

# Analysis of the Potential Development of Tourism Villages in Jembayan Tengah East Kalimantan Using AHP Method

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**Abstract--Rural areas have very diverse potential, both the potential of natural resources, cultural resources of the community, and the creative resources of local communities. The diversity of these resources has the potential to be developed as a product of rural community-based tourist attractions to improve the welfare of the community. For that reason, this research was conducted to find and analyze the existing potential to be a community-based tourist village product in Jembayan Tengah Village, Kutai Kartanegara. The approach method used in this study is the Analytical Hierarchy Process (AHP) method. The method is used to analyze the priority scale related to aspects of the development of tourist village attractions, public facilities and tourism facilities, tourism accessibility, and promotion, in Jembayan Tengah Village, Kutai Kartanegara. The results showed that the tourist attraction aspect is the most priority aspect. While the criteria that are the priority of development are natural attractions, transportation facilities, tourism facilities, and promotion using electronic media.**

**Keywords: Analysis, Potential, Development, Tourism Village, AHP Method.**

## I. INTRODUCTION

Tourist is among the labor-intensive industries including different celebrations as well as producing tasks as well as labor for regional neighborhoods, in addition to establishing little as well as tool business companies in backwoods. In Europe, it is actually approximated that greater than 2, as well as a 50 percent thousand small and medium enterprises (SMEs), are actually associated with the micro-scale tourist market company through utilizing

approximately 6 individuals. While in Indonesia the absorption of labor coming from the tourist industry remains to enhance other than in 2020. In 2018 the work of the tourist industry, as well as innovative economic climate, amounted towards twelve thousand much a lot of extra employees, as well as enhanced in 2019, which was actually thirteen thousand employees or even up 3.17%. However, the variety of employees reduced in 2020, which is actually just 10 thousand employees, this is because of the situation of pandemic corona virus-19. Worldwide tourist advancement is actually anticipated towards offer financial, social, as well as social advantages towards the nation as well as regional neighborhoods as holds, particularly in the development of tasks for regional neighborhoods in backwoods. [1].

A tourist village is actually one type of request of community-based as well as lasting tourist advancement. With the advancement of traveler towns, it is actually anticipated that there's equalization according to the idea of lasting tourist advancement. Additionally, the presence of traveler towns creates traveler items better towards country society to ensure that the advancement of traveler towns deserves society without harming it [2]. Social tourist sources include people's way of life, conventional fine craft, as well as neighborhood customized [3].

Based upon these limitations over the Jembayan Tengah Village situated in Kutai Kartanegara, East Kalimantan has actually a location of around 4,725 ha, along with a populace of 1,781 individuals including 862 women and men numbering 919 individuals or even the variety of household goings is actually as numerous as 523 household goings.

Although it has actually a certainly not as well broad location, Jembayan Tengah Village has actually an extremely varied perspective to ensure that it has actually the chance to become turned into a Tourist village tourist destination, each all-organic traveler tourist destinations, society, as well as neighborhood imagination items towards draw in travelers.

Nevertheless, Jembayan Tengah Village has actually certainly not been actually industrialized towards the optimum right in to among the tourist locations based upon backwoods (tourism villages), each the advancement of tourist destination elements, ease of access elements (Accessibility), elements of community centers as well as tourist facilities (Amenities), as well as elements of promotion. For that reason, this examination intends to discover as well as evaluate these 4 elements towards identifying one of the absolute most concern elements as well as requirements to become industrialized to ensure that the advancement of traveler towns is actually performed in a directional way.

## II. LITERATURE REVIEW

### 2.1 Rural Area

Rural are actually locations that have actually the primary agricultural tasks, consisting of the administration of various other natural deposits along with the plan of local features as a location of country negotiations, federal authorities' solutions, social solutions, as well as financial tasks. The administration of natural deposits as well as various other sources evaluated coming from a tourist point of view can easily possibly be actually turned into a tourist location based upon regional sources as well as country neighborhoods. [4]

Descried country tourist as multi-faceted task instead of farm-based tourist just. It certainly not just consists of farm-based vacations however likewise makes up unique rate of passion attributes vacations as well as ecotourism, strolling, climbing up as well as using vacations, experience, sporting activity as well as health and wellness tourist, searching as well as angling, academic traveling, arts as well as heritage tourist as well as in some locations, ethnic tourist. Country tourist describes those taking a trip tasks that objective at pursuing all-organic as well as humanistic tourist destination along with rurality in country location [5].

### 2.2 Tourist destinations, Facilities and Accessibility

Tourist is actually whatever had through a location or even area such as natural deposits, society as well as imagination of the neighborhood that has

actually originality, charm, as well as worth that draws in travelers towards go to the location or even area. The reason traveler's select a location is actually based upon the degree of destinations' beauty as well as interestedness in affecting tourists' complete fulfillment. The evaluation of location prospective assists suggesting as well as score the significance of current location sources in each area or even district. Additionally, the evaluation of location prospective likewise determines destinations' abilities as well as preparedness so as to place all of them in accordance with their significance. The evaluation of tourist location prospective consists of the evaluation of location worth or even equity, bodily elements of locations, preparedness of locations in regards to facilities, ease of access, atmosphere, credibility as well as security.

In accordance with Legislation of the Commonwealth of Indonesia Variety 10 of 2009 on Tourist, "tourist Locations or even a traveler location is actually a geographical area situated in several management areas through which there's a traveler tourist destination, community centers, tourist centers, ease of access, as well as neighborhood are actually interrelated as well as corresponding awareness of tourist.

Traveler tourist destinations through kind are actually split right into all-organic tourist destinations, social tourist destinations, as well as manufactured traveler tourist destinations. All-organic tourist destinations could be defined as all-organic scenic view, environment, awesome sky, all-organic surroundings rice areas, hills, hillsides, ponds, plants as well as animals, all-organic signs, and so on. The tourist destination of social tourists such as a tangible as well as a non-physical society. Types of social tourist destinations like bodily-like structure designers, sculptural makings, ancient objects, social heritage locations. While the tourist destination of non-physical types of tourist like dancing, customized, way of lives of the neighborhood. Synthetic traveler tourist destinations can easily get the type of recreational as well as entertainment facilities or even amusement park, specifically centers associated with inspiration for entertainment, home enjoyment as well as circulation of pastimes, like style, enjoyment parks; Incorporated remainder centers, as well as leisure as well as sporting activities centers, and so on.

Tourism accessibility is among the essential elements that sustain tourist advancement, as it issues cross-sectoral advancement. Without being actually linked towards the transport system it is actually difficult for one thing to obtain traveler goes to. The tourist destination is actually completion of a traveler journey as well as should satisfy ease of access

demands significance that the tourist destination should be actually quickly gotten to as well as on its own likewise simple towards discover.

Community Centers are actually a fundamental bodily solution of an atmosphere meant for the public in performing life tasks. While tourism is all kinds of centers particularly targeted at sustaining the development of benefit, convenience, security of travelers in creating goes to towards tourist locations. Kinds of community centers as well as tourist centers like cleansing sprinkle centers, electric centers, telephone systems, health and wellness centers, churches, parking areas, homestays, vacation homes, resorts, dining establishments, souvenir stores, and so on.

2.3 Analytical Hierarchy Process (AHP)

The Analytical Hierarchy Process (AHP) technique was actually industrialized through Thomas Lorie Saaty of Wharton Company Institution in the very early 1970s, which is actually utilized towards discover the position or even concern purchase of different options in refixing an issue. In daily lifestyle, an individual is actually constantly confronted with creating options coming from different options. Right below it is actually required towards identify concerns as well as examination uniformity towards the options that have actually been actually created. In complicated circumstances, decision-making isn't affected through a solitary element however instead multifactor as well as deals with different degrees as well as rate of passions [6].

The Analytical Hierarchy Process (AHP) can easily streamline complicated as well as disorganized, tactical as well as vibrant issues right in to their components, as well as create variables in a hierarchy (degrees). Complicated issues could be translated towards imply that the requirements of an issue are actually therefore various (multicriteria), the framework of the issue isn't however unobstructed, the unpredictability of viewpoint of the choice manufacturer, the choice manufacturer of greater than a single person, as well as the inaccuracy of the offered information.

This technique assists refix complicated issues through structuring a hierarchy of requirements, curious celebrations, results as well as through making use of different factors to consider towards establish body weights or even concerns. It likewise integrates the energy of sensation as well as reasoning concerned and then synthesizes a selection of various factors to consider right in to outcomes that suit our approximates without effort as provided in the factors to consider that have actually been actually created. Additionally, AHP likewise has actually unique issues

around discrepancies coming from uniformity, dimension as well as reliance within as well as outdoors the team of architectural aspects [7].

III. METHODS

This research study was actually carried out in Jembayan Tengah Village in Loa Kulu Subdistrict, Kutai Kartanegara, East Kalimantan, Indonesia. Jembayan Tengah Village has actually the prospective of natural deposits, society, as well as neighborhood imagination items that have actually the chance to become turned into town tourist items towards draw in travelers towards go to Kalimantan Timur, particularly towards backwoods.

The technique utilized within this particular examine is actually qualitative research study along with a detailed method. Information compilation is actually performed with area monitoring as well as offer questionnaires towards participants chosen based upon proficiency in tourist or even comprehending the problem of research study items. The participant included 10 individuals coming from lecturers in tourist scientific research, tourist scientists, as well as Kutai Kartanegara Tourist Workplace.

The method technique utilized towards evaluate this research study information is actually utilizing the AHP technique. AHP is actually a decision-making technique that refixes a complicated as well as disorganized issue right in to teams as well as arranges it in a hierarchy. Here's the prep work of the research study hierarchy in AHP associated with the advancement concerns of Jembayan Tengah Village.

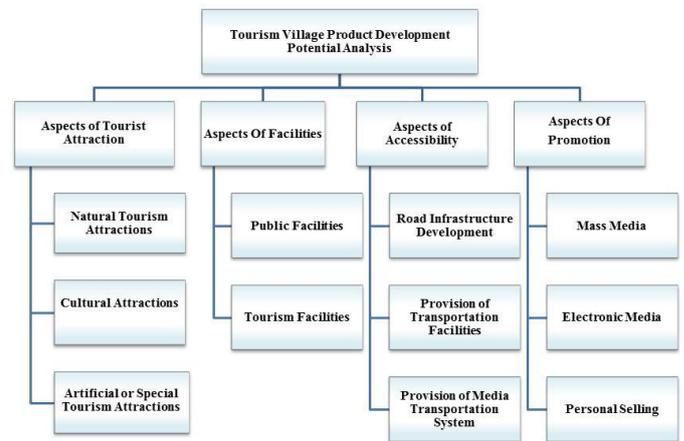


Figure 1. Hierarchy of development of Jembayan Tengah Village

The hierarchy of development of Tourism Village of Jembayan Tengah consists of 3 levels, namely:

- 1) The first level is a hierarchy that explains the objectives that are the main objectives of the Tourism Village of Jembayan Tengah development policy.
- 2) The second level is the hierarchy explaining the aspects of the development of Tourism Village Jembayan Tengah.
- 3) The third level is a hierarchy of criteria explaining the criteria of the development aspects of Tourism Village Jembayan Tengah.

To determine the priority arrangement of elements in AHP is done by arranging a paired comparison that compares in paired forms all elements for each sub-hierarchy. The comparison is then transformed into the form of a Pair Wise Comparison matrix. The numerical values charged for the entire comparison are obtained from the comparison scale of 1 through 9, such as the following table:

Table 1. Saaty Comparison Scale

Intensity of Importance	Definition	Explanation
1	Equal importance	Two activities contribute equally to the objective
3	Weak importance of one over another	Experience and judgement slightly favor one activity over another
5	Essential or strong importance	Experience and judgement strongly favor one activity over another
7	Demonstrated importance	An activity is strongly favored and its dominance demonstrated in practice
9	Absolute importance	The evidence favoring one activity over another is of highest possible order of affirmation
2, 4, 6, 8	Intermediate values between the two adjacent judgements	When compromise is needed

Next is to do a consistency test index ratio. AHP tolerates a consistency rate of less than 10%, if more than 10% then respondents are considered inconsistent in answering questions and allowed to make improvements to the assessment given. Consistency in this case is defined as the intensity of relationships between elements that are based on certain criteria, justifying each other logically. Consistency testing is done as a way to see the consistency of the answer to impossible to get absolutely consistent answers. Here is the formula calculating the consistency index as follows:

$$CI = \frac{(\lambda - n)}{(n - 1)} \quad (1)$$

n: number of criteria

λ: the average of vector consistency.

If the CI is worth zero then the pair wise comparison matrix is consistent.

Inconsistency limits set by Thomas L. Saaty is determined using the Consistency Ratio (CR), which is the comparison of the consistency index with the random index value (RI) obtained from an experiment by Oak Ridge National Laboratory then developed by the Wharton School, as in the table below. This value depends on the matrix order n. Thus, the Consistency Ratio can be formulated as follows:

$$CR = \frac{CI}{RI} \quad (2)$$

RI = Random Index.

Table 2 Value of Random Index (RI)

n	1	2	3	4	5	6	7	8
RI	0,00	0,00	0,58	0,90	0,12	1,24	1,32	1,41
n	9	10	11	12	13	14	15	
RI	1,45	1,49	1,51	1,48	1,56	1,57	1,59	

Thomas L Saaty (1980), The Analytic Hierarchy Process. If the matrix of pair-wise comparison with a CR value smaller than 0.100 then the inconsistency of opinion of the decision-maker is still acceptable and if not, then the assessment needs to be repeated.

The next step is to process data by tabulated the results of research interviews in the form of tables to then calculate the geomean value, which is a central value that is considered to represent the value of all data obtained from the value of perception qualification multiplied by each other and sought the rank of the number of respondents.

#### IV. RESULTS AND DISCUSSION

Based on the results of the study through questionnaires that have been answered by 10 expert respondents from academics, tourism researchers, and the Kukar tourism office related to the development of potential tourist villages in Jembayan Tengah Kutai Kartanegara. The approach tool used to analyze this research data is the *Analytical Hierarchy Process* (AHP) method aimed at finding and analyzing aspects and criteria that are a priority in the development policy of Jembayan Tengah Tourism Village. The structural form of the hierarchy in the preparation of development priorities is as follows:

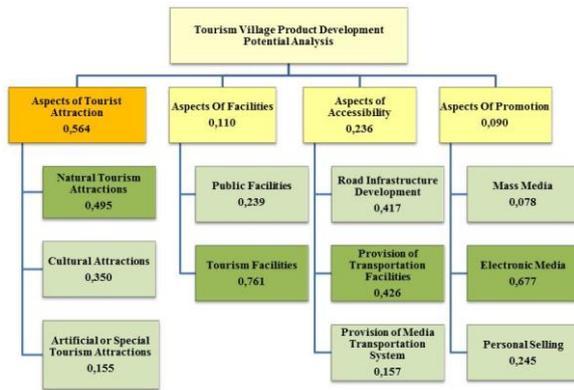


Figure 2. Jembayan Tengah of Tourism Village Development Hierarchy

Source: research results, 2021

1. The first level is the goal.  
At this level, the goal is to explore the potential development of tourist village products based on the existing conditions of Jembayan Village today.
2. The second level is the Development Aspects.  
The aspects analyzed consist of aspects of tourist attractions, aspects of public facilities and tourism facilities, aspects of tourism accessibility, and promotional aspects related to Jembayan Tengah Tourism Village.

Analysis of the above aspects related to existing conditions shows that the most priority aspect in the development of Jembayan Tengah Tourism Village is the aspect of a tourist attraction with a priority vector value of 0.564 when compared to other aspects. Thus, the attraction of tourism is the most priority aspect to be developed. Currently, the condition of tourist attractions in Jembayan Village is very diverse, but development is still not maximal, so this research can be the basis in the development of tourist villages in Jembayan. Here is a graph of the analysis of aspects of the development of Jembayan Tourism Village Products.



Figure 3. The Most Priority Aspects of Development

3. The third level is an analysis of the criteria of the following four priority aspects of development:

a) First, the aspect of tourist attraction is everything that has uniqueness, beauty, and value in the form of the diversity of natural wealth, culture, and man-made products that are targeted or destinations of tourist visits. This aspect consists of 3 criteria including the criteria of natural tourist attraction, cultural attraction, and artificial or special tourist attractions owned by Jembayan Village. Based on the results of the analysis of tourist attractions that include natural, cultural, and artificial attractions can be obtained the result that the most priority to be developed based on respondents' answers is the development of natural attractions with a priority vector value of 0.495 greater than the development of cultural tourism attractions and artificial attractions. Thus, the attraction of nature tourism is the most superior compared to other types of tourist attractions, especially the beautiful and unique rural natural scenery. In detail, the criteria for the most priority tourist attractions developed are as follows.



Figure 4. The most priority tourist attraction

- b) Second, the facility aspect. Aspects of facilities consist of two criteria, namely

public facilities and tourism facilities that must be developed and provided in the tourist destinations of Jembayan Village. Public facilities are the basic physical means of an environment intended for the general public in carrying out activities of daily life. While Tourism Facilities are all types of facilities specifically aimed at supporting the creation of convenience, comfort, the safety of tourists in making visits to Tourism Destinations.

The results of the analysis on the priority of the development and procurement of public facilities and tourism facilities in Jembayan Tourism Village showed that the most priority to be developed and held was tourism facilities with a priority vector value of 0.761 greater than the provision of public facilities. This shows that in addition to the development of tourist attractions, the development and procurement of tourism facilities is one of the most important components to support the needs of tourists while in the tourist village of Jembayan. In detail, the criteria of the most priority aspects of facility development are as follows.



Figure 5 The most priority facility criteria

c) Third, accessibility. The accessibility aspect is one of the components of tourism that is very important in supporting the movement of tourists from the area of origin of tourists to tourism destinations and the movement of tourists within the tourism destination area. To measure the accessibility aspect there are three criteria that become indicators of assessment, namely the development of road infrastructure, the provision of transportation facilities, and the provision of transportation systems. Based on the results of research on the three criteria showed that the most priority criteria to be developed is the second criterion, namely the provision

of transportation facilities to and from the Jembayan tourist village with a priority vector value of 0.426 greater than the development of road infrastructure and the provision of transportation systems. Thus, the means of transportation play a very important role in the development of Jembayan tourist village, this is because until now there are no public transportation facilities to and from Jembayan Village, so until now tourists who visit there use private transportation. In detail the criteria of the most priority aspects of accessibility development are developed are as follows:

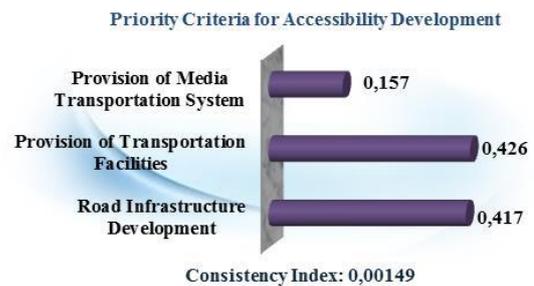


Figure 6. Most Priority Accessibility Criteria

d) Fourth, the promotion aspect. Promotion is also one of the important aspects to inform or offer tourism products and services with the aim of attracting tourists to the destination of Jembayan Village. To measure the aspect of promotion there are three criteria that are assessed including mass media, electronic media, and personal selling. The results of the study related to the three criteria showed that the most priority criteria related to the aspect of promotion were promised by using electronic media with a priority vector value of 0.677 greater than the criteria of mass media and personal selling. This is closely related to the development of information technology today. Most tourists are those who are very understanding of how to use electronic media so as to be able to encode information related to the chosen tourist destination. Thus, the most priority promotional media to be used as a promotional tool is through electronic media, such as websites, Instagram, Twitter, Facebook, and some of it. In

detail, the criteria of the most priority aspects of promotion to develop are as follows:



Figure 7. The Most Priority Aspects of Promotion Criteria are developed

V. CONCLUSION

Based on the results and discussions that have been outlined in this research, it was concluded that the development of potential tourism village products in Central Jembayan Village was carried out through four aspects of development, namely the development of aspects of tourist attraction, aspects of facility development, aspects of accessibility development, and promotion aspects. The results of the comparative assessment of the four aspects can be obtained the value of the most priority level, namely the aspect of a tourist attraction with a priority vector value of 0.564 greater than the other three aspects.

Furthermore, the results of comparative measurements against three criteria from aspects of tourist attraction, namely natural attractions, cultural attractions, and artificial or special tourist attractions show that the most priority criteria are natural attraction criteria with a priority vector value of 0.495 greater than cultural attractions and tourist attractions. artificial. While related to the aspect of facilities there are two criteria, namely the criteria of public facilities and the criteria of tourism facilities. The results of the assessment of these criteria showed that the most priority criteria were the criteria of tourism facilities

with a priority vector value of 0.761 greater than the provision of public facilities.

In addition, the results of measurements of the criteria from accessibility aspects, namely the development of road infrastructure, the provision of transportation facilities, and the provision of transportation systems that the most priority criteria to be developed are the provision of transportation facilities to and from destinations with a priority vector value of 0.426 more than the criteria for road infrastructure development and the provision of transportation systems. Meanwhile, related to the criteria of the promotion aspect shows that the most priority criteria of the promotion are electronic media with a priority vector value of 0.677 greater than mass media and personal selling.

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