Research on AHM-based Evaluation and Development of Shaanxi Tourism Resources  
- A Case Study of Imperial Mausoleums in Central Shaanxi Plain

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Abstract

In recent years, with the rapid socio-economic development, China has seen great improvement in the living standards. Therefore, apart from material needs, people have paid greater attention to spiritual needs, with higher expectations for spiritual pleasure in life. As a result, tourism has embraced a golden opportunity for development, with rapid development achieved in cultural tourism, rural tourism and eco-tourism. Besides, relevant authorities of Shaanxi Province have enacted favorable policies in succession to promote tourism development. Central Shaanxi Plain, with profound culture and abundant tourism resources, has great potential when it comes to developing tourism resources. However, extensive development model adopted previously has done some harm to the Imperial Mausoleums in Central Shaanxi Plain (the “Scenic Spot”). The paper analyzes problems with tourism resource development in the Scenic Spot, evaluates the tourism resources there based on AHM, and puts forward suggestions on sustainable development of tourism resources in the Scenic Spot.

Keywords: Shaanxi province, Tourism resources, Development, Research.

1. RESEARCH BACKGROUND

1.1 Literature review

In China, research on tourism resources was first proposed by Wei Xiao’an, Director of Academic Committee under China Tourism Academy, who points out in his book that tourism resources shall be investigated from the perspective of tourists and travel agencies (Wang et al., 2016). With constant development of China’s economy, Chinese people have a greater demand for tourism, mainly for the purpose of experiencing non-local culture and meeting their spiritual needs. Therefore, main tourist attractions in China have developed their own tourism resources to a varying degree and from such perspectives as humanistic, historical and appreciation value. Such efforts are made to develop tourism products that can meet the visitors’ demand for learning, experiencing, perception, research and investigation, and in turn meet their cultural and spiritual needs (Peng Jing, Hu Fen, 2016). Besides, China has attached greater importance to further development and utilization of tourism resources during tourism development. Research was conducted on tourism resources from such angles as cultural image, cultural content, cultural theme and cultural orientation. Besides, attention was paid to tap into unique culture of natural tourism resources and cultural landscape resources, and notes were put forward regarding tourism resource development (Qi et al., 2017). Moreover, it was proposed that during tourism resource development, importance shall be attached to visitors’ perception of the culture and custom with the tourist destinations, so that visitors can get relaxed and gain happiness through the consumption of tourism products with cultural connotations. Besides, during development of tourism resources, tourism products were categorized, such as heritage tourism, cultural tourism, artistic appreciation tourism, and ancestor worship tourism (Xie and Wang, 2008).

1.2 Research purpose

Located in the central plain area of China, Shaanxi Province has long been a place of great military importance, and thus owns many historical and cultural heritages in addition to profound history and culture. Among such heritages, the most famous one is the Imperial Mausoleums in Central Shaanxi Plain (the “Scenic Spot”), which is featured by rich cultural connotations, great educational importance, abundant resources and centralized layout, and has thus become one of the areas with rich tourism resources in western development (Xiang and
Tian, 2013). The Scenic Spot is a historical and cultural base that embodies ancient Chinese civilization, and an economic zone under key construction at the national level. It has launcheda great variety of historical and cultural tourism routes that are supported by tourism resources like Emperor Yandi Mausoleum, Emperor Huangdi Mausoleum, Fuxi Temple and Fengtaihan Mausoleums of Earliest Chinese Ancestors, as well as Yangling Mausoleum, Maoeling Mausoleum of the Han Dynasty, Qianling Mausoleum of the Tang Dynasty, Zhaoling Mausoleum, and Mausoleum of Duke Qin Jing (Sun et al., 2011). Relying on the gathering of historical and cultural resources and geographical advantages, the Scenic Spot has built a number of world-class cultural tourism bases. However, with continuous development of tourism, many problems with the Scenic Spot have also gradually surfaced. Therefore, this paper evaluates tourism resources of the Scenic Spot based on AHM, and puts forward measures for better developing tourism resources in the Scenic Spot, with a view to provide a theoretical basis for developing tourism resources.

2. PROBLEMS WITH TOURISM RESOURCE DEVELOPMENT IN THE SCENIC SPOT

2.1 Severe damage to tourism resources of the scenic spot

At present, with rapid development of tourism, tourism resources in the Scenic Spot have been severely damaged. On the one hand, grave mound of the Scenic Spot has been badly damaged due to earth borrowing, farming and excavation of pits for making graves by local people, resulting in serious damage to the imperial tombs and subordinate tombs (Jiao, 2012). Among the others, the imperial tombs and subordinate tombs of the Western Han Dynasty are severely damaged, including Emperor Hui Mausoleum, Emperor Ai Mausoleum, Emperor Gaozu Mausoleum, and Emperor Yuan Mausoleum, which are damaged due to farming, and including subordinate tombs damaged because of earth borrowing, which results in broken grave mound and disappearance of many subordinate tombs (Wang, 2014). On the other hand, the mausoleums built on hillsides are badly damaged due to construction of artificial buildings and quarrying. For example, the Tang Dynasty Tombs were built with great attention paid to coordination between the terrain and tomb location. According to historical records, the site for building tombs of Tang Dynasty emperors is usually the land of treasure near the mountain and by the river. However, the imperial tombs are devastated due to quarrying, which has destroyed the shape and vigor of the hills. Worse still, harmony between the tombs and the natural environment is broken due to construction of buildings and farming (Ding, 2016). Moreover, the stone statues around Tang Dynasty Tombs are damaged as a result of weathering, or are vandalized or stolen by people, such as the stone humans, stone lions, stone horses and seignior statues. In fact, stone carvings and stone inscriptions of most mausoleums in the Scenic Spot have been damaged due to natural and/or human causes (Wang et al., 2010).

2.2 Lack of high-quality tourism routes in the scenic spot

At present, 70% of the tourists visiting Shaanxi Province only pay a visit to Xi’an City, giving little attention to surrounding areas (Liu, 2015). Xianyang City has developed its tourism resources to a certain degree due to the short distance between it and Xi’an, development of Xi’an-Xianyang tourism routes, and Xianyang’s status as the backyard garden of Xi’an. By far, except Qianling Mausoleum that has been incorporated into the western tourism route of Xi’an Tourism Ecosystem, most typical sights in the Scenic Spot haven’t been registered as official tourist attractions (Wang, 2014). Besides, development of tourism resources in the Scenic Spot gives priority to establishment of history museums and tourist destinations - such development mode is too simple and not so effective in drawing attention from tourists. To achieve scale development of tourism in the Scenic Spot, it is not enough to solely rely on the imperial mausoleums and museums that have been developed. Moreover, during development of tourism resources in the Scenic Spot, much attention has been paid to the imperial mausoleums, and less attention paid to the history and culture of the ruins, which makes the Scenic Spot less appealing to tourists.

3. OVERVIEW OF TOURISM RESOURCES IN THE SCENIC SPOT

The Scenic Spot consists of Wulingyuan Area (where lie 9 imperial mausoleums of the Western Han Dynasty) and northern mountain land (where lie Tang Dynasty Tombs), and is thus an ideal place for developing mausoleum heritage tourism. Among the others, in the Imperial Mausoleums of the Western Han Dynasty lie 11 emperors of the Western Han Dynasty, with the mausoleums mostly located in Central Shaanxi Plain, namely, on Weihei Land of Xianyang City. The area is in the length of about 50km (from Maoling Mausoleum of Xingping City in the west to Yangling Mausoleum in the east) and the width of about 13km from north to south. From east to west, the mausoleums include Maoling Mausoleum, Pingling Mausoleum, Yanling Mausoleum, Kangling Mausoleum, Weiling Mausoleum, Yiling Mausoleum, Anling Mausoleum, Changling Mausoleum and
Yangling Mausoleum. Among them, five mausoleums have a mausoleum county, namely, Anling Mausoleum of Emperor Hui, Pingling Mausoleum of Emperor Zhao, Maoling Mausoleum of Emperor Wu, Changling Mausoleum of Emperor Gaozous, and Yangling Mausoleum of Emperor Jing, which are together referred to as Wulingyuan Area. The total number of tombs in the area is about 250, including the imperial tombs and the subordinate tombs of meritorious statesmen, queens and maids of honor, and honorable relatives. In 198 BC, Liu Bang, Emperor Gaozou, accepted the suggestion of Liu Jing, a low-level official, that qualified high-level officials, rich people and people with lofty ideals should be relocated to Central Shaanxi Plain so as to guard the Changling Mausoleum, and Changling County should be built around the mausoleum as their residence. After that, Emperor Jing, Emperor Hui, Emperor Zhao and Emperor Wu respectively built Yangling Mausoleum, Anling Mausoleum, Pingling Mausoleum and Maoling Mausoleum around, and set up a mausoleum county, namely, Yangling County, Anling County, Pingling County and Maoling County. Besides, the Tang Dynasty Tombs are located in Weibei Area, 3 of which have a museum set up and opened, namely, Qianling Mausoleum of Emperor Gao and Empress Wu Zetian, Qiaoling Mausoleum of Emperor Tai, and Qiaoling Mausoleum of Emperor Rui. The aforesaid 3 mausoleums have later become a famous tourist destination at home and abroad. Moreover, the Tang Dynasty Tombs were built near the mountains, demonstrating the grandness and magnificence of ancient China in the Tang Dynasty. Moreover, as an integral part of economy, politics and culture, the Tang Dynasty Tombs have represented the highest level of architecture, culture and art in the Tang Dynasty, and can somehow reflect the view of totalitarianism and life and death at that time.

4. EVALUATION INDEX SYSTEM AND ANALYTICAL METHOD

4.1 AHM-based evaluation

AHM, an unstructured decision analysis method that is similar to AHP, analyzes the analysis object based on the weight model. It is assumed that the tourism resources in the Scenic Spot are \( n_1, n_2, ..., n_n \) and their corresponding resource value is \( g_1, g_2, ..., g_n \) with the value unknown but with the ratio known: \( a_{ij} = g_i/g_j \) \((1 \leq i, j \leq n)\). The scale \( w \) can be worked out based on the ratio matrix \( A \) of the two: 

\[
A = (a_{ij})_{n 	imes n}.
\]

Then, it is possible to understand the basic conditions of tourism resources in the Scenic Spot \( n_1, n_2, ..., n_n \).

4.2 Construction of hierarchical structure for AHM-based evaluation

The paper designs a questionnaire for development of tourism resources in the Scenic Spot. 500 copies of the questionnaire were distributed to tourists visiting the Scenic Spot, with 380 copies collected and 351 valid copies counted. Among them, 254 copies were completed by tourists from Shaanxi Province, 56 copies by tourists from other places of China, and 41 copies by tourists from other countries. According to the statistical results of the questionnaire, efforts were made to weight three indexes of the criterion layer and 13 indexes of the scheme layer. In the end, the paper establishes an evaluation index system for tourism resources in the Scenic Spot, which consists of the criterion layer and the target layer (as is shown in Table 1).

<table>
<thead>
<tr>
<th>Scheme layer</th>
<th>Quasi-hierarchy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attraction A1</td>
<td>ornamental value A11</td>
</tr>
<tr>
<td>Participation value A12</td>
<td></td>
</tr>
<tr>
<td>Cultural value A13</td>
<td></td>
</tr>
<tr>
<td>Development A2</td>
<td>The number of scenic spots A21</td>
</tr>
<tr>
<td>The scale of scenic spots A22</td>
<td></td>
</tr>
<tr>
<td>Scenic area resources A23</td>
<td></td>
</tr>
<tr>
<td>Condition A3</td>
<td>Traffic location A31</td>
</tr>
<tr>
<td>Service support A32</td>
<td></td>
</tr>
<tr>
<td>Government policy A33</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Hierarchical Structure of AHM-based Evaluation on Tourism Resources in the Scenic Spot
4.3 Construction of judgment matrix and calculation

First, it is necessary to figure out the correlation among different indexes for evaluating the tourism resources in the Scenic Spot. Therefore, the paper builds the comparative judgment matrix with 1-9 scale, and works out the AHM Judgment Matrix based on relative weight vector conversion formula: \( \mu = \left[ \begin{array}{c} \frac{2k}{2k+1}a_{ij} = k \\ \frac{2k}{2k+1}a_{ij} = \frac{1}{k} \end{array} \right] \), as is shown in Table 2.

\[
\begin{array}{ccccccc}
C_i & A_1 & A_2 & A_3 & A_4 & A_5 & \sum \mu^C_i \\
A_1 & 0 & 0.8 & 0.0798 & 0.9413 & 0.9232 & 0.9475 & 4.5007 & 0.3111 \\
A_2 & 0.3 & 0 & 0.7 & 0.9233 & 0.8889 & 0.9222 & 3.7451 & 0.2495 \\
A_3 & 0.122 & 0.1 & 0 & 0.8889 & 0.8 & 0.9092 & 2.9091 & 0.1936 \\
A_4 & 0.0599 & 0.0798 & 0.1112 & 0 & 0.2 & 0.5 & 0.9462 & 0.0632 \\
A_5 & 0.0764 & 0.1222 & 0.3 & 0.7 & 0 & 0.8572 & 2.0453 & 0.1361 \\
A_6 & 0.0531 & 0.0441 & 0.0908 & 0.5 & 0.1428 & 0 & 0.8592 & 0.0561 \\
\end{array}
\]

Table 2AHM Judgment Matrix

Table 3Evaluation Results

<table>
<thead>
<tr>
<th>Target layer</th>
<th>Criterion layer</th>
<th>Weight</th>
<th>Scheme layer</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation on tourism resources in the Scenic Spot</td>
<td>Appeal</td>
<td>0.618</td>
<td>Appreciation value</td>
<td>0.184</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Participation value</td>
<td>0.0381</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cultural value</td>
<td>0.154</td>
</tr>
<tr>
<td></td>
<td>Development status</td>
<td>0.067</td>
<td>Number of sights</td>
<td>0.0071</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Scale of sights</td>
<td>0.0241</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Integration of sights</td>
<td>0.341</td>
</tr>
<tr>
<td></td>
<td>Development basis</td>
<td>0.316</td>
<td>Transportation</td>
<td>0.135</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Services</td>
<td>0.0581</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Government policies</td>
<td>0.0994</td>
</tr>
</tbody>
</table>

Calculation is conducted based on Table 1, and the results are shown in Table 3. Table 3 shows that appeal of tourism resources in the Scenic Spot is of great significance to developing tourism resources there, which is more relevant than such indexes as development status and development basis. The 4 key indexes for developing tourism resources in the Scenic Spot are as follows (ranked in a descending order), appreciation value, cultural value, transportation and government policies.

5. COUNTERMEASURES AND SUGGESTIONS FOR SUSTAINABLE DEVELOPMENT OF TOURISM RESOURCES IN SHAANXI PROVINCE

5.1 Intensifying publicity efforts to enhance popularity of the scenic spot

With continuous increase in people’s income, China has seen improvement in living standards, and people have spent more money in seeking spiritual pleasure. Therefore, the Scenic Spot shall seize the opportunity to intensify publicity efforts, with an aim to enhance its popularity among tourists. To be specific, the Scenic Spot can make use of famous films and TV series about history to actively publicize itself, such as The Prince of the Han Dynasty, The Emperor of the Han Dynasty, and Empress Wu Zetian. In addition, it can increase tourists’ interest in historical sites by spreading stories about celebrities of the Qin, Han and Tang Dynasties, which are told in the Lecture Room, a famous TV program of CCTV-10. As a result, the Scenic Spot can expand the target group and draw greater attention from tourists. Moreover, the Scenic Spot shall increase its exposure in major cities of Shaanxi Province, such as setting up signages and tourist maps in an obvious position around the expressways, railway stations and bus stations, which can help raise its popularity.

5.2 Integrating tourism resources in the scenic spot and accelerating application for world heritage site
The Scenic Spot can enhance its overall image and promote tourism in Central Shaanxi Plain by applying for inscription onto the list of world heritages. Some scenic areas that weren’t famous previously have risen to fame after successful application for world heritage site, such as Pingyao Ancient City in Shanxi Province and Lijiang Ancient Town in Yunnan Province, with local tourism now under rapid development. The Scenic Spot shall duplicate their success to promote tourism development. Moreover, during the application process, the Scenic Spot can show its image to the world and intensify publicity efforts, so as to increase and upgrade the source of tourists. In this process, it can learn from the Terracotta Army and Mount Tai scenic areas, which have been included in the tourist destinations of customized team tour by major travel agencies at home and abroad and have made great contribution to local economic development. As a result, they can get more funds to develop local tourism resources and do publicity. In addition, the Scenic Spot shall also learn from Mount Wuyi and Mount Huang scenic areas, which, during the process of applying for world heritage site status, have brought in advanced international management concepts and thus achieved more harmonious, sustainable and scientific development.

5.3 Promoting civilized tourism and protecting tourism resources

For a long time, tourists in China are preoccupied with the idea that “Tourists are the God”. As a result, they only care about themselves during the trip, dropping litter carelessly and ignoring the natural environment. Given the situation, the Scenic Spot shall strengthen education on civilized tourism, and enhance tourists’ awareness of it. To be specific, apart from improving the protective system of ecological and historical relics, competent authorities shall make joint efforts to strengthen protection of the Scenic Spot. Besides, in case of any damage to the ecological and historical relics, relevant authorities (e.g. the administration of industry and commerce, tourism, and environmental protection) shall make concerted efforts to implement applicable systems and prevent reoccurrence of similar incidents. Moreover, the Central Government of China shall enact regulations to encourage civilized, ecological and low-carbon tourism, such as travel with bike-sharing service, or on foot, or by taking public transport means instead of driving private cars.

6. CONCLUSION

The paper analyzes problems with development of tourism resources in the Imperial Mausoleums in Central Shaanxi Plain, evaluates relevant tourism resources based on AHM, and puts forward countermeasures and suggestions for improving the development of tourism resources there.

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