

## **Tourism Development Strategies in Goa Ergendang: SWOT and AHP Approaches for Sustainable Growth**

### **ABSTRACT**

Goa Ergendang, located in Deli Serdang, North Sumatra, is a natural tourism destination with untapped potential. This study analyzes strategies for developing sustainable tourism at Goa Ergendang using SWOT (Strengths, Weaknesses, Opportunities, and Threats) and AHP (Analytical Hierarchy Process) approaches. Data was collected through field observations, interviews with local stakeholders, and a survey of tourists and the local community. The SWOT analysis identified the site's strengths, including its natural beauty, unique cave formations, and strong community support. Weaknesses include poor infrastructure and limited promotion. External opportunities involve eco-tourism development and increased community involvement, while threats include accessibility challenges and competition from other tourist destinations. Based on the SWOT results, Goa Ergendang is positioned in Quadrant I, which calls for an aggressive strategy that leverages its strengths and capitalizes on opportunities. The AHP analysis prioritizes infrastructure improvements, promoting the site through digital platforms, and introducing innovative tourist activities. The study concludes that collaboration between government, private investors, and the local community is essential for the long-term, sustainable development of Goa Ergendang.

**Keywords:** Goa Ergendang, Ecotourism Development, SWOT Analysis, Analytical Hierarchy Process (AHP), Sustainable Tourism, tourism development, regional planning

### **I. INTRODUCTION**

Indonesia is endowed with an abundance of natural resources, positioning it as one of the most attractive tourist destinations across various global markets (Yuniarti, 2018). One of the rapidly growing sectors is ecotourism, which leverages natural resources to attract visitors. The development of tourism in Indonesia is expected to boost economic growth and enhance the well-being of local communities (Suharyanto et al., 2020; Ekapratwi et al., 2021).

Ecotourism, particularly conservation-based tourism, is increasingly favored by travelers seeking unique and authentic experiences. According to Putri et al.

(2019), successful ecotourism must balance environmental sustainability with local cultural preservation. This integration is critical to the long-term success of natural tourism destinations (Rusita et al., 2016).

One of the ecotourism sites with significant untapped potential is Goa Ergendang in Deli Serdang, North Sumatra. The cave is known for its unique stalactite and stalagmite formations, as well as a natural pool with varying water temperatures (Hadiwijoyo&Suryo, 2018). Despite its remarkable attributes, the number of visitors to Goa Ergendang has sharply declined, especially after the COVID-19 pandemic (Setiani&Sugiyanto, 2021).

The decrease in visitor numbers can be attributed to several factors, including poor accessibility and inadequate facilities (Pangat, 2021). As a leading natural attraction in Deli Serdang, Goa Ergendang faces challenges in infrastructure management and accommodations that are essential for drawing more tourists (Sudaryono, 2016; Suwantoro, 2000).

The role of government and local community participation is crucial in tourism development. While the government is expected to improve infrastructure, local communities are encouraged to actively support tourism activities (Ardiansyah et al., 2020). Involving local communities in economic activities around tourist destinations can increase local income and support sustainable development (Wulandari, 2019). The role of sustainable tourism in supporting community welfare has been echoed globally, aligning with the Sustainable Development Goals (SDGs) target to eradicate extreme poverty by 2030 (Satia Negara Lubis&Arga Abdi RafiudDarajat Lubis, 2024).

Besides poor accessibility, a lack of effective promotion is also hindering the development of Goa Ergendang. According to (Herdynata and Rudianto, 2016), appropriate promotion can enhance destination visibility, attract investors, and increase tourist visits. Social media and digital promotion can be strategic tools for boosting the popularity of Goa Ergendang among both domestic and international tourists.

Previous research by Rabbaniyah (2021) explored the attractiveness and development of Goa Ergendang's hot springs through qualitative observational and interview methods. The findings revealed that visitors rated the natural landscape and biodiversity positively, but perceptions of historical and cultural heritage were less favorable. Meanwhile, Ningrum et al. (2021) examined the influence of the "SaptaPesona" program and facilities on visitor numbers at Goa Ergendang, concluding that these factors significantly impacted visits, contributing to 57.2% of the overall increase. Bangun and Dewi (2022) also highlighted the influence of "SaptaPesona" and facilities but found a smaller contribution of 22.7%.

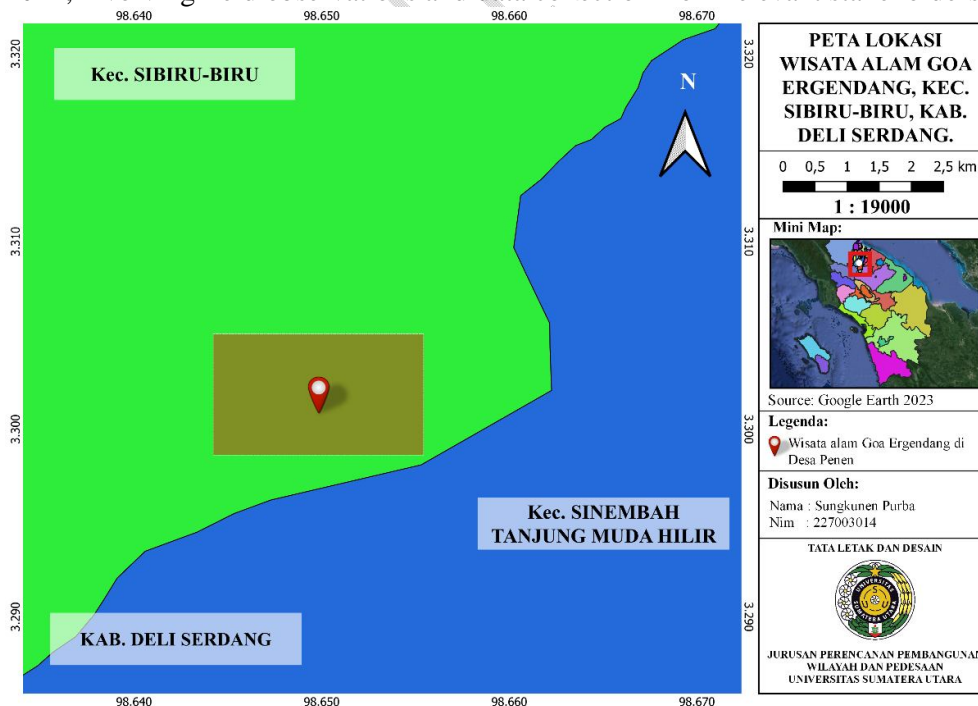
This study differs from previous research by adopting a holistic approach to the sustainable development of Goa Ergendang, employing both SWOT and AHP methodologies. In addition to evaluating tourist attractions and facilities, this research prioritizes the development of various aspects such as accessibility, accommodations, and community involvement. This comprehensive approach is intended to provide a structured development strategy, enhancing Goa Ergendang's competitiveness as a sustainable ecotourism destination.

## II. METHODOLOGY

This study adopts a mixed-methods approach, combining **qualitative and quantitative** techniques. The research employs **SWOT analysis** and **Analytical Hierarchy Process (AHP)** to identify the potential and strategies for developing ecotourism at Goa Ergendang. The primary objective of this research is to analyze the site's tourism appeal, prioritize development factors, and formulate appropriate strategies for enhancing the ecotourism potential of Goa Ergendang.

### Location and Time of Study

The research was conducted in the natural tourism area of **Goa Ergendang**, located in Penungkiren Village, Sibiru-biru District, Deli Serdang Regency, North Sumatra. This location was chosen because it is a prominent ecotourism destination with untapped potential. The study took place from **July to December 2024**, involving field observations and data collection from relevant stakeholders.



**Figure 1.** Research location

### **Types and Sources of Data**

This research utilizes **primary** and **secondary data**. Primary data was collected through **in-depth interviews** with tourism management teams and direct **field observations** of the physical conditions and facilities at Goa Ergendang. Secondary data was obtained from **previous studies** and **official documents** from the local government and tourism authorities.

### **Data Collection Techniques**

The following data collection methods were employed:

- **Participant Observation:** The researcher observed the conditions at Goa Ergendang, including accessibility, facilities, and the number of visitors. The observation also included analyzing the natural environment, such as flora, fauna, and the cave's ecosystem, which are major attractions.
- **In-depth Interviews:** Interviews were conducted with the **management team**, local officials, and several tourists to gain insights into the current conditions and development opportunities. The interview questions covered topics such as perceptions of tourist attractions, challenges faced, and suggestions for improvement.
- **Questionnaires:** Surveys were distributed to tourists and local residents to gather data on their experiences at Goa Ergendang and their perceptions of the available facilities. The questionnaires used a **Likert scale** to measure tourist satisfaction.
- **Literature Review:** Secondary data was collected by reviewing relevant literature on ecotourism development, particularly those utilizing SWOT and AHP methodologies to determine development strategies.

### **Data Analysis Techniques**

The data analysis methods used in this study include:

- **SWOT Analysis:** SWOT analysis was employed to identify the strengths, weaknesses, opportunities, and threats in the development of ecotourism at Goa Ergendang. The SWOT analysis was conducted based on interviews, observations, and quantitative data from distributed questionnaires to 10 key informants from various fields.
- **Analytical Hierarchy Process (AHP):** AHP was used to prioritize the development aspects of the Goa Ergendang tourism area. This process involved evaluating various factors such as **accessibility, tourism appeal, accommodations, and community participation**. The evaluation was carried out through **Focus Group Discussions (FGDs)** with stakeholders, including tourism managers, academics, and local government officials. The data from FGDs was then processed using **Expert Choice software** to determine the priority weights of each development aspect (Susilawati, 2020).

### **Data Validity and Reliability**

To ensure the **validity** and **reliability** of the data, this research employed **method triangulation**, comparing data from observations, interviews, and questionnaires to ensure consistency. Additionally, the use of **AHP**, a data-driven quantitative approach, ensured that the findings were measurable and could be analyzed objectively (Bangun&Dewi, 2022).

### III. RESULTS AND DISCUSSION

#### General Overview of the Study Location

Deli Serdang Regency spans an area of **2,497.72 km<sup>2</sup>** with a population of approximately **1,953,986** in 2022. Penungkiren Village, where Goa Ergendang is located, is predominantly inhabited by the **Karo ethnic group** and is situated **35 km** from Medan City. Goa Ergendang is part of the **STM Hilir** region and falls under the regulation of **Law No. 10 of 2009 on Tourism**. Despite its proximity to Medan, accessibility to Goa Ergendang remains challenging, with a travel time of around **1.5 hours** by private vehicle or **2 hours** by public transportation.

#### Ecotourism Appeal of Goa Ergendang

The tourism potential of Goa Ergendang was assessed based on six main criteria: attraction, accessibility, socio-economic conditions, accommodation, supporting infrastructure, and clean water availability. Each criterion was evaluated using a weighted scoring system to provide an overall assessment.



**Figure 2.** Natural Conditions of the Goa Ergendang Tourist Site

#### Tourism Attraction

The attractiveness of Goa Ergendang is crucial for tourism development, focusing on natural uniqueness, flora and fauna, cleanliness, safety, and comfort. The table below summarizes the assessment:

**Table 1.** Assessment of Tourism Attraction Elements at Goa Ergendang

| Element                         | Weight (a) | Score (b) | Total Score (a × b) |
|---------------------------------|------------|-----------|---------------------|
| Uniqueness of natural resources | 6          | 30        | 180                 |
| Prominent natural resources     | 6          | 25        | 150                 |
| Tourism activities              | 6          | 30        | 180                 |
| Cleanliness                     | 6          | 20        | 120                 |
| Safety                          | 6          | 30        | 180                 |
| Comfort                         | 6          | 25        | 150                 |
| <b>Total Score</b>              |            |           | <b>960</b>          |

Goa Ergendang achieved a total score of **960**, indicating that the site holds strong potential for further development.

### Accessibility

The evaluation of accessibility reveals that, while Goa Ergendang has significant potential, poor road conditions are a critical issue affecting tourist numbers.

**Table 2.** Assessment of Accessibility for Goa Ergendang

| Element            | Weight (a) | Score (b) | Total Score (a × b) |
|--------------------|------------|-----------|---------------------|
| Road conditions    | 5          | 15        | 75                  |
| Distance from city | 5          | 20        | 100                 |
| Type of road       | 5          | 25        | 125                 |
| Travel time        | 5          | 30        | 150                 |
| <b>Total Score</b> |            |           | <b>450</b>          |

Accessibility is identified as the main challenge that needs immediate improvement.



**Figure 3.** Road Leading to the Goa Ergendang Tourist Site

### Socio-Economic Conditions

The majority of Penungkiren Village residents are farmers, with most having completed secondary education. Although the community supports tourism development, more effort is needed to maximize the economic benefits for the local population.

**Table 3.** Socio-Economic Condition Assessment of Penungkiren Village

| Element            | Weight (a) | Score (b) | Total Score (a × b) |
|--------------------|------------|-----------|---------------------|
| Spatial planning   | 5          | 15        | 75                  |
| Occupation         | 5          | 20        | 100                 |
| Community response | 5          | 25        | 125                 |
| Land status        | 5          | 15        | 75                  |
| Education level    | 5          | 30        | 150                 |
| <b>Total Score</b> |            |           | <b>525</b>          |

### Accommodation

The assessment shows that accommodation facilities at Goa Ergendang remain limited, directly impacting visitor numbers.

**Table 4.** Accommodation Assessment for Goa Ergendang

| Element            | Weight (a) | Score (b) | Total Score (a × b) |
|--------------------|------------|-----------|---------------------|
| Accommodation      | 3          | 15        | 45                  |
| Number of rooms    | 3          | 10        | 30                  |
| <b>Total Score</b> |            |           | <b>75</b>           |

### Supporting Infrastructure

The supporting infrastructure at Goa Ergendang is considered adequate, with a total score of **240**, reflecting that existing facilities help support tourism development.

**Table 5.** Supporting Infrastructure Assessment for Goa Ergendang

| Element               | Weight (a) | Score (b) | Total Score (a × b) |
|-----------------------|------------|-----------|---------------------|
| Supporting facilities | 3          | 50        | 150                 |
| Basic infrastructure  | 3          | 30        | 90                  |
| <b>Total Score</b>    |            |           | <b>240</b>          |



**Figure 4.** Well Infrastructure

### Clean Water Availability

The availability of clean water at Goa Ergendang is excellent, with a total score of **720**, indicating that the site is highly suitable for development in terms of water resources.

**Table 6.** Clean Water Availability Assessment for Goa Ergendang

| <b>Element</b>       | <b>Weight (a)</b> | <b>Score (b)</b> | <b>Total Score (a × b)</b> |
|----------------------|-------------------|------------------|----------------------------|
| Water volume         | 6                 | 30               | 180                        |
| Distance to the site | 6                 | 30               | 180                        |
| Water quality        | 6                 | 30               | 180                        |
| Flow ease            | 6                 | 30               | 180                        |
| <b>Total Score</b>   |                   |                  | <b>720</b>                 |

### **Ecotourism Development Priorities**

Based on the Focus Group Discussions (FGD) and analysis using **Expert Choice**, the priority development aspects for Goa Ergendang are presented in the table below:

**Table 7.** Priority Development Aspects for Goa Ergendang Based on AHP

| <b>Criteria</b>        | <b>Weight</b> | <b>Rank</b> |
|------------------------|---------------|-------------|
| Management aspects     | 416           | 1           |
| Attraction aspects     | 227           | 2           |
| Institutional aspects  | 157           | 3           |
| Socio-economic aspects | 149           | 4           |
| Environmental aspects  | 54            | 5           |

**Management aspects** emerge as the top priority, which includes improving accessibility, accommodations, and supporting infrastructure. **Attraction aspects** are the second priority, focusing on innovating tourism activities such as cave exploration and additional facilities.

### **Development Strategy Analysis**

The development strategy for Goa Ergendang tourism is based on a detailed **Internal Strategic Factors Analysis Summary (IFAS)** and **External Strategic Factors Analysis Summary (EFAS)**. These factors help identify key strengths, weaknesses, opportunities, and threats to create a strategic plan.

### **Internal Factors**

Internal factors are divided into strengths and weaknesses that affect the development of Goa Ergendang.

**Table 8.** Internal Strategic Factors Analysis Summary (IFAS) for Goa Ergendang

| <b>Internal Strengths</b>               | <b>Weight</b> | <b>Rating</b> | <b>Score</b> |
|---|---------------|---------------|--------------|
| Pristine and cool environment           | 0.12          | 4.00          | 0.47         |
| Beautiful caves and hot springs         | 0.10          | 4.00          | 0.40         |
| Affordable food and beverage facilities | 0.08          | 3.00          | 0.25         |
| Proximity to Medan                      | 0.08          | 3.00          | 0.23         |
| Unique cave tourism experience          | 0.10          | 3.00          | 0.30         |
| Strong community support                | 0.08          | 3.00          | 0.25         |
| <b>Total Strengths Score</b>            |               |               | <b>1.89</b>  |

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|--|--|--|--|

| <b>Internal Weaknesses</b>                          | <b>Weight</b> | <b>Rating</b> | <b>Score</b> |
|---|---------------|---------------|--------------|
| Limited freshwater availability                     | 0.08          | 3.00          | 0.23         |
| Lack of tourism promotion                           | 0.09          | 3.00          | 0.27         |
| Green zone restrictions limiting development        | 0.09          | 4.00          | 0.37         |
| Declining visitor numbers due to limited funding    | 0.09          | 4.00          | 0.35         |
| Insufficient facilities to become a tourism village | 0.10          | 3.00          | 0.29         |
| <b>Total Weaknesses Score</b>                       |               |               | <b>1.50</b>  |

### External Factors

External factors consist of opportunities and threats that can influence the site's development.

**Table 9.** External Strategic Factors Analysis Summary (EFAS) for Goa Ergendang

| <b>External Opportunities</b>                    | <b>Weight</b> | <b>Rating</b> | <b>Score</b> |
|--|---------------|---------------|--------------|
| Safe environment                                 | 0.11          | 4.00          | 0.44         |
| Eco-friendly area                                | 0.11          | 4.00          | 0.44         |
| Preservation of trees and green spaces           | 0.11          | 4.00          | 0.44         |
| High potential for further natural development   | 0.11          | 4.00          | 0.46         |
| Productive economic activities                   | 0.10          | 3.00          | 0.30         |
| Opportunity for forming tourism awareness groups | 0.09          | 3.00          | 0.26         |
| <b>Total Opportunities Score</b>                 |               |               | <b>2.35</b>  |

| <b>External Threats</b>              | <b>Weight</b> | <b>Rating</b> | <b>Score</b> |
|--------------------------------------|---------------|---------------|--------------|
| Inadequate infrastructure            | 0.09          | 3.00          | 0.28         |
| Poor accessibility                   | 0.10          | 3.00          | 0.29         |
| Competition from other tourism sites | 0.07          | 3.00          | 0.22         |
| Lack of innovation                   | 0.10          | 3.00          | 0.30         |
| <b>Total Threats Score</b>           |               |               | <b>1.10</b>  |

### SWOT Matrix and Strategic Planning

Based on the IFAS and EFAS analysis, the total score places Goa Ergendang in **Quadrant I** of the SWOT matrix, indicating a **Strengths-Opportunities (SO) Strategy**. This strategy leverages internal strengths to capitalize on external opportunities, focusing on aggressive development.

**Table 10.** SWOT Matrix and Strategic Development Plan for Goa Ergendang

| <b>SWOT Matrix</b>                  | <b>Strategy</b> | <b>Strengths (S)</b>  | <b>Weaknesses (W)</b>                                   |
|-------------------------------------|-----------------|---|---|
| <b>Opportunities (O)</b>            |                 | <b>SO Strategies</b>  | <b>WO Strategies</b>                                    |
| - Safe and eco-friendly environment |                 | - Maximize natural beauty and community support for tourism | - Improve security through partnerships with government |

|  |  |   |
|--|--|---|
| - High development potential                     | - Promote the site through digital channels                      | - Collaborate with stakeholders to improve infrastructure       |
| - Opportunity to create tourism awareness groups | - Innovate tourism activities (e.g., cave lighting, photo spots) | - Train locals in tourism management                            |
| <b>Threats (T)</b>                               | <b>ST Strategies</b>   | <b>WT Strategies</b>  |
| - Poor infrastructure                            | - Improve road access and provide alternative routes             | - Educate tourists and locals on eco-friendly tourism practices |
| - Competition from other sites                   | - Differentiate with unique features (e.g., private hot springs) | - Repair outdated infrastructure                                |
| - Lack of innovation                             | - Collaborate with local businesses for better service quality   | - Organize events to attract visitors                           |

### Strategic Recommendations

1. **Promote Tourism:** Utilize digital media to promote the unique aspects of Goa Ergendang, such as its caves and hot springs. Provide information on alternative access routes to improve visitor numbers.
2. **Leverage Community Support:** Engage the local community in tourism activities and encourage their participation in managing the site sustainably.
3. **Improve Infrastructure:** Collaborate with the local government to enhance infrastructure, including roads, facilities, and accommodations, to provide a better visitor experience.
4. **Innovation:** Introduce new attractions, such as photo spots, eco-friendly lighting within the caves, and private hot springs to differentiate the site from competitors.
5. **Partnerships:** Strengthen partnerships between local government, private investors, and the community to boost funding and resources for long-term sustainable growth.

### Discussion

The results of this study reveal significant potential for the sustainable development of Goa Ergendang as a leading ecotourism destination in Deli Serdang, North Sumatra. By using the SWOT analysis, several critical strengths and weaknesses have been identified that can inform the strategic development of the area. The AHP approach further allows for the prioritization of key aspects such as infrastructure improvement, promotional efforts, and innovative tourism activities.

#### 1. Leveraging Strengths for Tourism Development

Goa Ergendang's primary strength lies in its unique natural environment,

including its cave formations and hot springs. This aligns with previous research that highlights the importance of leveraging natural resources to attract ecotourism (Putri et al., 2019; Yuniarti et al., 2018). The pristine environment and community support are crucial to establishing the area as a unique ecotourism destination. However, effective management is necessary to ensure the long-term sustainability of these natural assets, as suggested by Hadiwijoyo (2018).

## 2. Addressing Infrastructure and Accessibility Weaknesses

The findings indicate that poor infrastructure and accessibility are significant barriers to increasing tourist visits, which is consistent with prior studies (Pangat et al., 2021; Suharyanto et al., 2020). Infrastructure improvements, particularly road access and accommodations, must be prioritized to enhance the overall tourist experience. Improving these aspects will not only attract more visitors but also create economic opportunities for local communities, as suggested by Wulandari (2019).

## 3. Harnessing Opportunities for Eco-Tourism and Community Involvement

The opportunities for developing eco-tourism at Goa Ergendang are vast, particularly given the growing trend towards nature-based and sustainable tourism (Ekaprativi et al., 2021). Increased community participation in tourism management, as recommended in the AHP analysis, can ensure that the local population benefits economically from the influx of tourists, thereby enhancing local support for conservation efforts (Ardiansyah & Ratna, 2020). Collaboration with local government, investors, and private sector stakeholders is essential for realizing these opportunities.

## 4. Mitigating Threats through Innovation and Promotion

The threats posed by competition from other tourist sites and poor accessibility can be mitigated through innovation in tourism activities and effective promotion. Previous studies highlight the importance of digital promotion strategies (Hedynata & Radianto, 2016), and the AHP results suggest prioritizing these efforts to boost Goa Ergendang's visibility. Innovative tourism products, such as eco-friendly cave lighting, private hot springs, and enhanced photo spots, can differentiate the destination from competitors (Susilawati et al., 2020).

## 5. Strategic Development and Sustainability

The overall strategic development plan for Goa Ergendang, informed by the SWOT and AHP analysis, indicates that a progressive strategy focusing on infrastructure, promotion, and innovation is crucial for long-term growth. The study's findings are consistent with the literature on sustainable tourism development, which emphasizes the balance between environmental conservation and community engagement (Yuniarti et al., 2018). Future research could explore the impact of specific tourism activities on local biodiversity and the socio-economic conditions of the community.

# IV. CONCLUSIONS AND RECOMMENDATIONS

## **Conclusion**

The development of ecotourism at **Goa Ergendang** holds significant potential, driven by the area's unique natural resources and strong community support. The **SWOT analysis** highlights key strengths, such as the site's pristine environment, the beauty of the caves and hot springs, and the active involvement of the local community. Despite these strengths, **weaknesses** such as limited freshwater availability, insufficient promotion, and inadequate facilities pose challenges to the site's optimal development.

Externally, the analysis identified opportunities in the eco-friendly and safe environment, along with the potential for natural resource development. However, the site faces threats, including poor infrastructure, accessibility issues, and competition from other tourism destinations. The **SWOT matrix** positions Goa Ergendang in Quadrant I, indicating that the best strategy is to leverage the site's strengths and capitalize on opportunities while addressing its weaknesses and mitigating threats.

To ensure sustainable development, it is essential to focus on improving infrastructure, promoting the destination through digital channels, and introducing innovative features to attract tourists. The active collaboration between the government, private sector, and local communities is vital to achieving long-term success.

## **Recommendations**

To enhance the development of Goa Ergendang as a prominent ecotourism destination, several key recommendations are proposed. First, improving accessibility and infrastructure is crucial. Immediate efforts should focus on upgrading road conditions and providing alternative routes, which can be achieved through collaboration between local government and private stakeholders. Furthermore, enhancing infrastructure, including accommodations and other supporting facilities, will play a pivotal role in increasing visitor satisfaction and boosting tourist numbers.

Strong digital promotion strategy is essential to raise awareness of Goa Ergendang's unique attractions. Utilizing social media and other digital platforms will help attract both domestic and international tourists, significantly improving the site's visibility and appeal. By leveraging modern marketing tools, the tourism potential of the area can be maximized.

Fostering strong partnerships between the government, private investors, and local businesses is essential for sustainable growth. Public-private collaborations can provide the necessary funding and resources for infrastructure development, promotional efforts, and environmental conservation initiatives. Such partnerships

will ensure that Goa Ergendang continues to grow as a sustainable ecotourism destination, benefiting both the local economy and the environment.

**Disclaimer (Artificial intelligence)**

**Option 1:**

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

**Option 2:**

Author(s) hereby declare that generative AI technologies such as Large Language Models, etc. have been used during the writing or editing of manuscripts. This explanation will include the name, version, model, and source of the generative AI technology and as well as all input prompts provided to the generative AI technology

Details of the AI usage are given below:

- 1.
- 2.
- 3.

**References**

Ardiansyah, I., & Ratna, G. M. (2020). Study of attractions, amenities, and accessibility for tourism development in Mount Pancar Natural Park, Bogor Regency. *Journal of Research Innovation*, 1(4).

Bangun, E. S. Br., Dewi, S., & Wulandari, L. (2022). The effect of the SaptaPesona program and facilities on the number of tourists visiting Goa Ergendang tourist site. *Journal of Economics, Finance, Investment, and Syariah (EKUITAS)*, 4(2), 672–680.

Ekaprati, A. S., Arfan, A., & Abbas, I. (2021). Community participation in the development of Ke'te Kesu' tourist site. *Lageografia*, 19(3), 345-362.

Hadiwijoyo, S. S. (2018). *Planning for community-based tourism village development*. Suluh Media.

- Hedynata, M. L., & Radianto, W. E. D. (2016). Promotional strategies to increase the sales of Luscious Chocolate Potato Snacks. *Promotional Strategies*, 1(1), 1–10.
- Lubis, S. N., & Lubis, A. A. R. D. (2024). Enhancing Indonesian coffee trade: Strategies for navigating and reducing trade barriers. *International Journal of Innovative Research and Scientific Studies*, 7(3), 1248–1267. <https://doi.org/10.53894/ijirss.v7i3.3231>
- Pangat, N. U., Victor, L., & Marudut, S. (2021). The effect of the SaptaPesona program and facilities on the number of tourists visiting the hot springs tourist site of Goa Ergendang in Sibiru-Biru District, Deli Serdang Regency. *Prointegrita Journal*, 5(3), 21-32.
- Putri, D. R., Ardiansyah, & Abdrurrachman, A. (2019). Identification of the potential for developing Picung Lake Nature Tourism from a tourism product aspect in Muara Aman, Bengkulu Province. *Journal of Architecture*, 18(2), 93-98.
- Rabbaniya, L. (2021). Attraction and development of the hot springs tourist site of Goa Ergendang in Penungkiran Village, STM Hilir District, Deli Serdang Regency. [Undergraduate Thesis]. Universitas Negeri Medan.
- Rusita, Walimbo, R., Sari, Y., & Yanti, M. (2016). Study of the potential and attractiveness of the Wiyono Waterfall natural tourist site in Wan Abdul Rahman Grand Forest Park, Lampung Province. *Journal of Natural Resource Management and Environment*, 17, 165–186.
- Sudaryono. (2016). *Marketing Management*. Yogyakarta: Andi Offset.
- Susilawati, S., Fauzi, A., Kusmana, C., & Nurtjahya, S. (2020). Strategy and policy in the management of Sumatran Orangutan (*Pongoabelii*) conservation tourism on Lawang Hill in the Langkat District of North Sumatra. *Journal of Natural Resources and Environmental Management*, 10(1), 1–11. <https://doi.org/10.29244/jpsl.10.1.1-11>
- Suharyanto, A., Barus, R. K. I., & Batubara, B. M. (2020). Photography and tourism potential of Denai Kuala Village. *Britain International of Humanities and Social Sciences (BIOHS) Journal*, 2(1), 100-108.
- Suwantoro, G. (2000). *Fundamentals of Tourism*. Yogyakarta: Andi.
- Wulandari, P. D. (2019). Analysis of the impact of tourism development on socio-economic changes in the community of KersikTuo Village, KayuAro District, Kerinci Regency. *Encyclopedia of Journal*, 2(1).

Yuniarti, E., Soekmadi, R., Arifin, H. S., & Noorachmat, B. P. (2018). Analysis of the ecotourism potential of Heart of Borneo in Betung Kerihun National Park and Sentarum Lake, Kapuas Hulu Regency. *Journal of Natural Resources and Environmental Management*, 8(1), 44-54.

UNDER PEER REVIEW