data, including local community participation, livelihood patterns, education level, and community support for tourism development;
d. management data, including institutional arrangements, tourism services, funding, and human resource capacity; and
e. market-related data, including population potential and accessibility from surrounding areas.

These data were then classified according to the ODTWA assessment criteria and used as the basis for scoring and formulating conservation-based ecotourism development strategies.

2.4 ODTWA Assessment Framework

The tourism development potential of Olele Marine Park was assessed using the Natural Tourism Attraction Object and Area framework, or ODTWA. This framework evaluates the feasibility of a natural tourism area by assigning scores to several components that influence tourism development. In this study, six main assessment criteria were used (Table 1):

Table 1. ODTWA assessment criteria and weighting scores.

No.	Assessment Criteria	Weight
1	Natural attractiveness	6
2	Accessibility	5
3	Tourism facilities	5
4	Environmental and community conditions	5
5	Market potential	4
6	Management and services	3

Each criteria consisted of several sub-criteria. For example, natural attractiveness included coral reef condition, seawater clarity, marine biodiversity, underwater uniqueness, coastal comfort, and cleanliness. Accessibility included land and sea access, distance from entry points, and public transportation availability. Tourism facilities included accommodation, restaurants, supporting facilities, special facilities, and basic tourism infrastructure. Environmental and community conditions included land use, land ownership, population density, community support, unemployment level, education level, and local livelihoods.

The ODTWA framework was selected because it provides a structured approach to assessing the feasibility of natural tourism development and enables

comparison between actual scores and maximum possible scores for each criterion.

2.5 Scoring and Feasibility Index Formula

The score for each assessment criterion was calculated by multiplying the total value of its sub-criteria by the assigned weight. The formula used was:

$$S=N\times B$$

where:

S = score of each criterion;
N = total value of all sub-criteria within the criterion;
B = weight assigned to the criterion.

After the score of each criterion was calculated, the total score was compared with the maximum possible score to determine the feasibility index. The feasibility index was calculated using the following formula:

$$FI = \frac{\Sigma S}{\Sigma Smax} \text{ x } 100\%$$

where:

FI = feasibility index;
ΣS = total score obtained from all assessment criteria;
ΣSmax = maximum possible score from all assessment criteria.

The feasibility level was interpreted using the following categories (Table 2):

Table 2. Feasibility index categories

Feasibility Index	Category
> 66.6%	Feasible for development
33.3%–66.6%	Not yet feasible / conditionally feasible
< 33.3%	Not feasible for development

Based on the assessment, Olele Marine Park obtained a total score of 4,459 out of a maximum score of 5,695. Therefore, the feasibility index was calculated as follows:

$$FI = \frac{4459}{5695} \text{ x } 100\% = 78.30\%$$

This result indicates that Olele Marine Park falls into the feasible for development category. However, the assessment also shows that several components, particularly tourism facilities, management quality, and community empowerment, still require improvement to support sustainable and conservation-based ecotourism development.

3. RESULTS AND DISCUSSION

3.1 Result

3.1.1 Attraction Assessment

The assessment of tourism attractiveness shows that Olele Marine Park (Figure 1) has strong potential as a conservation-based marine ecotourism

destination. The attractiveness criterion obtained a basic score of 170, which, after being multiplied by the assigned weight of 6, resulted in a weighted score of 1,020 out of a maximum score of 1,320. This represents approximately 77.27% of the maximum score.

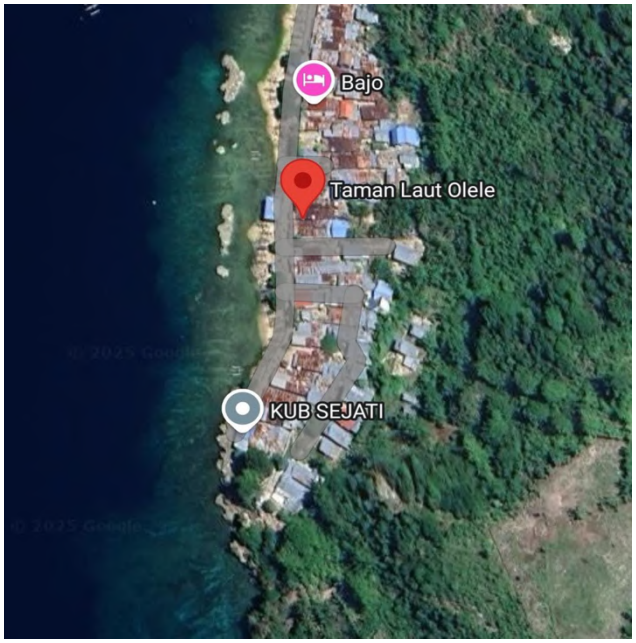

Figure 1. Location Map of Olele Marine Park, Gorontalo, Indonesia

The high score was mainly supported by the natural beauty of the area, including well-preserved coral reefs, clear seawater, diverse marine flora and fauna, attractive underwater landscapes, and scenic coastal views. Olele Marine Park also offers unique underwater attractions, including coral formations, marine biota, and diving spots that are suitable for snorkeling, diving, and environmental education. These characteristics indicate that the area has a strong ecological and aesthetic basis for ecotourism development.

However, several sub-components received lower scores, particularly coastal comfort, cleanliness, and sensitivity-related aspects. These results indicate that although the natural attraction is strong, environmental quality management and visitor comfort still require improvement to ensure long-term sustainability.

3.1.2 Accessibility Assessment

The accessibility assessment obtained a basic score of 220, which, after being multiplied by the assigned weight of 5, resulted in a weighted score of 1,100 out of a maximum score of 1,200. This represents approximately 91.67%, indicating that accessibility is one of the strongest components supporting the development of Olele Marine Park.

The area is relatively accessible by both land and sea routes. The distance from major access points is relatively short, making the destination reachable for domestic tourists, local visitors, and special-interest tourists interested in

marine activities. The availability of land and sea access strengthens Olele Marine Park's competitiveness as a marine tourism destination.

Nevertheless, the assessment also indicates that the frequency of public transportation remains limited. This limitation may reduce accessibility for tourists who do not use private vehicles or organized tour services. Therefore, improving public transportation frequency and integration with tourism routes is necessary to support more inclusive and sustainable tourism development.

3.1.3 Facilities Assessment

The tourism facilities criterion obtained a basic score of 105, which, after being multiplied by the assigned weight of 5, resulted in a weighted score of 525 out of a maximum score of 950. This represents approximately 55.26%, making facilities one of the weakest aspects in the overall assessment. The available facilities include accommodation, restaurants or food services, basic infrastructure, telecommunication networks, electricity, and a clean water supply. However, several supporting facilities remain limited, including internet access, special facilities for visitors with specific needs, visitor information centers, rest areas, sanitation facilities, and environmentally friendly waste management systems.

The relatively low facility score indicates that tourism infrastructure in Olele Marine Park has not yet fully supported visitor comfort, safety, and accessibility. This condition may affect the quality of tourist experiences and limit the area's ability to attract broader market segments. Therefore, facility development should be prioritized, especially facilities that are environmentally friendly and compatible with conservation principles.

3.1.4 Environmental and Community Assessment

The environmental and community assessment obtained a basic score of 157, which, after being multiplied by the assigned weight of 5, resulted in a weighted score of 785 out of a maximum score of 950. This represents approximately 82.63%, indicating that the environmental and social conditions of Olele Marine Park are generally supportive of ecotourism development.

The assessment shows that land-use planning supports tourism development, the area has community acceptance, and local residents show positive attitudes toward tourism. The presence of coastal communities with livelihoods related to fisheries and small-scale economic activities also provides opportunities for integrating tourism development with community-based economic empowerment.

However, several challenges remain, including population density, unemployment, limited community capacity, and the need for stronger environmental awareness. These issues must be addressed through community training, conservation education, and inclusive tourism planning to ensure that local communities become active participants rather than passive beneficiaries of tourism development.

3.1.5 Market Potential

The market potential criterion obtained a basic score of 156, which, after being multiplied by the assigned weight of 4, resulted in a weighted score of 624 out of a maximum score of 720. This represents approximately 86.67%, indicating that Olele Marine Park has strong market potential.

The high score reflects the presence of a relatively large population within the tourism market radius, as well as the destination's accessibility from surrounding urban and coastal areas. This condition provides opportunities for developing domestic tourism, educational tourism, weekend tourism, and special-interest marine tourism.

The potential market can be strengthened through improved destination branding, digital promotion, conservation-based tour packages, and collaboration with schools, universities, travel operators, and local communities. In addition, the development of educational marine tourism can attract students, researchers, and environmentally conscious tourists.

3.1.6 Management and Services

The management and services criterion obtained a basic score of 135, which, after being multiplied by the assigned weight of 3, resulted in a weighted score of 405 out of a maximum score of 555. This represents approximately 72.97%, indicating that management and services are feasible but still require improvement. The existing management structure shows that institutional arrangements are already present. However, several aspects need to be strengthened, including staff professionalism, funding stability, service quality, communication skills, information services, maintenance systems, and visitor management. The assessment also indicates that the income and employment status of tourism personnel are not yet stable, which may affect the consistency and quality of tourism services.

Improving management quality is important because conservation-based ecotourism requires not only attractive natural resources but also effective governance, clear regulations, trained human resources, and continuous monitoring of environmental impacts.

3.1.7 Overall Feasibility Index

The overall feasibility assessment shows that Olele Marine Park obtained a total score of 4,459 out of a maximum score of 5,695. The feasibility index is therefore 78.30%, which places the area in the category of feasible for development as a conservation-based ecotourism destination. The strongest components are accessibility, market potential, environmental and community support, and natural attractiveness. Meanwhile, the weakest component is tourism facilities, followed by aspects of management and service quality that still require further improvement. A summary of the assessment results is presented in Table 3.

Table 3. Summary of the assessment results

Assessment Criterion	Weighted Score	Maximum Score	Percentage	Interpretation
Natural attractiveness	1,020	1,320	77.27%	Feasible
Accessibility	1,100	1,200	91.67%	Feasible
Tourism facilities	525	950	55.26%	Needs improvement
Environmental and community conditions	785	950	82.63%	Feasible
Market potential	624	720	86.67%	Feasible
Management and services	405	555	72.97%	Feasible
Total	**4,459**	**5,695**	**78.30%**	**Feasible for development**

3.2 Discussion

3.2.1 Interpretation of Strengths

The assessment results indicate that Olele Marine Park has strong potential to be developed as a conservation-based marine ecotourism destination. The most prominent strength lies in its natural attractiveness, which obtained a weighted score of 1,020 out of 1,320. This high score reflects the ecological and aesthetic value of the area, particularly its coral reef ecosystems, clear seawater, marine biodiversity, underwater landscapes, and coastal scenery. Previous research has also reported that Olele Marine Park has coral reef cover of more than 50% and approximately 36 reef fish species, confirming its strong ecological value for marine tourism development (Mahale et al., 2018).

The underwater uniqueness of Olele Marine Park, including coral formations, reef fish, and distinctive diving spots, provides a strong basis for ecotourism activities such as snorkeling, diving, and environmental education. These attractions are consistent with the concept of ecotourism, which emphasizes responsible travel to natural areas, conservation of the environment, and benefits for local communities (Fennell, 2020). In this context, Olele Marine Park is not only valuable as a tourism destination but also as an educational space for increasing public awareness of marine ecosystem conservation.

Accessibility is another major strength of Olele Marine Park. The accessibility criterion obtained a weighted score of 1,100 out of 1,200, indicating that the area is relatively easy to reach by land and sea routes. Good accessibility is essential in tourism development because it influences tourist mobility, travel convenience, and destination competitiveness. In coastal tourism areas, access to transportation and supporting infrastructure plays an important role in increasing tourist visits and strengthening local economic opportunities (Marzaman & Rasyid, 2020).

The market potential of Olele Marine Park is also relatively strong, with a score of 624 out of 720. This indicates that the surrounding population and

regional tourism market provide opportunities for developing domestic tourism, educational tourism, and special-interest marine tourism. The location of Olele Marine Park within a coastal community also strengthens its potential for community-based tourism, particularly when local livelihoods, such as fisheries and small-scale coastal enterprises, are integrated into tourism activities (Usman et al., 2022).

Another important strength is the positive attitude of local communities toward tourism development. Community acceptance is a crucial factor in ecotourism because local residents are directly connected to the natural resources, cultural practices, and daily management of the destination. Community participation can create a sense of ownership, strengthen conservation behavior, and ensure that tourism benefits are distributed more fairly among local residents (Suansri, 2015; Ashab et al., 2024).

3.2.2 Interpretation of Weaknesses

Although Olele Marine Park is categorized as feasible for development, several weaknesses must be addressed to ensure that tourism growth does not negatively affect the marine ecosystem and local community. The weakest component is tourism facilities, which obtained a weighted score of 525 out of 950. This indicates that the existing facilities are not yet adequate to fully support visitor comfort, safety, and satisfaction. Limited availability of sanitation facilities, visitor information centers, rest areas, internet access, inclusive facilities, and waste management infrastructure may reduce the quality of the tourism experience.

The limited facility score also suggests that tourism development in Olele Marine Park has not been fully supported by environmentally friendly infrastructure. In conservation-based tourism, facilities must be designed not only to serve visitors but also to minimize ecological disturbance. Poorly managed infrastructure in coastal areas can increase waste, damage coastal landscapes, and place pressure on marine ecosystems (Fennell, 2020; ICRI, 2025).

Management and service quality also require improvement. Although the management and services component reached 405 out of 555, several issues remain, including unstable funding, limited staff capacity, inconsistent service quality, and the need for better visitor management. Previous studies on Olele have also indicated that tourism development in the area still faces challenges related to human resources, facilities, institutional coordination, and budget limitations (Usman et al., 2022). These weaknesses may affect the effectiveness of destination management and reduce the capacity of the area to implement conservation-based tourism standards.

Environmental management is another concern. While Olele Marine Park has high ecological value, marine tourism activities such as snorkeling and diving may cause coral reef degradation if they are not properly regulated. Irresponsible tourist behavior, boat anchoring, physical contact with corals, and waste disposal can threaten reef ecosystems. Therefore, marine tourism development should adopt responsible tourism guidelines, such as those

promoted through the Green Fins approach, which emphasizes environmentally responsible diving and snorkeling practices (ICRI, 2025).

Community empowerment also remains a challenge. Although local communities show support for tourism development, their capacity to manage tourism products, provide professional services, participate in conservation monitoring, and access tourism-related income still needs to be strengthened. Without adequate empowerment, tourism development may create unequal benefits and increase dependence on external actors. Community-based tourism must therefore ensure that local people are involved not only as workers but also as planners, managers, entrepreneurs, and conservation actors (Suansri, 2015; Ashab et al., 2024).

3.2.3 Conservation-Based Development Strategy

The development of Olele Marine Park should be directed toward a conservation-based strategy that balances tourism utilization with marine ecosystem protection. The main priority is to protect coral reefs, reef fish, and other marine biota as the core attractions of the destination. Coral reefs are highly sensitive ecosystems, and their degradation would directly reduce both ecological quality and tourism attractiveness. Therefore, zoning of tourism activities, regulation of snorkeling and diving areas, visitor capacity control, and regular ecological monitoring are essential for maintaining the sustainability of the area (Mahale et al., 2018; ICRI, 2025).

Environmental education should become an integral part of tourism activities in Olele Marine Park. Visitors need to receive clear information about coral reef conservation, responsible snorkeling and diving behavior, waste reduction, and the importance of protecting marine biodiversity. Interpretation boards, pre-tour briefings, trained local guides, and conservation-based tour packages can help transform tourism activities into learning experiences. This approach is consistent with the principle of ecotourism, which combines recreation, education, conservation, and local community benefits (Fennell, 2020).

Facility development should also follow conservation principles. Infrastructure such as rest areas, sanitation facilities, waste disposal systems, visitor information centers, and access points should be designed to reduce environmental pressure. The use of environmentally friendly materials, proper wastewater management, plastic waste reduction, and controlled coastal construction should be prioritized. In coastal tourism development, infrastructure that ignores ecological sensitivity may threaten the long-term sustainability of the destination (Marzaman & Rasyid, 2020).

A conservation-based strategy should also include continuous monitoring of tourism impacts. Monitoring should cover coral reef conditions, water quality, waste accumulation, visitor behavior, and the condition of tourism facilities. The results of monitoring can be used to adjust tourism activities, improve management decisions, and prevent environmental degradation. This adaptive management approach is important because conservation-based

ecotourism must respond to changes in ecological conditions and tourism pressure over time (ICRI, 2025).

3.2.4 Community-Based Tourism Strategy

Community-Based Tourism is highly relevant for Olele Marine Park because the sustainability of the area depends on the active involvement of local communities. CBT emphasizes community participation in tourism planning, management, service provision, conservation, and benefit-sharing. This approach is suitable for coastal tourism areas because local communities possess knowledge, social networks, and direct dependence on coastal and marine resources (Suansri, 2015).

The first strategy is to strengthen community capacity through training and mentoring. Local residents should be trained in ecotourism guiding, snorkeling and diving safety, hospitality, foreign language communication, small business management, waste management, and conservation education. Such capacity-building programs can improve tourism service quality while increasing community income. Previous research has emphasized that community empowerment is an important element in developing marine ecotourism in Olele because it can connect conservation goals with local economic development (Marzaman & Rasyid, 2020; Usman et al., 2022).

The second strategy is to develop community-managed tourism products. Local communities can be involved in providing homestays, boat services, local food, handicrafts, cultural interpretation, guided snorkeling, and educational marine tours. This strategy can diversify tourism products and ensure that economic benefits remain within the local community. Similar approaches have been shown to support community welfare when local residents are actively involved in tourism management and benefit distribution (Ashab et al., 2024).

The third strategy is to create a fair and transparent benefit-sharing mechanism. Tourism income should be allocated not only for individual business actors but also for community welfare, conservation activities, infrastructure maintenance, and environmental monitoring. Transparent financial management can reduce potential conflicts and strengthen community trust in tourism development. CBT requires a governance system that ensures participation, transparency, equity, and local ownership (Suansri, 2015).

The fourth strategy is to involve local communities in conservation monitoring. Community members can be trained as reef guardians, local guides, waste management teams, or citizen-based monitoring groups. This involvement can strengthen environmental protection and create a sense of responsibility toward marine resources. Integrating local communities into conservation activities is essential because conservation will be more sustainable when it becomes part of local social and economic practices (Fennell, 2020; ICRI, 2025).

3.2.5 Policy and Management Implications

The findings of this study have several policy and management implications. First, the local government should integrate Olele Marine Park into a sustainable coastal tourism development plan that prioritizes conservation,

community participation, and destination quality. Tourism development should not focus only on increasing visitor numbers but should also protect marine ecosystems and improve the welfare of local communities. This direction is consistent with sustainable coastal tourism planning, which requires the integration of ecological, social, and economic considerations (Latala et al., 2024; Marzaman & Rasyid, 2020).

Second, destination governance should be strengthened through coordination among local government, village authorities, tourism managers, conservation institutions, community groups, and private stakeholders. Weak coordination may result in overlapping responsibilities, inconsistent implementation, and ineffective tourism management. Therefore, clear institutional roles, standard operating procedures, and collaborative management mechanisms are needed to support conservation-based ecotourism development (Usman et al., 2022).

Third, investment in basic tourism facilities should be prioritized, particularly sanitation, waste management, visitor information centers, safety equipment, and environmentally friendly access infrastructure. However, facility development must follow environmental standards to prevent damage to coastal and marine ecosystems. Sustainable tourism infrastructure should support visitor comfort while maintaining the ecological integrity of the destination (Fennell, 2020; ICRI, 2025).

Fourth, regulations for marine tourism activities should be developed and enforced. These regulations may include visitor capacity limits, snorkeling and diving codes of conduct, restrictions on coral-damaging activities, boat anchoring rules, waste disposal regulations, and standards for tourism operators. The adoption of responsible marine tourism guidelines is important to reduce tourism-related pressure on coral reef ecosystems (ICRI, 2025).

Fifth, community empowerment should become a central component of tourism policy. Local residents need access to training, business opportunities, participatory planning, and decision-making forums. Tourism development that is based on local participation can increase community welfare, preserve local wisdom, and strengthen conservation awareness. Studies on community-based tourism show that tourism is more sustainable when local communities are actively involved and receive direct benefits from tourism activities (Suansri, 2015; Ashab et al., 2024; Suyanto et al., 2018).

Overall, Olele Marine Park has strong potential to become a model for conservation-based marine ecotourism in Gorontalo. However, achieving this goal requires integrated management that combines ecological protection, facility improvement, professional tourism services, community empowerment, and consistent policy support. With a conservation-oriented and community-based approach, Olele Marine Park can be developed as a sustainable destination that supports biodiversity conservation, improves local welfare, and provides high-quality educational tourism experiences.

4. CONCLUSION

Olele Marine Park has strong potential to be developed as a conservation-based ecotourism destination in Gorontalo, Indonesia. The feasibility assessment

shows that the area obtained a total score of 4,459 out of a maximum score of 5,695, resulting in a feasibility index of 78.30%. This indicates that Olele Marine Park falls into the feasible for development category. The strongest aspects supporting its development are natural attractiveness, accessibility, market potential, and community support. The area offers valuable marine and coastal resources, including coral reef ecosystems, clear seawater, diverse marine biota, and attractive underwater landscapes, which can support snorkeling, diving, educational tourism, and other conservation-oriented tourism activities.

However, several aspects still require improvement, particularly tourism facilities, management quality, environmental cleanliness, visitor services, and community empowerment. These weaknesses indicate that the development of Olele Marine Park should not only focus on increasing tourist visits, but also on strengthening conservation management, improving environmentally friendly infrastructure, enhancing service quality, and ensuring active participation of local communities.

Therefore, the recommended development strategy is a conservation-based and community-oriented ecotourism model. This strategy should include marine ecosystem protection, responsible snorkeling and diving practices, visitor capacity control, environmental education, waste management, community training, and fair benefit-sharing mechanisms. The implementation of Community-Based Tourism is essential to ensure that local communities are directly involved in tourism planning, management, conservation activities, and economic benefit distribution. With integrated policy support, participatory management, and consistent conservation efforts, Olele Marine Park can become a sustainable marine ecotourism destination that contributes to biodiversity conservation, local economic development, and improved tourism quality in coastal Gorontalo.

5. CONFLICT OF INTEREST

The authors declare that there is no conflict of interest related to the research, authorship, and publication of this article. All processes of data collection, analysis, interpretation, and manuscript preparation were conducted independently and objectively.

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