

# Research and Analysis of Huaihe River Ecological Economic Belt based on the Concept of Green City Development

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## Abstract

**With superior geographical location and ecological environment, the development strategy of Huaihe River ecological economic belt has become an important development strategy in central and eastern China. Promoting the development of Huaihe River Ecological Economic Belt will help to achieve the overall goal of narrowing regional economic differences and realizing common prosperity. But at present, the development of Huaihe River ecological economic belt is facing many difficulties, such as serious pollution, waste of resources, lagging economic development, backward scientific and technological level and so on. Facing the above problems, this paper puts forward measures such as industrial upgrading and transformation, talent introduction and scientific and technological innovation, in order to provide solutions for the development of Huaihe River ecological economic belt.**

## Keywords

**Green City; Huaihe River Ecological Economic Belt; Ecological Development.**

## 1. Green Development Concept

At present, the definition of green development has not been unified at home and abroad. Pierce, a British economist, first proposed the "green economy" in 1989. His idea is to consider the affordability of both man and nature in developing the economy and establish an economy in line with the common development of both sides, so as to ensure the safety of the ecological environment [1]. With the development of the times, the concept of sustainable development has gradually come into people's vision and become an important standard to measure the social value system, and the concept of green development has also become the inheritance and extension of sustainable development. By applying the concepts of environmental protection and resource conservation to production and life, we can ensure the sustainable utilization of ecological resources in the process of modernization. Under the influence of green development, China has put forward the new development concept of innovation, coordination, green, openness and sharing, and created the specific objectives of ecological greening, production greening and life greening. From a single environmental development to political, economic, cultural and other fields to achieve all-round development. As an important measure to solve the harmonious development between man and nature, the concept of green development has also been integrated into China's urban construction to create one green city model after another. In the current research on the concept of green city, it can be found that China is advocating the concept of urban development based on the ecological environment oriented model (EOD model), taking ecological protection and environmental governance as the basis for comprehensive and innovative development. This development model will further integrate the concept of harmony between man and nature and help the region seek new methods of

economic growth on the premise of environmental protection and resource conservation. The EOD model will help China realize the further integration of ecology and economy.

## 2. Basic Overview of Huaihe River Ecological Economic Belt

The Huaihe River eco economic belt, with a total length of 1000 kilometers, is located in the middle and eastern part of China, adjacent to the two river basins, with a planned area of 243000 square kilometers, involving 5 provinces and 29 cities and counties. In October 2018, the State Council approved the Huaihe River eco economic belt development plan, marking the strategic upgrading of the Huaihe River eco economic belt from regional development strategy to national development strategy. The planning direction of the document is to implement the concept of green development, accelerate the construction of ecological civilization in the Huaihe River Basin, and realize the beautiful vision of harmonious coexistence between man and nature in the economic belt. The plan mentioned that one belt, one road, is to build up a green ecological corridor, perfect infrastructure network, promote industrial transformation and upgrading, "coordinate urban and rural development", "promote the basic public services sharing and building". In order to enhance the comprehensive strength of Huaihe eco economic belt, we should expand the radiation around the region and create a new pattern of open and shared development relying on the development conditions of "one belt and one road" and the driving role of the Yangtze River Delta region. The construction of Huaihe River Ecological Economic Belt takes the concept of green development as the core, and puts ecological protection and environmental governance in the first place. The relevant research of Huaihe River ecological economy will provide theoretical support for the implementation of national policies. The Fifth Plenary Session of the 19th CPC Central Committee pointed out that "promoting green development and promoting the harmonious coexistence between man and nature" is a new theme and main task of China's economic and social development during the 14th Five Year Plan period. On October 8, 2020, Anhui Province issued the implementation plan for Anhui Province to implement the development plan of Huaihe River ecological economic belt. In order to implement and promote the content of the development plan, the plan proposed to create a new industrial transfer cluster area and selected Northern Anhui as the undertaking area. Other provinces have also issued corresponding policies to ensure the smooth implementation of the strategy.

In the process of development in recent years, the Huaihe River ecological economic belt has paid more attention to integrating new scientific and technological means into the action of green development and driving economic upgrading through industrial transformation. It can be seen that the study of the development of cities in the Huaihe River ecological economic belt is not only the study of the development of the Huaihe River Ecology, but also an in-depth interpretation of the national concept of green development.

## 3. Research Status of Huaihe River Ecological Economic Belt

In recent years, the research on the development of Huaihe River ecological economic belt mainly focuses on the correlation analysis based on data. Through the research and discussion of spatial layout, ecology and economy, we find the basic situation of Huaihe River ecological economic belt.

Huang Ying and Li Xin believed that the development of the Huaihe River eco economic belt should be consistent with the ecological environment. They evaluated the economic and ecological functions of the Huaihe River eco economic belt from 1995 to 2015 by using models such as market value method and water balance equation method, including the functions of grain incremental supply, soil and water conservation, climate regulation, ecological purification and species diversity, and analyzed its temporal and spatial changes and related

reasons, It is found that the distribution of ecosystem services in the Huaihe River eco economic belt shows great temporal and spatial heterogeneity [2].

Mao Guangxiong, Liu Chuanming, fan Guanyu, Wang Chengxiang and fan Guanyu constructed the evaluation index system of urbanization and grain production based on the panel data of 28 prefecture level cities in the Huaihe ecological economic belt from 2000 to 2019, and analyzed it by using the coupling coordination model. The conclusion is that the comprehensive grain production capacity of prefecture level cities in the Huaihe ecological economic belt is still improving under the fluctuation of their grain production index.

For a long time, in the study of the degree of environmental pollution in the economic belt, the pollution problem of the Huaihe River ecological economic belt has been difficult to solve. In order to explore the pollution distribution in the Huaihe River Basin, Guo Lijing and Huang Zhenying analyzed the chemical oxygen demand (COD), total nitrogen (TN) and total phosphorus (TP) of agricultural non-point source pollution in 155 county units in the economic belt by using the equal standard pollution method, GIS technology and pollution production coefficient method. On this basis, the emissions of agricultural non-point source pollutants, key pollution sources, key pollution areas The emission intensity and spatial distribution are calculated. It is found that farmland chemical fertilizer, livestock and poultry breeding and aquaculture are the key pollution sources of agricultural non-point source pollution in Huaihe ecological economic belt, and TN and TP are the key pollutants [4]. The results support the conjecture that the Huaihe River ecological economic belt is facing serious pollution, and also emphasize the importance of implementing green ecology for the Huaihe River basin economic belt.

In the evaluation of economic development of Huaihe River ecological economic belt. Huang duning, Li Yihong, Sun Zhenyao constructed the evaluation index system of high-quality economic development from the five dimensions of innovation, coordination, green, openness and sharing, comprehensively evaluated the economic development level of the Huaihe River Ecological Economic Belt by factor analysis, and divided the Huaihe River ecological economic belt into three regions with different economic development levels: upstream, midstream and downstream [5]. It can be found that affected by different regions and provinces, the economic development of different regions of the Huaihe River ecological economic belt is uneven, and there are regional differences.

In the face of the above environmental and economic problems, some schemes have been put forward to alleviate the differences. By establishing a comprehensive index evaluation system, using entropy weight method and industrial agglomeration index, sorodan, Li Fan and Zhu Xiaodong studied the industrial undertaking capacity and undertaking industries of 25 prefecture level cities in Huaihe ecological economic belt, and revealed the spatial pattern of industrial undertaking capacity and its influencing factors by using GIS space technology. It is suggested that the industrial undertaking direction of Huaihe Ecological Economic Belt should change from labor-intensive to strategic emerging industries [6]; Song Malin and Tao Weiliang measured and analyzed the energy ecological efficiency of 28 prefecture level cities in the Huaihe River ecological economic belt from 2005 to 2018 by using the super efficiency SBM model including unexpected output, and empirically studied the dynamic relationship and influence mechanism between regional industrial upgrading, government innovation support and energy ecological efficiency through pvar model [7].

It can be found that the existing research mainly focuses on the data analysis of the development path and existing achievements, and there is still a large research space in the exploration of the green development of the Huaihe River ecological economic belt.

## 4. Current Situation of Urban Development in Huaihe Ecological Economic Belt

### 4.1. Unbalanced Regional Economic Development

There is a serious imbalance of economic development in the Huaihe River ecological economic belt. On the one hand, the economic situation of Jiangsu Province, Shandong Province and other provinces and cities shows a decreasing trend. On the other hand, there is an unbalanced development between urban and rural areas, showing the economic status of high in the East and low in the West and middle depression. This unbalanced state of regional economic development affects the overall development, and it is difficult to ensure the overall improvement of the Huaihe River ecological economic belt. It can be seen that there are two significant problems in the Huaihe River Ecological Economic Belt: the unbalanced development of cities and the unbalanced development of rural and urban areas, resulting in a sharp gap in regional economic development.

### 4.2. The Problem of Industrial Pollution is Serious

The construction of Huaihe River ecological economic belt has to look directly at the serious environmental pollution and the waste of energy and resources. Most of the relevant cities in the Huaihe River ecological economic belt are industrial enterprises that rely on the secondary industry. They have caused a lot of resource consumption and pollution emissions in the production process. It has hindered the development of enterprises in the process of ecological innovation. On the one hand, it is difficult to get rid of the economic benefits brought by industrial enterprises, on the other hand, it is difficult for them to upgrade. It should also be noted that the industrial dependence of the Huaihe River ecological economic belt also leads to its low voice in the field of environment, which not only hinders the economic inflow brought by the development of ecological resources, but also makes it difficult to carry out actions to promote environmental protection.

### 4.3. Backward Industrial Development Environment

The Huaihe River ecological economic belt has been facing the situation of backward development. It has not been able to successfully realize the huge improvement of economy in several waves of economic leaps. The industrial environment has long relied on the agricultural production carried out by the primary industry. In addition, dependence on heavy industry also leads to slow urban development. In today's development prospects, some cities in other provinces and cities have become modern cities relying on high-tech industries, while cities in the Huaihe River Ecological Economic Belt still face difficulties in industrial transformation and upgrading. In the understanding of high-tech enterprises, except that some cities in Jiangsu Province have a high level of development of emerging industries, the industrial development of other cities needs to be further strengthened in terms of scale and innovation.

## 5. Solution

### 5.1. Accelerate Industrial Upgrading and Transformation

At present, the development of Huaihe River Ecological Economic Belt still highly depends on the secondary industry. The type of industry is relatively backward and requires a large consumption of resources, which is not conducive to the smooth implementation of green development. If the provinces and cities in the Huaihe River Ecological Economic Belt want to change the situation of economic lag, they must carry out large-scale industrial upgrading, upgrade and rectify the original industrial enterprises with high energy consumption and high pollution, and establish a dynamic management mechanism. Accelerate the construction of innovation parks, form a centralized area for scientific and technological innovation, and drive

more enterprises to realize the development direction of intellectualization and digitization. At the same time, we can rely on the economy of some cities in Jiangsu Province and Zhejiang Province to promote the vigorous development of the Internet industry in the region and speed up the transformation of the tertiary industry. Then consider using modern science and technology to improve the current situation of agricultural development and create a modern agricultural model with high efficiency and low consumption according to its own unique agricultural developed conditions.

## 5.2. Using Talent Introduction to Drive Scientific and Technological Innovation

Facing the lag of the construction of Huaihe River ecological economic belt, we can consider the method of talent introduction. By attracting more talents to help economic construction. We should insist that talents are the cornerstone of innovation and development, rely on the innovation ability of colleges and universities, encourage more teachers and students to carry out scientific research and innovation in Colleges and universities, and provide more basis for economic development and innovation. Encourage the mode of mutual integration and development between universities and enterprises, bring theory into practice, promote innovation and improvement in finance, ecology and other aspects, and provide a steady stream of vitality for economic reform.

## 5.3. Build a Good Ecological Environment

Facing the problems of ecological environment, we should first pay attention to the protection and restoration of ecological resources. On the one hand, protect the original natural resources. By improving the vegetation coverage, build agricultural and forestry protection areas, and make rational use of natural resources to form an ecological barrier. On the other hand, in the face of areas already polluted by industry, implement measures such as returning farmland to forests, strengthen comprehensive treatment, implement measures such as water resources purification, and restore the ecological green environment. In addition, in the face of urban internal environmental development, we should also pay attention to the establishment of ecological network, not only pay attention to the improvement of economy, but also ignore the green development of the city. Only by creating a good ecological environment can we lay the foundation for the rapid improvement of the economy.

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