Optimization of Pencong Hot Springs Area in Gowa Regency of South Sulawesi, Indonesia

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Abstract

Every destination competes to create quality tourism to attract tourists to visit the destination. One of the efforts is to develop tourist attractions based on the tourism potentials in the destination. This study examines the potentials of Hot Spring in the Pencong Village of Biringbulu District, Gowa Regency, Indonesia, for further development as a tourist attraction. This study used a qualitative descriptive approach by employing FGD, interviews, and surveys for data collections. A descriptive qualitative SWOT analysis was employed to analyze the data. The form of data presentation also utilized geographic information modelling systems. Informants of this study included the Government of Gowa Regency: Regional Research and Development Agency, Tourism Board, District of Head, Traditional Figure, and they were selected purposively. The focus of the study was to examine the potentials that exist in the hot spring and the surrounding in terms of attraction, activities, accessibility, accommodation, and amenities. The result of the research showed that Pencong Village Hot Spring possesses a natural panorama. The village has a good source of available hot water, conducive safety and security, friendly community hospitality, adequate facilities and infrastructure, diversity of supported tourist attractions such local tradition, view, and culinary and comfortable atmosphere. The inhibiting factors include limited funds, lack of professional human resources, lack of promotion, poor accessibility, lack of supported development programs, and telecommunications networks. Since the hot spring is located in a conservation area, a development strategy is required in increasing tourist visits by applying ecotourism through strengthening and developing current potentials. There is a need to regulate in the policy: 1) formulating the tourism village master plan and 2) providing clear regulations regarding zoning and land use of the village.

Keywords: Hot Spring, Attraction, Pencong Village
1. Background and Goals

According to Xinlei (2018), hot springs are not merely a kind of clean, renewable energy, but also a type of tourism attraction with high-value potential. Erfurt & Cooper (2010) revealed that the use of geothermal or hot springs dates back several thousands of years. Thermal bathing facilities exist in many countries and have a significant and longstanding reputation for successful health and wellness treatments based on the use of geothermal waters sourced from natural hot springs. Furthermore, Erfurt & Cooper (2010) stated that the growth of the tourism industry and the increasing desire of people to remain well as they grow older have recently created a renewed interest in the use of geothermal springs on a global scale. This health and wellness trend has caused the redevelopment of many existing hot spring destinations as well as new developments. Lee & King (2010) stated that hot spring tourism is already well established in Western societies, but the spa and hot springs tourism is a relatively recent phenomenon in Asia.

This type of health tourism has been known since ancient times and is even one of the oldest methods of tourism. Traces of tourism practices for leisure and health care are found in several resorts, for example, Herculane Spa, Geoagiu Spa, Baile Felix, et cetera (Turese & Anca, 2008). The economic and social conditions of modern life cause stress rates to be higher, therapy for pregnant women and fitness has led to the strengthening of this form of tourism. Also, widespread pollution in urban centers, urbanization of the population to the city, instant diet, far from natural sources of nutrition, requires efforts to restore health through healthy tours by utilizing hot springs.

The tourism industry is one of the most promising sectors and a significant economic driver for Indonesia. Law on Tourism Number 10 the Year 2009 states the notions of vacation, tourists, tourism, tourist attractions, and tourist destination areas. Tourism is defined as whole activities related to leaving as well as multidimensional and multidisciplinary which emerges a manifestation of the needs of every person and country as well as interactions between tourists and the local community, fellow tourists, the government, local government, and entrepreneurs. In the 2018-2019 Strategic Plan of Ministry of Tourism, it is stated that over the past three years, Indonesia has received more than 100 awards from 2016 to 2018 through the Branding "Wonderful Indonesia". The report of the Ministry of Tourism in 2018 shows that foreign tourist arrivals reached 16.2 million or about 96% of the target set at 17 million foreign tourists (www.kemenpar.go.id). Based on the World Travel & Tourism Council (WTTC), Top-30 Travel & Tourism Countries Power Ranking (absolute growth), Indonesia is resumed in rank 9th. Indonesia ranks 3rd after China and India when categorized per Continent, and it is the highest rank among other Southeast Asian countries.

The government is committed to making the tourism sector as a pillar of development in Indonesia. In the presentation of the Strategic Program for Tourism and Creative Economy in 2019-2024, it was explained that the main target of Tourism Development Paradigm. In the Year of 2020-2024 are foreign exchange and value-added tourism, the preparedness of destinations, industry, and society,
human resource capacity, carrying capacity environment and image of national competitiveness tourism. To achieve that, priority values include sustainable tourism, skilled human resources, experience satisfaction, product and service diversification, and technology adoption. Thus, increasing the image and competitiveness of tourism potential becomes a necessity to do.

Makassar and other big ten cities in Indonesia are designated as creative economy districts cluster. The creative economy district is home to mentoring, incubation, innovation facilities, and brand strengthening programs for creative economy practitioners. Makassar and its surroundings are expected to become new tourist destinations. As one of the destinations around Makassar, Gowa Regency has many interesting tourism objects to be developed, e.g. natural tourism, historical tourism, arts, and cultural tourism. The development of tourism, or in particular, the movement of tourists cannot be limited to certain territories or administrations (Muhumad, 2017). Thus, Makassar, as a new tourist destination, should collaborate with its surrounding areas.

Hot Springs in Pencong Village of Biringbulu District in Gowa Regency has tourism potential that has not been optimally developed. Geologically the existence of hot springs in Gowa Regency is a natural process. The presence of Sulawesi Island in the path of plate shift as a factor in the emergence of hot springs points. Sompotan (2012) stated that Sulawesi is located at the meeting point of three large plates, which causes very complex tectonic conditions, where rock collections from island arcs, rocks, ophiolites, and chunks of microcontinents are carried along with subduction, collision, and other tectonic processes. The geological structure that develops in Sulawesi is horizontal faults associated with rising defects. The results of the geological structures analysis, i.e. alignment patterns and direction of relative weaknesses, indicate that deformation in Sulawesi is affected by the activities of the Palu-Koro Horizontal Fault and Waiana Horizontal Fault Canal. Thus, these fault activities trigger the emergence of the earth’s power points to the surface.

Nowadays, geothermal energy is used as a substitute for the primary point of oil and gas. However, that is not yet optimal due to the lack of socialization in terms of geothermal energy. In addressing this, there are other ways to utilize geothermal energy, i.e. making a hot springs recreation area. A desirable spring recreation area not only has a high selling value but also is an innovation in science and technology-based entrepreneurship. Hot/warm springs are also one indication of the existence of geothermal resources below the surface, which are formed due to the flow of hot/warm water from below the surface through rock fractures. The term "warm" is used when the water temperature is less than 50°C, and the word "hot" is used when the weather is more than 50°C. In addition to hot springs, warm mud contains sulfur content and can be used for beauty masks, and hot water is used for skin diseases. Utami (1999), in a study of energy technology describing the utilization of geothermal energy in several regions of the world, the Maori in New Zealand utilize geothermal energy for tourist attractions that are very popular with tourists. Meanwhile Japanese and Chinese people use geothermal energy for the very healing ritual disease. The process of utilizing the energy is carried out with a heat
exchange system that is by heating freshwater extracted with geothermal fluid which is ideal for therapy and swimming (30-38°C). The heat extracted fluid is then injected back into the natural reservoir after being given an anti-mineral carbonate deposition agent to prevent the clogging of rock pores. Some countries utilize geothermal energy for complementary facilities in hotels, fitness centers, and homes. The success of the tourist village is measured by the attainment of managing its tourist attractions. Muhtasom et al. (2018) suggested that tourist villages should be distinguished from a village tour. According to him, the village tour is an activity where the tourists only do visit a tourist village but do not stay there. Staying in a tourist village becomes essential since the length of stay determines the success of tourist attraction. Spillane (1987) suggests that there are five crucial elements in supporting the development of attractiveness, the facilities needed, transportation, infrastructure, and hospitality.

Based on the survey and discussion conducted in Pencong Village, several problems were encountered related to the development of hot springs as a tourist attraction, i.e. 1) the absence of a planned strategy for attractions which make the promotion ineffective and 2) the lack of strong destination image in the Pencong Village. According to Ab (2018) and Ab, et al. (2015), destination image affects the tourists’ interest to visit a destination. Furthermore, the aspects of destination image should at least meet several criteria, e.g. natural beauty, the hospitality of the local people, comfortable accommodation, reasonable prices, regional security, and the opportunity to learn local customs. The researchers are interested in optimizing the potential of hot springs in Pencong Village as a means to contribute to Makassar as the new tourist destination in Eastern Indonesia. The researchers used descriptive method with qualitative data to describe the condition of physical and social characteristics, the role of government, and the state of the community itself. The collected data is used as the basis for designing tourism optimization strategies in Pencong Village of Biringhulu District, Gowa Regency.

2. Methods

This study used a descriptive method with qualitative data. A descriptive study aims to portray, record, analyze, and interpret conditions that currently occur or exist (Mardalis, 1999). The reason for the researchers’ use of this type of research method is its ability to provide a comprehensive and clear picture of the physical and social characteristics at the research location. Data were collected by survey and documentation. The respondents selected in this study are Department of Tourism employees, Sub-District officials, local communities, and society, as well as community leaders. The used analysis of the data used in this study is a qualitative SWOT analysis. The qualitative SWOT data was developed through the calculation of the SWOT Analysis, which was developed by Pearce & Robinson (1998). The potential of hot springs in Pencong Village was identified, including its land and social characteristics, then analyzed to find weaknesses and strengths of Pencong hot springs development. The results are then used as the reference for developing the potential of Pencong hot springs which will create a positive image of Pencong Village.
3. Results and Discussion

Based on the survey and data analysis, the development strategy was divided into two parts, such as the explanation of the SWOT method and the plan to develop the Pencong Village area into a tourist attraction.

SWOT Analysis of Pencong Hot Springs Development

This study employed SWOT analysis which aims to seek strategies based on the potential characteristics of Pencong Hot Springs. The SWOT analysis stage only resulted in the establishment of strategies qualitatively which were used as references in the development of land guidelines and packaging of the hot spring based on ecotourism activities.

In the provision of tourism development in a particular area, it is necessary to know the characteristics of the site, one of which is the characteristics of the land. In this study, the factors of land for tourism development were analyzed using SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats). The results of the SWOT analysis regarding the potential of hot springs tourism in Pencong Village are as follows:

Table 1. SWOT Matrix Optimization of Pencong Village Hot Springs

<table>
<thead>
<tr>
<th>STRENGTHS (S)</th>
<th>WEAKNESSES (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Easy access from Provincial Capital</td>
<td>1. The topography with 3-45% downhill potential for landslides and inhibits physical development</td>
</tr>
<tr>
<td>2. Cold climate temperature at 20°C - 26°C</td>
<td>2. Narrow pathways</td>
</tr>
<tr>
<td>3. An environment with natural ecosystems</td>
<td>3. Insufficient facilities</td>
</tr>
<tr>
<td>4. Beautiful natural scenery with topography at 3 - 45%</td>
<td>4. The lack of variety in tourist attractions</td>
</tr>
<tr>
<td>5. Adequate safety and security around the tourist attraction</td>
<td>5. No spatial planning</td>
</tr>
<tr>
<td>6. The quantity of water in the hot springs is stable in both dry and rainy seasons</td>
<td>6. Lack of signage leading to tourist attractions</td>
</tr>
<tr>
<td>7. Natural hot springs</td>
<td>7. Unintegrated management</td>
</tr>
<tr>
<td>8. Good public awareness in the development of tourism</td>
<td></td>
</tr>
<tr>
<td>OPPORTUNITIES (O)</td>
<td>STRATEGIES SO</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>1. Close to other tourist destinations (Malino, Bantaeng, and Bulukumba)</td>
<td>1. Provide a travel package to Pencong Hot Springs</td>
</tr>
<tr>
<td>2. The Gowa Regency Regulation Number 15 the Year 2012 on Spatial Planning for Gowa Regency in 2012-2032, states that the Pencong Settlement Center was established in Biringbulu District, Limited and Permanent Production Forest Areas, and Forest Farming Areas</td>
<td>2. Keep the natural beauty of the hot springs</td>
</tr>
<tr>
<td>3. Improving the quality of human resources, especially employees and sellers around hot springs</td>
<td>3. Collaboration between relevant agencies and universities to develop educational and sustainable tourism</td>
</tr>
<tr>
<td>4. Direction for the development of attractions as ecotourism</td>
<td>4. Direction for the development of attractions as ecotourism</td>
</tr>
<tr>
<td>5. Encourage society around the interest to participate in protecting attractions and water sources</td>
<td>5. Encourage society around the interest to participate in protecting attractions and water sources</td>
</tr>
<tr>
<td>7. Add attractions to the destination</td>
<td>7. Add attractions to the destination</td>
</tr>
</tbody>
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<thead>
<tr>
<th>THREATS (T)</th>
<th>STRATEGIES ST</th>
<th>STRATEGIES WT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The steep topography in several spots in the Pencong Hot Springs area can cause landslides and endangering visitors.</td>
<td>1. Make retaining wall in some slippery spots and areas with a 30% slope to prevent landslides.</td>
<td>1. Improve the facilities of the destination</td>
</tr>
<tr>
<td>2. The andosol soils in the destination are vulnerable landslide</td>
<td>2. Improve the promotional campaign</td>
<td>2. Promote the benefits of the Pencong hot springs as a tourist destination to local society</td>
</tr>
<tr>
<td>3. Inadequate public transportation, especially for visitors who use public transportation facilities</td>
<td>3. Provide more public transportation to Pencong hot springs</td>
<td></td>
</tr>
</tbody>
</table>

Source: Data Analysis, 2019

Figure 2. Activity in Pencong Hot Springs Pool

Figure 3. Photographed activities of visitors in Pencong Hot Springs

Pencong Village of Biringbulu Subdistrict is located in the strategic route, which in the southern line borders Jeneponto Regency, Bantaeng Regency, and Bulukumba Regency. While accessed through Malino route, tourists can easily access attractions located in Malino District of Tinggimoncong, Gowa Regency. Therefore, the potential for visitors to visit this attraction is enormous.

Figure 4. Road condition to Pencong Hot Springs

Figure 5. Sanitary facility
Access to Pencong Hot Springs still needs to be improved. Even though the road from the downtown to the hot springs has been concreted but some spots still unsurfaced. The results of field evaluation, the unsurfaced highway is 1 km long, and it is very hazardous during the rainy season.

The facilities and infrastructure in the hot springs area are still minimal. There are only four gazebo units, one sanitary facility, and no parking lot. However, based on the interview with the Village Head, many visitors come to Pencong Hot Springs every weekend. The amount of tourist is stable for every weekend, not less than 30-40 visitors from various regions in Indonesia.

**Pencong Tourism Attraction Development Strategies**

Based on the SWOT analysis in Table 1, two strategies are chosen to develop the tourist attraction in Pencong Village, i.e. provide a land guideline of the Hot Springs Area and provide an ecotourism travel package to the Pencong Hot Springs.

**Land Guideline of Pencong Hot Springs**

The location of hot springs as the "hub" of Pencong Village is expected to be the center of various activities in the development of tourism activities. The Pencong hot springs area site plan is divided into several zones, i.e. bungalows with traditional houses, public areas, and fishing areas.

![Plan of Land Use in Pencong Hot Springs Area](image)

The topography of Pencong Hot Springs varies widely, and it stated that the highest point of this is 183 masl and the lowest point is 172 masl. Based on the measurement of boundary delineation, the width of the Pencong Hot Springs area is 0.92 ha. Furthermore, the land is divided into four regions, as seen in Figure 6. The recommended width of the parking lot is 0.18 ha, the bungalow area is 0.8 ha, the public space is 0.22 ha, and the fishing area is 0.14 ha. In designing bungalows with traditional architectural nuance, there are four aspects to consider, e.g. landscape description, spatial planning,
building orientation, and building shape. The view from each bungalow is different. The bungalows placement follows the existing topography at the location. While the architecture follows the concept of a local traditional house, Balla Lompoa'.

**Pencong Village Tour Packages**

Optimization of hot springs in Pencong Village is started with the developing a Tourism Area Unit. This study recommends a method of preparing tour packages that suit the characteristics of each tourism destination. This tour package utilizes the natural potential in Pencong Village, e.g. rivers, hills, fields, rice fields, and various hills. This tour package consists of natural attractions and specific interests.

**Camping Ground**

The camping ground is a night outdoor recreation activity. Commonly, the campsite requires several criteria such as flat land, close to water sources, safety, etc. The recommendation for the camping ground location is in the South of the Pencong hot springs with an estimated width of 3.50 ha. The site is at 5°30'18.83"S and 119°44'25.58"E, which borders a river with 174 masl.

**Nomadic Tourism**

Nomadic tourism is a new style of tourism, where tourists can stay for a certain period in a tourist destination with a portable and mobile facility (Tourism Ministry, 2018). The guideline of nomadic tourism zoning is divided into two locations, as seen in Figure 8. The first location is 50 meters in the west of Pencong hot springs with 0.60 ha and 177 masl. The second location is at 5°31'20.04"S and 119°44'29.23"E, 450 meters from the center of the village in the north, the estimated area of this second nomadic tourism is 1.80 ha.

**River Tubing**

Another potential in Pencong Hot Springs is river-tubing. It is to optimize the surrounding areas. There is a 26.7 km long river with small water flow which has the potential to become an attraction for river floating. River tubing is provided to satisfy tourists when visiting the Pencong hot springs. The river tubing route starts from the Pencong hot springs to a bridge at the center of Pencong Village. Along the way, tourists can enjoy the beauty of nature, the fresh air in Pencong Village, and watch local farmers. Therefore, the facilities and infrastructure must be provided and increase the community's understanding of river-tubing. In expanding the community's knowledge, training on tour guide skills, work safety, and communication skills are needed. It eventually will support the finances of local people and farmers.

**Information and Promotion Center**

The downtown of Pencong Village is a strategic location for the Tourism Information and Promotion Center. This area needs to develop tourism service facilities through cooperation with travel agents.
Thus, information about attractions in Pencong Village can be easily accessed by visitors and tourists.

**Homestay**

The homestays are in the local residential area of Pencong Village. In building a homestay, the ASEAN Tourism Strategic Plan (ATSP): 2011-2015 is used as a reference. The results of interviews with the people of Pencong Village regarding questions related to willingness to participate in the "homestay" program were that the majority of respondents admitted to agreeing and being willing to use the house where they lived as a "homestay". The support of the local community for homestay development is tremendous. The form of community houses in Pencong Village is a representation of the traditional houses of the Bugis and Makassar tribes in general. The house on stilts, consisting of a bedroom, living room, kitchen, bathroom, and family room. The roof is triangular in shape, and the column part of the house is usually used to store crops. The settlement order of the Bugis and Makassar tribes cannot be separated from the philosophy of Sir a Pacce 'that their lifestyle seeks to maintain environmental order, maintain solidarity, and togetherness. A lifestyle that is formed from the manifestation of values in the form of spatial patterns in houses and settlements and how to manage the built environment (Beddu, et al, 2014).

The development of homestays in Pencong Village based on local wisdom is the creativity of the community, which has its charm and can support the development of the creative economy for the local community. This is by the opinion that "the creative economy is not only measured in terms of economics but can also be measured in terms of cultural dimensions. Nowadays, creative ideas that emerge come from local wisdom. This means that local wisdom determines the direction of the development of the creative economy in Indonesia. Therefore, in developing the tourist area of Pencong, a communication strategy based on local wisdom is needed, one of which is by optimizing local people's homes as "homestays".

![Figure 7. Potential Homestay in Pencong Village](image)

The direction of the zoning area aims to protect the entire village so that it is maintained, monitored, and prevented from various disturbances and threats from outside. The zoning also functions as a room controller, so the tour activities in Pencong Village do not disturb the ecosystem. It is important to note that the carrying capacity of the environment for tourism is to maintain the quality of the ecosystem because the damage will cause unattractiveness of natural attractions. Ecosystems with tourist attractions and attractions will be damaged if the number of tourists exceeds the carrying capacity.
Besides, zoning functioned as a means to control the development. It is to keep the function value of Pencong Village increase as a tourism village.

**Ecotourism**

Community-based ecotourism for rural development through the tourism sector organizes natural tourism resources and contributes to environmental conservation and the community as the central controller in its development. The majority of the population (90%) lives as a farmer and agriculture as its regional characteristics, makes the Pencong Village area potential for ecotourism. The main strategies for developing Pencong Village, Biringbulu District, Gowa Regency as an ecotourism area include: First, in optimizing agricultural products, it is expected to trigger economic development. This is also in line with a research result of Bustan (2016) that shows natural resource management is considered to be carried out due to economic considerations, assuming that these resources are used sustainably. The same opinion was stated by Arsyad et al. (2019) suggest two factors cause suboptimal agricultural products, they are the weak price competitiveness and the absence of processing industries supported by appropriate technology that can be utilized by local farmers. Thus, the development of tourism in Pencong Village can trigger local community agriculture because the working principle of tourism is multisector (Yoeti, 2008).

**Information:**

**Figure 8. Guideline of Pencong Tourism Development**

Second, planning integrated ecotourism activities carried out by managers of tourist attractions in the area so that the growth and development of tourism activities in Pencong Village, Biringbulu
Subdistrict, Gowa Regency can work together as a whole. The plan is made periodically (for example, every ten years). It must accommodate the interests of all parties, including local community management, government authorities, and other parties with a broad interest in tourism development in the area.

Third, in addition to making plans for developing tourism activities, managers of tourist attractions also need to work together. To conduct research, various economic potentials that can be created by the local community to increase the level of community welfare in Pencong Village, Biringbulu District, Gowa Regency. Cooperation in the research field should be scheduled into the routine work program of each manager of the tourist attraction of the Pencong hot spring.

Fourth, provide more funding facilities for tourism in the area of Pencong Village, Biringbulu District, Gowa Regency because the maintenance of the natural environment in the tourist attraction area is currently not optimal, and to repair it also requires a large number of funds.

Fifth, empower the community through Village Business Entities. The involvement of the village government is highly expected in community empowerment through Village Business Entities. The direction and objectives of the Village Business Entity for optimization are influenced by the commitment between stakeholders (village officials) and the community in the tourist area.

Sixth, increasing promotional efforts to expand market segments, especially for tourists. Promote on an ongoing basis with annual events. Meanwhile, promotion through print and electronic media is carried out by creating a tourism blog in Pencong Village, Biringbulu District, Gowa Regency at each tourist information center, and cooperation with national television.

4. Conclusion

The Pencong Hot Springs is a natural tourist attraction and categorized as natural tourism and specific interest. Optimizing its potential is developed through several strategies, i.e. river tubing, camping ground and, nomadic tourism. The tourism potentials existing in Pencong Hot Springs that support tourism products include natural panorama, geothermal water, conducive situation and security, the hospitality of local people (Bugineese & Makassareese tradition), adequate facilities and infrastructure, diversity of supported tourist attraction. As a suggestion and recommendation, it is essential to (1) improve supporting facilities, e.g. accommodation, and stores, building for local cultural performances, museums, art galleries, and the provision of land to support tourism activities; (2) supports the Pencong Village by providing ground for bungalows; and (3) establish clear regulations regarding zoning and land use in the village such as the master plan and detailed engineering design (DED).


5. Acknowledgements
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6. References
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