

## Natural Tourist Attraction Development Model Based On Tourism Area Cycle Of Evolution (Case Of Ponot Waterfall Attraction Asahan Regency)

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**Abstract:** The development of tourism in an area will bring many benefits to the community, namely economically, socially, and culturally. However, if the development is not prepared and managed properly, it will cause various problems that make it difficult or even detrimental to the community. The research that will be conducted aims to formulate directions for the development of the Ponot Waterfall Natural Tourist Attraction in Asahan Regency based on the Tourism Area Cycle of Evolution (TACE) model and then provide several recommendations for the development of natural tourist attractions based on the typology. This qualitative descriptive study uses four data collection techniques: observation, documentation study, focus group discussion, and literature study. This study uses research variables used to identify the natural attractions of Ponot Waterfall. The variables in the tourism components are Attraction, Accommodation, Facilities, Transportation, Infrastructure, Institutional, Promotion, Tour Packages, Ancillary Services. Then the data obtained are analyzed using the Tourism Area Cycle of Evolution (TACE), Carrying Capacity and Ansoff Matrix. Research shows that Ponot Waterfall is nature tourism that has fulfilled all the indicators in the characteristics of natural tourism areas that have not been fulfilled, namely the variable something to buy, where the natural tourism area does not yet have a distinctive product to be traded to tourists, tourism promotion and supporting facilities that have not adequate and as a tourist area, this waterfall is still managed by the community so there are still minimal facilities and development. Ponot Waterfall is in the involvement stage and its position on the Ansoff Matrix diagram is in Quadrant 1 Market Penetration: Existing Product and Existing Market. After the first and second targets have been achieved, more appropriate directions for the development of natural tourist attractions are generated based on the evolution cycle of tourist attractions

**Keywords:** Development Tourism Area Cycle of Evolution, Carrying Capacity, Ansoff Matrix

### Introduction

The development of the tourism industry is also an activity to explore and build the potential of Tourist Attractions (DTW) to be developed into tourism products so that they are able to have a positive impact on the community's economy and at the same time make a greater contribution to regional income even to the national level. Tourism development is also related to activities to preserve, organize, and maintain the existing DTW, while still paying attention to environmental sustainability, through planning tourist areas that have a fast level of development. On the other hand, in tourist areas that have not yet developed, through spatial planning the area is expected to be able to stimulate investment growth and increase tourism activities. As stated in Law no. 32 of 2004 concerning Regional Autonomy that district governments are responsible for managing the resources owned by their regions, including culture and tourism.

Asahan Regency is part of North Sumatra Province which has great development potential in the fields of culture and tourism. The field of culture is important to be developed to customs and history that exist in Asahan Regency so that they can be maintained and preserved by the younger generation and future generations. In the field of tourism, Asahan Regency has considerable potential as well, but generally, it has not been managed properly. The main potential that many of Asahan Regency have is the potential for tourist nature as rivers, lakes, and waterfalls. Having a waterfall tour that invites many tourists to come to visit Asahan Regency. Ponot Waterfall (ATP) is visited by many tourists from outside the city to foreign tourists. However, since the pandemic period only local tourists have visited ATP.

In Regional Regulation no. 3 of 2021 concerning the initial draft of the Regional Medium-Term Development Plan (RPJMD) for 2021-2026, Asahan Regency is a very important document for carrying

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out the wheels of government and development in realizing the vision and mission, and the RPJMD is the basic reference for all OPD, sub-district, lurah and village officials in preparing development planning documents in their respective working areas. In addition to realizing the vision and mission, 10 priority programs have been set including Bureaucratic Digitization, Tough HR, Independent Economy, Healthy Asahan, Smart Asahan, Strong Infrastructure, Religious Asahan, Participatory-Based Environment, Go Tourism Asahan and Covid-19 War Asahan. Asahan Go Wisata consists of 4 (four) emphases, one emphasis is Asahan One Stop Adventure Tourism. From the Asahan One Stop Adventure Tourism development plan, there are 4 (four) tourism priorities for Asahan Regency, namely "Ponot Waterfall" in Tangga Village, Aek Songsongan District, Asahan Regency.

The basic problem of developing tourist attractions (DTW) in Asahan Regency is to package existing tourist attractions into a tourism product. Until now there has been no development of tourist facilities (such as restaurants, cafes, gift shops, etc.) that will facilitate and increase the comfort of tourists traveling to become a common problem in each DTW. Not to mention the absence of tourist attractions that are packaged as tourist products to add to the existing tourist attraction. Almost all DTW only offer natural objects as they are, in the sense of without packaging and without a clear target market. For this reason, a good plan for each DTW is the first step in tourism development. On the other hand, the Asahan Regency Government has not given maximum attention to tourism development, this can be seen from the low allocation of Regional Revenue and Expenditure Budget (APBD) funds for the tourism sector. Whereas the tourism sector can be one of the factors in improving the community's economy.

In addition, external problems that also affect tourist attraction are the availability of tourism-supporting infrastructure. Until now, many DTWs are difficulty reaching tourists due to inadequate road infrastructure. Lack of means of transportation, communication, and information is a common problem in each DTW, making it difficult for tourists who come, especially from outside Asahan Regency.

The reasons why the authors chose the location of this research include Ponot Waterfall tourism which is one of the tourist attractions that is starting to be in demand and is visited by tourists because it has a very natural atmosphere and this waterfall has its uniqueness with a height of 250 meters which has great potential and The nature is very good so that it becomes a priority for leading tourist attractions in Asahan Regency, it is still necessary to develop it so that it is more advanced. Ponot Waterfall is not balanced with the provision of supporting infrastructure. This can be seen from the very limited number of existing facilities and infrastructure. So that the author considers it important to see the real conditions and the development of tourist attractions. This tourist attraction should be managed and developed according to appropriate development directions so that it can increase regional income and the income of the community around the tourist attraction. If it is not developed from now on, it is feared that it will be neglected, thereby reducing the interest of tourists to visit this tourist attraction.

Based on a brief description of the Ponot Natural Tourism Attraction in Asahan Regency, the development of the natural tourism area can be seen from the availability of supporting facilities and infrastructure, accessibility, and other indicators. This shows that each DTW has a different life cycle as stated by Richard Butler in his theory, namely the Tourism Area Evolutionary Cycle Model. This theory is better known as the Tourism Area Cycle of Evolution (TACE). The Evolutionary Cycle of Tourism Areas is divided into seven phases starting from the exploration stage to the post-stagnation stage which is divided into two, namely rejuvenation and decline. The TACE model is very helpful for tourist attraction managers to find out which phase their area is in. Many researchers have adopted the TACE model so I am interested in using this analytical tool because no one has researched using this analytical tool on the Ponot Waterfall DTW. With the life cycle theory, the position of tourism to be developed can be well known and then the direction of its development can be determined appropriately. The life cycle concept shows that tourist destinations are constantly changing from time to time, and progress can be seen through the stages from introduction to decline. Berry (2001) noted that the existence of this tourist area life cycle (TACE), increases our knowledge about tourism development, key stakeholders, tourist attractions, etc. As a result of our knowledge of using the TACE model as a framework for understanding what is being improved, it increases our capacity to make strategic decisions. Studies on the Tourism Area Cycle of Evolution also help developing countries that are actively managing their economic lives, such as Indonesia. The development of tourism in developing

countries that have tourism potential is a must because tourism is one of the determining factors for the economic progress of a developing country.

The results of the initial research, problems identified in connection with the development of waterfall tourist attractions, the authors were motivated to conduct scientific research by setting the research title: "Model of Development of Natural Tourism Attractions Based on Tourism Area Cycle of Evolution (Ponot Waterfall Tourism Case, Asahan Regency) "

### Methodology

The data collection method used in this research is a documentation study, namely data collection carried out by seeking information based on agency documents and managers related to research, then observation, namely observation of data through direct observation at the Youth, Sports and Tourism Office of Asahan Regency and Ponot Waterfall. And library research; collect data through various relevant references and Focus Group Discussion

The data analysis method used in this study is a qualitative descriptive method, according to Miles et al (2014) which says that in qualitative data analysis there are 4 flows of activities that occur simultaneously, namely as follows: (1) Data Reduction means summarizing, selecting the main points, and focusing on the important things, looking for themes and patterns. Thus, the reduced data will provide a clearer picture and make it easier for researchers to collect data related to important and basic matters. (2) Presentation of Data (Data Display) Presentation of data is done in the form of brief descriptions, charts, relationships between categories, and the like. In this case, the most frequently used to present data in qualitative research is narrative text. (3) Conclusions / Verification (Conclusion: Drawing/Verifying) Conclusions can be drawn after conducting an in-depth analysis of the research results. By conducting verification, it can be seen whether the formulation of the research problem has been answered, and the whether research objective has been achieved. Conclusion drawing or verification is carried out to test the truth and match the existing information from the informant's information to obtain valid and clear data. (4) Data triangulation, data triangulation is carried out to test the truth and validity of the data. In this study, researchers used source triangulation which was done by matching the data obtained through observation, documentation techniques, and Focus Group Discussion Information obtained through data triangulation, valid and clear information will be obtained regarding the design of tourist attraction development in Asahan Regency.

### Results and Discussions

The results of observations in this study are translated into indicators with the following details:

**Attraction**, Ponot Waterfall is natural tourism where the indicators of something to do and something to have been fulfilled the variables where the attractions that can be enjoyed are a natural panorama and a waterfall that is very beautiful to the eye, the weather is cool where we can do activities including bathing in a waterfall, family picnics, camping and, rock climbing and taking pictures, each worth 2 or good, which is still not fulfilled, namely in the variable something to buy, where the natural tourism of Ponot Waterfall does not yet have a unique product to be traded to tourists. At this time, people still do not sell souvenirs in the area, because there is no superior product that they produce from their area. This state is rated 0 or bad.

**Accommodation**, Accommodation facilities are a necessary supporting aspect of tourism activities. Parameters in this accommodation facility include lodging facilities such as hotels, inns, homestays/tourist lodges. Ponot Waterfall in the accommodation indicator is still not fulfilled the variables. There is still no community that builds residential-based accommodation for homestay communities / Pondok Wisata. Likewise, other hotels inn buildings are not yet available. Readiness of accommodation of residents' homes as homestays is very necessary at this time with the standardization of facilities and services of a star hotel class. Lodging facilities that do not exist in the Ponot Waterfall Tourist Attraction, this is also one of the factors for the length of stay of tourists being less due to the absence of lodging facilities. This state is rated 0 or bad.

**Accessibility**, Ponot Waterfall is a natural attraction that has a distance of 90 KM from the center of Kisaran City, worth 1 or enough. On-field observations visitors use private vehicles in the form of two-wheeled vehicles. This accessibility analysis is supported by several parameters, including; road conditions, diversity of means of transportation, frequency of means of transportation, and travel time, as well as road directions. The physical condition of the roads is paved but there are still rocks,

worth 1 or sufficient, only a few areas whose road conditions are slightly damaged in certain areas of the roads, this situation is rated 1 or sufficient. Along the way to Ponot Waterfall, there is no road sign. This situation is rated 0 or bad. Reaching the location of tourist attractions can use motorized vehicles, both public and private. From Kisaran City get off at Factory Junction Pulo Raja Palm Oil, then take this Bus to Ponot Waterfall. As for private vehicles, they can be reached by two-wheeled or four-wheeled vehicles. Public transportation can be reached by inter-city transportation that serves the route Dolok Sanggul – Porsea - Pulo Raja - Aek Nabara - Negri Lama at a rate of Rp. 30,000 (thirty thousand rupiahs) worth 2 or good served 24 hours, worth 2 or good. To reach the location of this tourist attraction is reached in 2.5 to 3 hours from Kisaran City, worth 1 or enough

**Facilities**, Ponot Waterfall there are only 7 klontong stalls. These stalls sell heavy and light food and drinks for tourists. There are no restaurant facilities and souvenir shops, this situation can be rated 0 or bad, There are 4 toilets in this tourist attraction, but the conditions are inadequate so that it feels uncomfortable in the eyes of tourists, the toilets are not clean and comfortable, the light and ventilation are inadequate, the walls and roof must also be in less clean conditions, the closet holes are not clean and the toilet is not closed, the toilet is not dry and there is a puddle of water on the floor, the drainage flow is still smooth, the availability of trash bins is not in the toilet, the availability of facilities and infrastructure in the bathroom such as dippers, faucets that are not damaged / leaking, toilet brushes, etc., but not maintained, there is still black/yellowing crust on the floor and walls of the toilet, there is still an unpleasant odor in the toilet. This state is 0 or bad. Ponot Waterfall has 5 trash cans, made of tin cans, of medium size located every 100 m along the way to the waterfall. This garbage is transported when it is full and taken to a large garbage dump with a garbage truck. The parking facilities at Ponot Waterfall, are wide enough for approximately 800 m<sup>2</sup> to 1,000 m<sup>2</sup>, enough to accommodate approximately 60 four-wheeled vehicles wheeled tourism buses can also accommodate approximately 6 to 10 large buses. But the drawback is that there are no parking signs and vehicle limits, this situation is worth 1 or enough.

**Infrastructure**, Analysis of the infrastructure of the Ponot Waterfall tourist attraction is divided into several things, namely clean water networks, electricity networks, waste systems, and drainage networks. The clean water network is the main factor of the infrastructure that supports tourism activities. Clean water can affect the comfort of tourists. The tourist attraction of Ponot Waterfall is that clean water is taken by means using are flowed using hoses to each community's house, it is sufficient for the needs of visitors, this situation and is rated as good. The electricity network already exists at the Ponot Waterfall tourist attraction. The electricity facilities have met the needs of the community and tourism needs. The lighting along the roadside and the location at night also looks bright, with good distribution, 100-200 KWH, Voltage 220, worth 2 or good. The waste system does not exist in the Ponot Waterfall Tourist Attraction, this is also one of the inhibiting factors, so tourists become less comfortable when garbage accumulates without a good processing system because there is no system. This state is rated 0 or bad. Drainage, available but still very minimal, exists at the Ponot Waterfall Tourist Attraction, where this network is needed to channel excess water mass from a tourism area, this channel system has an important role to avoid puddles on the surface. This state is worth 1 or sufficient.

**Promotion**, The market share in the tourist attraction of this waterfall is the lower-middle economic level community and the upper-middle economy both tourists from abroad and the archipelago, this situation is rated 1 or sufficient. For promotions that have been carried out, including through the Asahangowisata website, distribution of pamphlets and brochures, and word of mouth, it is worth 1 or enough.

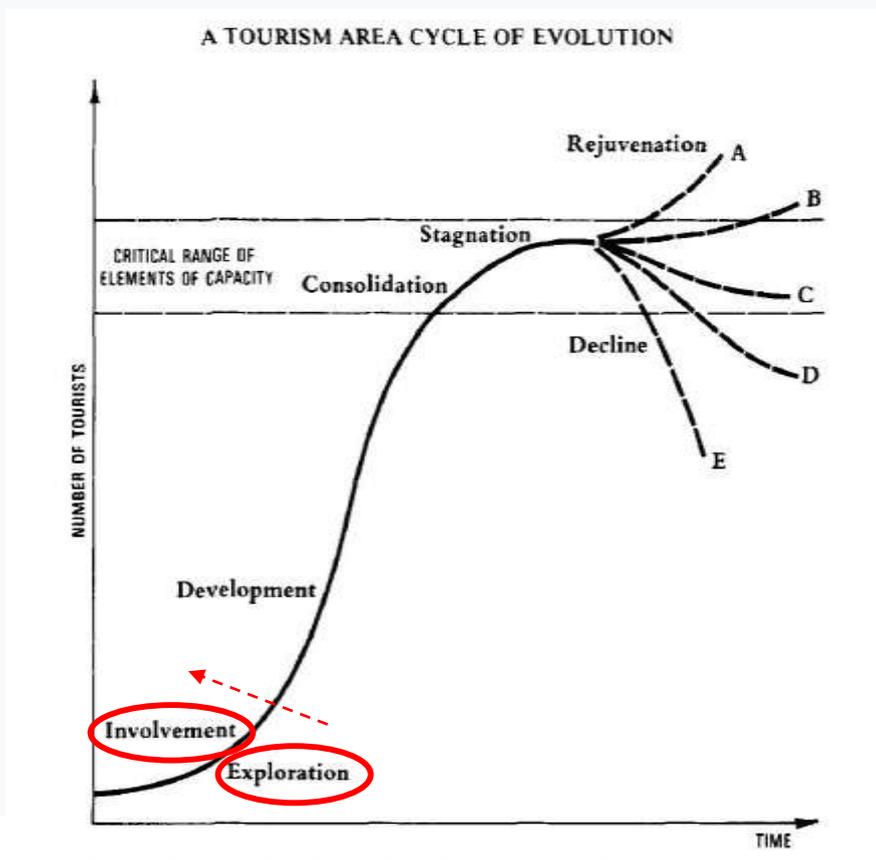
**Institutional**, This natural tourism as a tourist area, this waterfall is still only managed by the community, not yet managed by official institutions such as Bumdes, Pokdarwis, or BUMDesma. This state is rated 0 or bad.

**Tour Packages**, Travel agents in Kisaran City have not provided tour packages to Ponot Waterfall, because the location of the Ponot Waterfall tourist attraction is far from Kisaran City. It is difficult for tourists to find a place to stay, both inns, hotels, and homestays, that are not available near these locations and it is difficult to find adequate restaurants or places to eat. This state is rated 0 or bad.

**Ancillary Service**, Tourist attraction does not have banking, a relatively far 15 KM distance from the tourist attraction. This situation has a value of 0 or bad. Telecommunication/internet networks in the form of cellular telephones and internet have entered the area but are still inadequate. This also

reduces the comfort and level of facilities at the tourist attraction, which already has a signal in the area, especially from Telkomsel Provider, which is worth 1 or enough. The post office has a relatively far distance of 35 KM from tourist attractions. This state has a value of 0 or bad. Hospital facilities have a relatively far distance of 50 KM from tourist attractions. This state has a value of 0 or bad.

**Tourism Area Cycle of Evolution**, Ponot Waterfall Nature Tourism is in 2 stages, namely exploration and involvement. At the exploration stage, it can be seen from the tourism potential of this waterfall that it is still very natural and has not been developed then the availability of supporting facilities and tourism promotion is still very minimal in this waterfall area. Furthermore, this waterfall is still not officially managed, but the community is the manager or provider of tourism services. Furthermore, at the involvement stage, the number of tourists has increased, especially on holidays. This is one of the reasons the government has announced that this waterfall will be developed because it is starting to get crowded with visitors. So it can be concluded that the Ponot Waterfall tourist area is currently in the exploration stage towards the involvement stage. The following is a graph of the development of the natural tourist attraction of Ponot Waterfall based on the theory of the Evolutionary Cycle of Tourism Areas: Referring to Butler's theory regarding the Tourism Area Cycle of Evolution which positions the condition of a tourist attraction based on the stages of the evolutionary cycle, the Ponot Waterfall Tourist Attraction is as illustrated in the diagram above, it can be assumed that an increase in the number of visits is an indication of the object at the stage of involvement. (Involvement).



**Picture 1**

**Graphic of the development of the natural tourist attraction of Ponot Waterfall**

*Source: Author's Analysis, 2022 processed from Butler (1985)*

To make it easier to understand the results of the analysis of Ponot Waterfall's natural tourism based on several indicators in the theory of Tourism Areas Cycle of Evolution the following table is presented:

**Table 1**

**Ponot Waterfall Analysis Results Based on the Theory of Tourism Area Cycle of Evolution**

Attraction	Supporting Facilities	Promotion	Number of Visitor	Tourism Service Provider
Still focusing on developing its natural attractions	Various supporting facilities are starting to be provided, generally by local communities	Starting to have promotions on a limited scale	Increased number of tourist visits during seasons or holidays	Local communities are starting to play a role in providing tourism services for tourists

Source: Author's Analysis, 2022 processed from Butler (1985)

### Carrying Capacity

The carrying capacity analysis carried out in this study is based on the theory of Boullon, 1985, the basis for determining the carrying capacity of Ponot Waterfall is based on the results of data analysis of tourist visits in 2017. The carrying capacity area of Ponot Waterfall based on the carrying capacity map using Arc Gis is 0.59 ha (5,900 meters<sup>2</sup>), which is the total area available for use by the public, in this case, visitors or tourists. Marsiglio (2017) argues that if the number of tourists is less than the carrying capacity, then this will help the development of tourism in the long term.

$$\text{Carrying Capacity} = \frac{5.900 \text{ meter}}{4 \text{ meter}} = 1.475 \text{ people}$$

$$\text{Rotation Coefficient} = \frac{24 \text{ hour}}{4 \text{ hour}} = 6$$

$$\text{Carrying Capacity Areal per day} = 1.475 \text{ orang} \times 6 = 8.850 \text{ people/day}$$

The carrying capacity of tourism activities in ATP reaches 8,850 people per day (Table 2). Based on the number of tourists who came in 2017, which is an average of 99 people per day; the physical carrying capacity for each tourist activity is still adequate. The activities of sitting, relaxing, and photography have not caused any environmental damage.

**Table 2**  
**Ponot Waterfall Carrying Capacity Analysis Results**

MONTH	NUMBER OF VISITOR (people/month)	DAILY NUMBER OF VISITOR (people/day)	CC (people/day)
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January	2846	92	8.850
February	2781	99	8.850
March	2910	94	8.850
April	2871	96	8.850
May	2189	71	8.850
June	3554	118	8.850
July	3098	100	8.850
August	2911	94	8.850
September	2992	100	8.850
October	3082	99	8.850
November	3296	110	8.850
December	3472	112	8.850
<b>AVERAGE</b>		<b>99</b>	<b>8.850</b>

*Source: Author's Analysis, 2022*

**The Ansoff matrix** analysis carried out in this study is based on Ansoff's theory, 1957, the basis for determining the Ponot Waterfall Natural Tourism Attractiveness quadrant, which is based on the results of data analysis of tourist visits in 2017 and the results of the analysis of carrying capacity. The values obtained from the results of the Ponot Waterfall Natural Tourism Attractiveness data are based on a carrying capacity of 8,850 people, where the middle limit of the quadrant is 4,425 people, then by setting the highest value limit, the middle value and the lowest value of the number of daily visitors with a value of carrying capacity of people per day, it is found that the lowest value is 71 people, then the median value is 99 people and the highest value is 118 people, then the Ponot Waterfall Tourist Attraction position is in the first quadrant of the Ansoff Matrix and provides the least risk of the four growth options namely market penetration where the product already exists and the market already exists. Here is a picture;





**Picture 2**

**Ansoff Matrix Analysis Results**

*Source: Author's Analysis, 2022 processed from Ansoff Matrix (1985)*

The position of the Ponot Waterfall Tourist Attraction is in Quadrant 1 Market Penetration: Existing Product and Existing Market. Business growth occurs by penetrating the market. Market penetration can be done in several ways, such as increasing your current customer purchases, both in terms of volume and sales value. Market penetration is a growth strategy in which the company focuses on selling existing products in pre-existing markets.

**Conclusions**

Based on the results of the analysis, the characteristics of natural tourist attractions are obtained. Ponot Waterfall is nature tourism that has fulfilled all the indicators in the characteristics of natural tourism areas that have not been fulfilled, namely the something to buy variable, where the natural tourism area does not yet have a distinctive product to be traded to tourists, tourism promotion and supporting facilities are not adequate. as well as a tourist area, this waterfall is still managed by the community so that there are still minimal facilities and developments. Tourism Area Cycle Of Evolution on the natural tourist attraction of Ponot Waterfall, the position of the natural tourist attraction at the output stage of this analysis is called the typology of natural tourism areas based on the theory of The Tourism Area Cycle of Evolution which is at the involvement stage and the position on the Ansoff Matrix diagram is in Quadrant 1 Market Penetration: Existing Product and Existing Market.

**Managerial Implication**

Making the output of this research as input for further research, especially related to the development of natural tourist attractions in Asahan Regency, Establish cooperation between communities to develop tourist areas in the area around their homes. If the tourist area is developed, it can automatically improve the economy of the surrounding community, To the private sector to establish cooperation with the Youth, Sports and Tourism Office of Asahan Regency, KPH Asahan, or with the manager of the Asahan Regency natural tourism area to develop the natural tourism potential of Asahan Regency.

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