



The Strategy Of The Infrastructure Development In The Area Of Abdul Latief People Forest Park Agrotourism (Athral) In Borong Sub-District, Sinjai Regency, Indonesia

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Abstract

Sinjai regency is a district that holds a lot of tourism potential, including nature tourism that is suitable to be developed into an Agro-tourism area. This research aimed (1) to identify the availability of the infrastructure and facilities in ATHRAL (2) to analyze the significant variables affecting the development of ATHRAL in supporting the productivity of the Agro-tourism area, (3) to formulate the development strategy of ATHRAL. The research was descriptive quantitative and used the multiple linear regression analysis and SWOT. The object studied included (1) the facilities consisting of Telecommunication, Hotels, Restaurant, Parking Its, and Markets, (2) the infrastructures consisting of the irrigation system, health, transportation, terminals, power and energy sources, sewage system, highway, disaster mitigation system, public transportation, travel information system, and tariff verification. The research results indicated that the availability of the facilities and infrastructure in the ATHRAL area had not been sufficient, the condition needed improvement, additions and maintenance. The variables significantly affecting the development of ATHRAL were highway with the significant value of 2,799, Irrigation with the significant value of -2.669 and the disaster mitigation with the significant value of 2,645. Based on the matrix table of IFAS and EFAS, the total weight values were 1.25 and 1.02; therefore, the development of ATHRAL was on the quadrant 1 (one), the strategy to use was to overcome the weakness and to utilize the existing opportunity to tackle the threads.

Keywords: development strategy, infrastructure, ATHRAL, SWOT analysis

1. Introduction

Tourism objects are non-oil and gas foreign exchange earners which are now being developed in various regions (Dolnicar & McCabe, 2022; Milwood & Maxwell, 2020; Stinson et al., 2022). The tourism objects that have developed the

longest are those that highlight the beauty of nature, art and culture (Dolnicar & McCabe, 2022; Milwood & Maxwell, 2020). This tourism object by the Government has been recognized as the largest foreign exchange earner from the non-oil and gas sector (Saragi, 2014). Considering the natural beauty is a strong attraction for tourists, this

potential is interesting to work on. Indonesia as an agricultural country has a very wide agricultural land. A sequence of agricultural activities from cultivation to post-harvest can be used as a special attraction for tourism activities. By combining agronomic activities with tourism, many large plantations in Indonesia have been developed into agro tourism objects. Economic factors which include government income and spending (González & Moral, 1995), wages (Baez et al., 2022), foreign investment (FRANK & FREEMAN, 1978), tangible investment, GDP per capita affect the development of rural tourism (Snieska et al., 2014). In addition, the development of tourist areas requires infrastructure and facilities in tourism areas that are sufficient and meet financial feasibility (Sesotyanningtyas & Manaf, 2015).

Sinjai Regency is a district that has a lot of tourism potential, including natural tourism which is very suitable to be developed into an agro-tourism area. One of them is Abdul Latief Community Forest Park Agrotourism which is located in Sinjai Borong District. Based on decree Minister of Forestry No. 434 of 2009, covering an area of 860.49 Hectares, Abdul Latief Community Forest Park was designated as a Nature Conservation Area with the function of Abdul Latief Grand Forest Park. Abdul Latief Community Forest Park or better known as Tahura Sinjai is a new tourist destination in Sinjai Regency, South Sulawesi (Department of Tourism and Culture, 2008). This natural tourist spot is located between two mountain slopes, namely Lompobottang and Bawakaraeng. Agrotourism Abdul Latief Community

Forest Park was built with an area of 720.15 hectares. There, visitors are treated to various beautiful natural panoramas such as forests, flower gardens, waterfalls, lakes, agro tourism, to beautiful green hills.

According to the Departement of Tourism and Culture Sinjai Regency (2021), the number of tourist who visit to Tahura Agrotourism in Sinjai Borong District has increased in number, as many as 301 people from 2014 (1771 people) to 2015 (2072 people). However, in 2016 there was a decrease in the number, both foreign and domestic, reaching 265 people. Tourist visits per month also tend to stagnate, there is no prominent number of tourist visits throughout 2016.

The occurrence of instability on visitors at Tahura Agrotourism in Sinjai Borong District indicates that the public interest in enjoying the attractiveness of Agrotourism has begun to decline, because it is not supported by the development and maintenance of tourism objects and agro-tourism supporting facilities. Based on the Strategic planning for Regional Tourism Development of Sinjai Regency (2021), the contribution of visitors is not balanced with adequate infrastructure services to support comfort and activities for tourists in the Tahura Agrotourism area in Sinjai Borong District.

Lodging and hotel facilities in the agro-tourism area are not sufficient, where at the agro-tourism location there is only one villa which is not managed optimally by the manager. In addition, restaurant facilities as well as health and financial service facilities are also inadequate for tourism activities (Regional Tourism Development Strategic

Plan, 2012). This condition is inversely proportional to the Gross Regional Domestic Product of Sinjai Regency according to Business Fields on the basis of current prices in 2015, where three main economic sectors still dominate the economic structure of Sinjai Regency, namely the agricultural sector (46.53%), the construction sector (12.26%) and the industrial sector trade, hotel as well as restaurant (11.29%).

The objectives of the study were: to identify the availability of ATHRAL infrastructure and facilities in Sinjai Borong District, Sinjai Regency, analyze variables that significantly influence the development of ATHRAL in supporting the productivity of the Agrotourism area, and formulate ATHRAL development strategies in Sinjai Borong District, Sinjai Regency.

2. Materials and Methods

The research approach used in this research is descriptive qualitative and quantitative (Baker, 2018; Creswell, 1994) which aims to determine and identify the availability of facilities and infrastructure in the ATHRAL Area, thus to produce a final product in the form of a development strategy (Chen et al., 2020; Hidle, 2019). This research is a survey and observation research (Creswell, 1994). The analysis used in this study is a combination of quantitative and qualitative methods in the form of multiple linear regression analysis and SWOT analysis (Gunawan, 2015; Purwanto et al., 2014; Rangkuti, 2006, 2010). Quantitative techniques are used to measure data in the form of numbers or qualitatively with respect to the level of service from the infrastructure. While qualitative techniques

are used to explain and find out things that cannot be explained quantitatively (Sugiyono, 2006; Riduwan & Akdon, 2006).

2.1 Research Location and Time

This research was conducted in Sinjai District, Sinjai Borong District, Batu Suleng Village in the ATHRAL Area, carried out over a period of 3 months, from April to June 2022.

2.2 Population and Sample

The population in this study includes the community around the location of the Agrotourism area that utilizes ATHRAL tourism objects in Sinjai Borong District, Sinjai Regency and the people of Sinjai Borong District as a provider of tourist attractions (supply), tourists who visit as connoisseurs of tourist attractions (demand) and the government as planners and activity direction regulator.

The research sample for domestic and foreign visitors/tourists was determined by accidental sampling, which is a sampling technique based on chance, anyone who coincidentally meets the researcher and is suitable as a data source can be used as a sample (Arikunto & Suharsimi, 2002). Every tourist encountered in the eight research locations was immediately taken as a respondent. The following are samples for tourists, local communities and local governments. Based on the three categories of samples taken, the total population is 3,628 people. In this study, the total population of tourists, local communities and local governments in the last year was ± 3628 people, with leeway percentage is 10%, then through the calculation above the sample size obtained 97 samples.

3. Results

3.1 The potential of ATHRAL as Agrotourism

Based on the results of the survey in the field, in fact, in the ATHRAL area, various types of tourism potentials are found that will support the development of tourist areas in the future. The tourism potentials that have been found in the ATHRAL area are described in the following explanation.

The Tahura Abdul Latief area has constituent vegetation which is dominated by various types of woody plants, medicinal plants, multi purpose tree species (MPTS), and lower-level vegetation. The vegetation in the Abdul Latief Tahura area consists of pine (*Pinusmercusii.*), white teak (*Gmelina arborea*), Sengon (*Paraserianthes falcataria*), banyan (*Ficus sp.*), fern (*Cyatea*

contaminans), cinnamon (*Cinnamomum sp.*), Jenitri (*Elaeocarpus ganitrus*), Lentolento (*Arthophylum sp.*), Pulai (*Alstonia scholaris*), mahogany (*Swietenia mahagoni*), Spatodea (*Spatodea campanulata*), candlenut (*Aleurites mollucana*), and various types of orchids, both ground and tree orchids. Typical and classified as endemic to Sulawesi are crown mushrooms (Plantation and Forestry Service, 2016).

Fauna found in the Abdul Latief Tahura area are mountain anoa (*Bubalus quarlesi*), monitor lizard (*Varanus salvator*), jungle fowl (*Gallus specdiv*), long-tailed macaque (*Macaca fascicularis*), wild pig (*Sus vittatus*), deer (*Cervus timorencis*), Deer pig (*Babyrousa babyrussa*), bear cuscus (*Ailurops ursinus*), Sulawesi woodpecker (*Dendrocopos temminckii*), and great ape (*Pan roglodytes*) which can be found around sulfur hot springs.

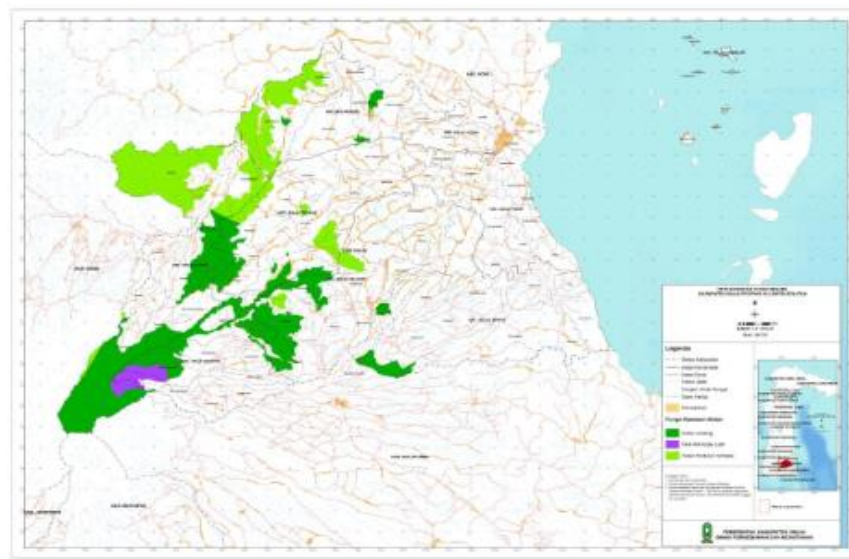


Figure 1. Location of Abdul Latief Forest Park Conservation Area

In the Tahura Abdul Latief area there are hot springs that are often visited by the public, namely Sulfur Hot Springs. Sulfur

Hot Water is a natural tourism in the form of sulfur hot springs where people who visit Sulfur Hot Springs to carry out

cultural/religious ritual activities so that the existence of Sulfur Hot Springs by the surrounding community is still considered to have religious value. The location of the Sulfur Hot Spring is 2 km from the Wae Lulu'e waterfall towards the upper reaches of the river (South).

3.2 ATHRAL Tourism Potential

Based on the results of field surveys in reality, in the ATHRAL area, various types of tourism potentials were found that would support the development of tourist areas later. The tourism potentials that have been found in the ATHRAL area are described in the following explanation:

Biological and Non-Biological Potential



Figure 2. Endemic species of Tahura Abdul Latief, 2022

The Tahura Abdul Latief area has constituent vegetation dominated by various types of woody plants, medicinal plants, MPTS, and lower level vegetation. The constituent vegetation in the Tahura Abdul Latief area consists of Pinus (*Pinusmercusii.*), White Teak (*Gmelina arborea*), Sengon (*Paraserianthes falcataria*), Banyan (*Ficus sp.*), Fern (*Cyatea contaminans*) cinnamon (*Cinnamomum sp.*), Jenitri (*Elaeocarpus ganitrus*), Lento-lento (*Arthophylum sp.*), Pulai (*Alstonia scholaris*), mahogany (*Swietenia mahagoni*), Spatodea (*Spatodea campanulata*), candlenut (*Aleurites moluccana*), as well as various types of orchids, both ground orchids and tree orchids and typical and is classified as endemic to Sulawesi including crown fungi.

Table 1. Types of Animals Identified at Wae Lulu'e Waterfall Observation Site, Tahura Abdul Latief Area

No	Animal species	Animal Name
1	Aves	Salessere Bird
2	Aves	Ganggang Bird
3	Aves	Cikong-cikong Bird
4	Aves	Forest Tekukur Bird
5	Aves	Kecial Bird
6	Aves	Kingfisher Bird
7	Mammal	Apes
8	Mammal	Monkey
9	Insecta	Butterfly

10	Reptile	Monitor lizard
11	Reptile	Lizard
12	Reptile	Python

Source : RPJP Tahura 2016-2025

The fauna found in the area of Tahura Abdul Latief is mountain anoa (*Bubalus quarlesi*), monitor lizard (*Varanus salvator*), partridge (*Gallus specdiv*), long-tailed macaque (*Macaca fascicularis*) Wild boar (*Sus vittatus*), deer (*Cervus timorencis*), pig deer

(*Babyrousa babyrussa*), cuscus bear (*Ailurops ursinus*), Sulawesi woodpecker (*Dendrocopos temminckii*), and great ape (*Pan roglodytes*) that can be found around sulfur hot springs.



Figure 3. Anoa and Pig deer Important species in Tahura Abdul Latief
 Source: UPTD ATHRAL Management 2022

Mountain Potential

Tahura Abdul Latief is located at an altitude of 1,200 - 2,000 meters above sea level with slope conditions varying from flat, gentle, rather steep to very steep with

slopes of 15-40% and 5-15%. With a higher altitude than the surrounding area, at certain points of the Tahura Abdul Latief area we can witness beautiful natural scenery from the area below.



Figure 4. Natural Scenery Seen from the Utilization Block, 2022

Varied slope conditions also have the potential to become a tourist attraction.

Combined with paths shaded by dense vegetation in several locations can be an

attraction for those who want to enjoy hiking or animal watching activities. The diverse marble conditions are also suitable for other special interest sports activities such as mountain biking.

Water Potential

The characteristic of mountainous areas with good standing conditions is the abundance of water potential. It can be springs, rivers and waterfalls. Similarly, in the Tahura Abdul Latief area. The main rivers in the Tahura Abdul Latief area are the Wae Lulu'e and Wae buru'e rivers that flow along Tahura. The confluence of these two rivers has been dammed and used as a raw source for PDAM Sinjai Regency.

The existence of the Wae Lulu'e river is a choked attraction because at some points it has beautiful scenery that can be

used by visitors as a place to rest after exploring the path in Tahura. Another potential water is Wae Buru'e. Wae Buru'e emits a sulfur smell which is commonly used as a medicine for itching by the local community.

The main attraction of the potential waters in the Tahura Abdul Latief area is Wae Lulu'e waterfall and Wae Buru'e Waterfall are about 4 Km and 6 KM from the gate of Tahura Abdul latief. This waterfall can be reached by two-wheeled vehicle and then on foot. The existence of this tourist attraction is widely known by the community, so that residents who come to visit mostly come from outside Batu Belerang village. The constant water discharge is the main attraction for people to enjoy the coolness of the waterfall, especially during the dry season.



Figure 5. Wae Lulu'e Waterfall and Wae Buru'e Waterfall, 2022

Sulfur Hot Water Potential

In the Tahura Abdul Latief area, there is a hot spring that is often visited by the community, namely Sulfur Hot Spring. Sulfur Hot Spring is a natural tourism in the

form of sulfur hot springs where people who visit Sulfur Hot Spring to carry out cultural / religious ritual activities so that the existence of Sulfur Hot Spring by the

surrounding community is still considered to have religious value. The location of Sulfur

Hot Spring is 2 km from Wae Lulu'e waterfall upstream of the river (south).



Figure 6. Wae Lulu'e Waterfall and Sulfur Hot Spring, 2022

3.3 Infrastructure analysis that has a significant effect on the development of ATHRAL

The hypotheses suspected in this study are related to how infrastructure influences the development of ATHRAL. To test the hypothesis used multiple regression analysis. Regression analysis is included in the parametric statistical group which requires the data used to have an interval measurement scale. Because the research data was obtained by distributing questionnaires to respondents using the questionnaire data measurement scale in the form of interval data, then to fulfill the data Development

requirements used in the multiple regression analysis used, the data transformation was first carried out into an interval scale.

Furthermore, to determine the relationship of formal thinking to historical learning outcomes, multiple regression analysis calculations were carried out. The calculation results using the SPSS 23 tool obtained the results of calculating the regression coefficient and constant values as in the following table:

Table of Results of Infrastructure Regression Analysis on ATHRAL Facilities and Infrastructure

Model	Coefficients ^a		t	Sig.
	Unstandardized Coefficients			
	B	Std. Error		
(Constant)	-2.687	16.311	-1.647	.103

Telecommunications	.221	.970	.023	.227	.821
Hotel	1.972	1.383	.185	1.426	.158
Restaurant	2.563	3.019	.257	.849	.398
Parking	-1.766	1.226	-.177	-1.440	.154
Market	1.295	1.547	.086	.837	.405
Irrigation System	-2.988	1.120	-.271	-2.669	.009
Health	-2.745	1.242	-.263	-2.211	.030
Terminal	1.129	1.039	.124	1.087	.280
Electricity	-.253	1.023	-.019	-.247	.805
Sanitation	2.345	1.643	.239	1.428	.157
Highway	5.362	1.915	.676	2.799	.006
Disaster Mitigation	1.534	.580	.220	2.645	.010
Transportation	3.146	1.485	.158	2.118	.037
Travel Information	-.788	2.109	-.080	-.374	.710
Tariff Certainty	-.122	1.817	-.015	-.067	.947
R	= 0.771				
R ²	= 0.785				
F _{hitung}	= 7.913				
Sig. F	= 0.000				

*) Statistically significant at the level $\alpha = 5\%$

a. Dependent Variable: Development of ATHRAL facilities and infrastructure

Source : Analysis results, 2022

The regression equation that explains the effect of Infrastructure on ATHRAL Development is:

$$Y = -2.687 + 0.221 X_1 + 1.972 X_2 + 2.563 X_3 + -1.766 X_4 + 1.295 X_5 + -2.988 X_6 + -2.745 X_7 + 1.129 X_8 + -0.253 X_9 + 2.345 X_{10} + 5.362 X_{11} + 1.534 X_{12} + 3.146 X_{13} + -0.788 X_{14} + -0.122 X_{15}$$

Based on the multiple linear regression equation above, if interpreted it can give an understanding of analysis, namely:

- The constant value (b₀) of -2.687 indicates that if the independent variable is constant or equal to zero, then the Development of ATHRAL Facilities and Infrastructure in ATHRAL is -2.687.

- The magnitude of the regression coefficient b₁ value is 0.221 indicating that if the Telecommunication variable (X₁) is improved in performance according to its needs and functions, it will increase by 0.221 to the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the value of the regression coefficient b₂ is 1.972 indicating that if the Hotel variable (X₂) is improved in performance according to its needs and functions, it will affect the development of ATHRAL assuming the other variables are in a constant state.

- The magnitude of the value of the regression coefficient b_3 is 2.563 indicating that if the Restaurant variable (X3) is improved in performance according to its needs and functions, it will affect 2.563 on the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the value of the regression coefficient b_4 is -1.766 indicating that if the parking variable (X4) is improved in performance according to its needs and functions, it will have an effect of -1.766 on the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the value of the regression coefficient b_5 is 1.295 indicating that if the Market variable (X5) is improved in performance according to its needs and functions, it will have an effect of 1.295 on the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the regression coefficient b_6 is -2.988 indicating that if the irrigation system variable (X6) is improved in performance according to its needs and functions, it will have an effect of -2.988 on the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the regression coefficient b_7 is -2.745 indicating that if the Health variable (X7) is improved in performance according to its needs and functions, it will have an effect of -2.745 on the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the value of the regression coefficient b_8 is 1.129 indicating that if the Terminal variable (X8) is improved in performance according to its needs and functions, it will have an effect of 1.129 on the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the regression coefficient b_9 is -0.253 indicating that if the Electrical variable (X9) is improved in performance according to its needs and functions, it will have an effect of -0.253 on the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the value of the regression coefficient b_{10} is 2.345 indicating that if the Sanitation variable (X10) is improved in performance according to its needs and functions, it will have an effect of 2.345 on the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the value of the regression coefficient b_{11} is 5.362 indicating that if the highway variable (X11) is improved in performance according to its needs and functions, it will have an effect of 5.362 on the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the value of the regression coefficient b_{12} is 1.534 indicating that if the disaster mitigation variable (X12) is improved in performance according to its needs and functions, it will affect the development of ATHRAL assuming the other variables are in a constant state.

- The magnitude of the regression coefficient b_{13} is 3.146 indicating that if the Transport variable (X13) is improved in performance according to its needs and functions, it will have an effect of 3.146 on the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the value of the regression coefficient b_{14} is -0.788 indicating that if the variable Travel information (X14) is improved in performance according to its needs and functions, it will have an effect of -0.788 on the development of ATHRAL assuming the other variables are in a constant state.
- The magnitude of the value of the regression coefficient b_{15} is -0.122 indicating that if the variable Tariff certainty (X15) is improved in performance according to its needs and functions, it will have an effect of -0.122 on the development of ATHRAL assuming other variables are in a constant state.

Based on the results of the count variable test with t-table, it is obtained that the value of t-test variables for highways (X11), irrigation (X7) and disaster mitigation (X12), and with a significance level of 0.000 less than 0.05 the value is greater than the t-table value so that it can be concluded that these variables have a significant effect on the development of ATHRAL. Based on the results of the t-count with the table, it can be concluded that the Highway Variable (X11) has the most significant effect on ATHRAL development with the largest t-count value, namely 2.799

> from t-table (1.66) with a significance level of 0.000 less than 0.05. Where the condition of the road network at the location is very bad. The condition of the narrow road is only 2.5 meters below standard, the road that climbs and turns is made worse by potholes and there is no safety on the side of the road to overcome the threat of landslides.

In addition, the same access in and out often causes congestion, making the only access to the ATHRAL location as one of the considerations for visitors to choose to travel at that location. Therefore, visitors think twice about returning to visit. Thus, the roads in ATHRAL need repair, pavement and road widening, as well as the creation of road protection/security, and the construction of new roads to separate entry and exit access for visitors so that visitors feel safe and comfortable driving to the ATHRAL location.

3.3 Development strategy of ATHRAL

This study shows the direction of ATHRAL area development is directed based on a SWOT analysis, by knowing the strengths and weaknesses will be able to reduce existing weaknesses and at the same time maximize strengths. The same thing also applies on the challenges and opportunities, where when challenges can be minimized, existing opportunities are actually enlarged (Rangkuti, 2006).

The following will describe the analysis of the conditions faced in the development of the ATHRAL Area to be applied as an object of tourist attraction as follows:

Strengths consist of: the number of various agro-tourism commodities, Natural

beauty and panoramas, High biodiversity/endemic species, Low entrance fees, and Friendly service to visitors. Weaknesses consist of: difficult accessibility/narrow road conditions and badly damaged, Human resource management is still lacking and requires education and training in managing conservation areas, community is still not involved in management, facilities and infrastructure are still inadequate, and management funds are limited. Opportunities consist of: lifestyle of people who want to return to nature (back to nature), income opportunities for regional and community, potential natural conditions for agro-tourism development, information technology development, interest of agro-tourism visitors to come back at another time, and the existence of non-governmental institutions in the field of research and the environment. Threats consist of: the threat of natural disasters due to topography, the presence of invasive species, other superior conservation areas, disruption of community activities due to increased economic needs, and decreased levels of biodiversity.

The results of the combination of internal and external factors weighing different scores and SWOT diagrams in quadrant I, the OS is obtained, namely Strengths and Opportunities, which utilize all the strengths they have in order to get opportunities. Strategies that maximize strengths and opportunities. Management priorities that

are focused on efforts to protect and utilize panoramas and natural beauty as well as important biodiversity values that are included in them. The OS strategy consists of: Expanding commodity marketing by taking advantage of potential natural conditions and developments in information technology, Maintaining the beauty and sustainability of endemic species to increase visitor interest and interest from non-governmental organizations to conduct research, and Maintaining service quality and low entry fees to attract tourists, Visitor interest and local and community income opportunities.

The proposed directions for local governments to develop ATHRAL areas are as follows: conservation area planning includes area potential inventory activities in the form of identification, inventory and mapping of Anoa distribution and feed, identification and inventory of potential natural resources of important value in the area, area arrangement and preparation management plan, Management of plant and animal species of important value, protection and security of the area, development of agro-tourism and ecotourism, community empowerment, management of traditional blocks, management of research, education and science activities, utilization of water environmental services, cooperation and partnerships and development of institutional resources.

Table. Strategic matrix of Swot Analysis results

<p style="text-align: center;">INTERNAL</p> <p style="text-align: center;">EKSTERNAL</p>	<p><u>Strength</u></p> <ol style="list-style-type: none"> 1. The number of agrotourism commodities varies 2. Beauty and natural panorama 3. High biodiversity/endemic species 4. Low entrance fee 5. Serve visitors kindly 	<p><u>Weakness</u></p> <ol style="list-style-type: none"> 1. Difficult accessibility/narrow and badly damaged road conditions 2. Management human resources are still lacking and need education and training to manage conservation areas 3. The community is still not involved in management 4. Facilities and infrastructure are still inadequate 5. Limited management funds
<p><u>Opportunity</u></p> <ol style="list-style-type: none"> 1. The lifestyle of people who want to return to nature (back to nature) 2. Regional and community income opportunities 3. Potential natural conditions for agrotourism development 4. Development of information technology 5. Interest of agrotourism visitors to come back at a later time 6. The existence of non-governmental institutions in the field of research and environment 	<p>Strategy (S-O)</p> <ol style="list-style-type: none"> 1. Expanding commodity marketing by utilizing potential natural conditions and information technology developments. (S1,S2,S4,O1,O2,O3,O4) 2. Maintain the beauty and preservation of endemic species in order to increase the interest of visitors and the interest of non-governmental institutions to conduct research. (S2,S3,O1,O5,O6) 3. Maintain quality of service and low entrance fees to attract visitors and regional and community income opportunities. (S4,S5,O1,O2,O5) 	<p>Strategy (W-O)</p> <ol style="list-style-type: none"> 1. Construction and improvement of facilities and infrastructure that can support the productivity and development of the area and attract visitors (W1,W4,O1,O2,O4,O5) 2. Utilize cooperation with government agencies, non-government institutions, communities, and the private sector to manage conservation areas. (W2,W3,W5,O1,O2,O4,O6)
<p><u>Threats</u></p> <ol style="list-style-type: none"> 1. Threat of natural disasters due to topography 	<p>Strategy (S-T)</p> <ol style="list-style-type: none"> 1. It is necessary to foster and cooperate 	<p>Strategy (W-T)</p> <ol style="list-style-type: none"> 1. Education and training of management human

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<p>2.The presence of invasive types 3.Other conservation areas that are superior 4.Disruption of community activities due to increased economic needs 5. Declining levels of biodiversity</p>	<p>between managers, the government and communities around the area, with the aim of increasing awareness, as well as a sense of belonging and building together so that economic activities and regional sustainability can run (S1,S2,S3,T1,T2,T3,T4,T5)</p>	<p>resources, forming conservation-aware community groups that can support potential sustainability, and increasing cooperation with relevant agencies (Forestry Service, KSDA, National Parks, Forestry Research Institute, Tourism, Culture, Industry, and Universities). (W2,W3,W5,T1,T2,T3,T4,T5) 2.Improving the quality and quantity of facilities and infrastructure and improving the management system to minimize the impact of damage to the regional environment and the pace of competition (W1,W4,T1,T2,T3,T4,T5)</p>
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Source : Analysis Results 2022

4. Discussion

This research shows that the direction of ATHRAL area development is directed based on SWOT Analysis by knowing strengths and weaknesses, will be able to reduce existing weaknesses and at the same time maximize strengths. The same applies to challenges and opportunities, where when challenges can be minimized, opportunities are actually enlarged (Rangkuti, 2006).

The following will be described an analysis of the conditions faced in the development of the ATHRAL Area to be applied as a tourist attraction object as follows: Strength consists of: The number of agrotourism commodities is diverse (Bachi et al., 2023; Canwat & Onakuse, 2022; Pinheiro et al., 2022; Williams-Guillén & Otterstrom, 2014), Beauty and natural scenery (Alharbi & Rangel-Buitrago, 2022; Chatterjee et al., 2022), High biodiversity / endemic species (Cimatti et al., 2021; Xing et al., 2022), Low entrance fees (Atmodjo et al., 2017), and Serving visitors friendly. Weaknesses consist of: Accessibility is difficult / road conditions are narrow and severely damaged, management human resources are still lacking and need education and training to manage conservation areas, communities are still not involved in management, facilities and infrastructure are still inadequate, and management funds are limited. Opportunities consist of: Lifestyle of people who want to return to nature (back to nature), Regional and community income opportunities (Howson & de Vries, 2022; Teka et al., 2019), Potential natural conditions for agrotourism development

(Busby & Rendle, 2000; Kolawole et al., 2023; Koutsouris et al., 2014; Sharpley, 2002), Information technology development, Interest of agrotourism visitors to come back at a later time, and the existence of non-government institutions in the field of research and environment. Threats (Threats) consist of: Threat of natural disasters due to topography, The presence of invasive types, other conservation areas that are superior, Disruption of community activities due to increased economic needs (Ackerschott et al., 2023; Haw et al., 2022; Ronis et al., 2022), and Declining levels of biodiversity (Cui et al., 2022; Qu et al., 2023).

The result of a combination of internal and external factors, weighting scores and different SWOT diagrams in quadrant I is obtained OS, namely Strength and Opportunities that utilize all the strengths they have to get opportunities. Strategies that maximize strengths and opportunities. Management priorities are focused on efforts to protect and utilize panoramas and natural beauty and biodiversity of important value scoped therein. OS's strategy consists of: Expanding commodity marketing by utilizing potential natural conditions and information technology developments, Maintaining the beauty and preservation of endemic species to increase visitor interest and non-government institutions to conduct research, and Maintaining service quality and low entrance fees to attract visitors and regional and community income opportunities (González & Moral, 1995; Sharpley, 2002).

The proposed directions for local governments to develop the ATHRAL Area are as follows: Conservation area planning

includes area potential inventory activities in the form of identification, inventory and mapping of distribution and feed of Anoa, identification and inventory of potential natural resources of important value in the area, regional arrangement and preparation of management plans, Management of plant and animal species of important value, Protection and security area, Development of agrotourism and ecotourism, Community empowerment, Management of traditional blocks, Management of research, education and science activities, Utilization of water environmental services, Cooperation and partnership and Development of institutional resources.

5. Conclusions and Recommendations

Based on the results of multiple linear regression analysis, the infrastructure variables that have the most significant effect on ATHRAL development are Highway Infrastructure with a significant value of 2,799, irrigation with a significant value of -2,669 and disaster mitigation with a significant value of 2,645.

Based on the IFAS and EFAS matrix tables, the total weighted values are 1.25 and 1.02, thus ATHRAL development is in quadrant 1 (one) this shows that ATHRAL is quite strong in utilizing all its strengths to get opportunities, The strategy used is to expand commodity marketing by taking advantage of potential natural conditions and developments in information technology, to maintain the beauty and preservation of endemic species to increase visitor interest and the interest of non-governmental institutions to conduct research, to maintain service quality and low

entry fees to attract visitors, and local and community income opportunities, Development and improvement of facilities and infrastructure that can support productivity and regional development and attract visitors, Utilize cooperation with government agencies, non-government institutions, communities, and the private sector to manage conservation areas, and Improve quality and quantity facilities and infrastructure and improvement of the management system in order to minimize the impact of environmental damage to the area and the pace of competition.

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