

# Research on the Construction Strategy of "The Great Beauty of Mount Tai" Ecological Corridor System from the Perspective of Ecological Culture

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**Abstract:** Establishing ecological corridors is an important method of ecological planning and an important measure to solve the ecological system fragmentation caused by current intense human activities and numerous subsequent ecological and environmental problems. Construction of Mount Tai Mountain ecological corridors is the foundation to support the ecological protection and high-quality development of the Yellow River Basin in Shandong Province. The Mount Tai Mountain range extends from west to east along the southern bank of the Yellow River, including the Pingyin Mountain range, Changqing Mountain range, Licheng Mountain range, Zhangqiu Mountain range, the main peak of Mount Tai, Laiwu Mountain range. These regions are rich in ecological resources and fragile in ecological environment. The construction of Mount Tai Mountain ecological corridors is of vital importance to the high-quality development of ecological environment in the lower Yellow River. Construction of "The Great Beauty of Mount Tai" ecological and cultural community is an important part of the integrated development of Ji-Tai. Based on the research on the characteristics of ecological environment in Mount Tai Mountains, this study analyzed the main ecological environmental problems and threats, thus put forward the construction strategies and suggestions of the "The Great Beauty of Mount Tai" ecological corridor.

**Keywords:** Ecocivilization; The Great Beauty of Mount Tai; Ecological corridor; Ecological corridors; Construction

## 1. Introduction

In fact, the construction of ecocivilization is to elevate sustainable development to the height of green development and "plant trees" for future generations, which means to leave more ecological assets instead of leaving regret for future generations. The construction of ecocivilization is a long-term project concerning the well-being of the people and the future of the nation. In the face of tight resource constraints, severe environmental pollution and degradation of the ecosystem, we must establish the concept of ecocivilization, which respects nature, conforms to nature and protects nature, give priority to ecocivilization construction, and integrate it into all aspects and the whole process of economic, political, cultural and social construction.

## 2. Construction theory analysis of ecological corridors

### 2.1 Ecological corridors construction

The embryonic form of the concept of ecological corridors can be traced back to the 20th century. Greenway was first proposed by American scholars, and corridor was successively proposed by other scholars. Therefore, it can be said that ecological corridors are derived from greenway and corridor. The types of ecological corridors are mountain type ecological corridors, river type ecological corridors and road type ecological corridors. Ecological corridors are functional corridors, which is of great significance in biodiversity protection, ecological environment protection, ecological security pattern maintenance and soil erosion prevention, and is an important part of maintaining the coordination and balance of the ecosystem.

## 2.2 *The research status of ecological corridors*

The study of ecological corridors building can be divided into qualitative research and quantitative research mainly two categories, the representative of qualitative research, such as: Ye Jianchun (2021), Leng Miao (2021), Chen Kaiyue (2021) from the perspective of ecological synergy governance, such as ecological corridors construction strategy, countermeasures for ecological restoration, ecological construction planning study and put forward relevant strategies. More representative quantitative studies have *The Wind Field Angle of Beijing-Tianjin-Hebei Ecological Corridors Spatial Pattern Recognition Research*, *The Application of BIM Technology in Water Conservancy Landscape Engineering Research—Huai River in Jiangsu Province engineering as an example, a comprehensive governance*, *The Guangzhou Baiyun Mountain Ecological Corridors Coupled with Piedmont Abandoned the Old Airport Update Research—Take Baiyun New Town Core Area Planning and Construction as Example.*" Based on the analysis of regional ecology, regional economy, social development and other factors, these studies carried out researches on ecological corridors construction in different regions with the help of GIS technology and BIM technology, so as to provide reference for ecological construction in different regions.

To sum up, the relevant researches of ecological corridors are mostly limited to urban greening, landscape aesthetics and small-scale ecological protection, and the strategic research of ecological corridors construction in trans-regional Mount Tai Mountains is the enrichment and development of the theoretical system of ecological corridors construction research. Under the new development situation, strengthening the protection of the ecological environment of Mount Tai and maintaining the beauty of the ecological environment of Mount Tai have become the key to the construction of Mount Tai Mountain ranging ecological corridors and play a key role in the high-quality development of the ecological environment in the lower reaches of the Yellow River.

## 3. **The necessity of the construction of the great beauty of Mount Tai ecological corridors**

Mount Tai, known as the "No.1 mountain under heaven", is located in central Shandong Province. The main peak is located in Tai 'an, and the remaining peak is located in Jinan, which is between the cities of Tai 'an and Jinan, while the Yellow River stretches from west to east along the southern bank, including Pingyin mountain area, Changqing mountain area, Licheng mountain area, Zhangqiu mountain area, Laiwu mountain area and so on, with rich ecological resources and fragile ecological environment. Mount Tai is a famous cultural tourism area in Tai 'an city, attracting thousands of tourists for its antique and long history. At present, the Tai 'an municipal government and relevant departments have made great efforts to protect the ecological environment of Mount Tai and achieved effective results. But with the rapid development of economy and the improvement of people's living standard, people pay more attention to health and spiritual life. As a result, more and more people join in the tourism team, coupled with the abnormal climate change. Mount Tai's ecological environment is constantly facing new challenges. In recent years, the number of tourists in Mount Tai has exceeded 2 million each year, which makes the ecological environment of Mount Tai bear increasing pressure and seriously threaten the ecological environment of Mount Tai. At the same time, people are calling for returning to nature more and more loudly.

### 3.1 *Mount Tai - the need for ecological linkage of the Yellow River*

West of Yellow River is closer to Kunlun, roaring thousands of miles to touch Longmen. For thousands of years, the Surging Yellow River and the Yangtze River have nurtured the Chinese nation and gave birth to the Chinese civilization<sup>1</sup>. Construction of Mount Tai Mountain ecological corridors is considered as the "green heart and source of life" linking the Yellow River and nourishing Qilu. Jinan and Tai 'an jointly proposed the construction of "The Great Beauty of Mount Tai" ecological and cultural community, which is an important part of the integrated development of Jinan and Tai 'an, and also the key to the implementation of ecological protection and environmental governance in the Yellow River Basin in Shandong Province. The ecological protection and restoration project of Mountain, Water, Forest, Farmland, Lake and grass in Mount Tai region is the second batch of national pilot projects for ecological protection and restoration of mountain, water, forest, farmland, lake and grass in The Yellow River<sup>1</sup>.

Establishing ecological corridors is an important method of ecological planning and an important measure to solve the ecological system fragmentation caused by current intense human activities and

numerous subsequent ecological and environmental problems. Construction of Mount Tai Mountain ecological corridors is the foundation to support the ecological protection and high-quality development of the Yellow River Basin in Shandong Province. Mount Tai Mountain range stretches from west to east along the southern bank of the Yellow River. These areas are rich in ecological resources and fragile in an ecological environment. Construction of Mount Tai Mountain ecological corridors is crucial to the high-quality development of ecological environment in the lower Yellow River.

### ***3.2 Inherent requirements of Mount Tai ecological Construction***

Due to the expansion of the scope of human activities and the increase of the intensity of the utilization of natural resources, the ecological and natural background has been destroyed, the habitat fragmentation is serious, and the natural ecological process has been disturbed, resulting in the reduction of biodiversity, water pollution and other ecological problems, so it is urgent to protect the ecological space and ensure the ecological function. Due to geographical factors, after the Yellow River entered Shandong Province, it formed an inseparable relationship with Mount Tai.

The rich seasonal variation of forest vegetation in Mount Tai is an important reflection of the natural landscape: in spring, flowers are blooming and birds sing in the valley; In summer, waterfalls splash through the trees; Autumn, maple leaves diffuse mountains; Winter, snow pressure pines and cypresses, the scenery is infinite. However, it should also be noted that the exposed mountain surface has seriously affected the urban ecological environment of Tai 'an city, and even affected the overall image and investment environment of the city, which has become an important constraint factor for the sustainable development of the city. Mount Tai ecological construction must pay attention to the balance of the urban ecosystem and the coordinated development of Mount Tai landscape resources, that is to say, to realize the synergy of ecological, social and economic benefits.

With the increase of population and the development of social economy, various development and construction projects in the source region of the Yellow River are gradually increasing. The construction of railways, highways, water conservancy and hydropower projects, and the exploitation of mineral resources and other human activities have damaged some fine grasslands and natural vegetation to varying degrees, and the new man-made soil erosion is becoming more and more serious. Illegal gold panning, medicine gathering, sand dredging and the indiscriminate felling and reclamation of native vegetation have also caused the destruction of vegetation in the source region of the Yellow River in a large area, further aggravating soil erosion and worsening the already fragile ecological environment.

## **4. Analysis of the great beauty of Mount Tai Ecological Corridor Construction Strategy**

Strengthen the construction of ecological corridors in the city. As a landscape unit presented in strips, urban corridor can be regarded as stretched patches different from the matrix on both sides. It has multiple ecological benefits, such as connecting landscape units of similar components, improving the spatial pattern of urban landscape, and maintaining biodiversity and stability.

Accelerate conservation and restoration of mountains, rivers, forests, farmland, lakes, and grasslands in the Mount Tai region. The concept of "mountains, rivers, forests, fields, lakes and grass are a community of life" is proposed in the context of ecocivilization construction, which aims to realize the coordinated development of multi-functional space through overall planning of natural elements and emphasizes the systematic thinking of ecological environment protection.

Pay attention to utilizing the integrity and systematicness of ecosystem. Using the functions of slope fixation, pollution interception and landscape of local adaptive plants, the riparian zone ecological corridors are constructed with regional water system as the sequence, surrounding woodland and wetland as the patches, and landmark forest plant community as the characteristics. It not only has the effect of runoff control, but also meets the needs of residents for rest and aquatic activities and animal habitat.

Coordinate the construction of the Great Beauty of Mount Tai ecological corridors and agricultural construction. Further composite forest surrounding the use of agricultural land, wetland, small water, prompting them to become the absorption and transformation of agricultural production discharge excess nutrients, biological habitat conservation agriculture, forestry and wet compound ecological space, is expected to agricultural non-point source pollution control, biodiversity protection, ecological

problem such as quality improvement provides the systematic solution, In this way, the limited ecological space can be used to provide more high-quality public services to meet the needs of citizens for a better life.

## 5. Conclusion

The construction of "The Great Beauty of Mount Tai" ecological cultural community needs the support of policies and measures for the integrated development of Ji-Tai, so as to realize the collaborative governance of the ecological environment of Ji-Tai. The construction of "The Great Beauty of Mount Tai" ecological corridors needs to integrate regional resources to achieve win-win cooperation. "The Great Beauty of Mount Tai" ecological corridors construction requires a unified planning of public infrastructure construction.

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