Research on the path of Zhengzhou's construction of a core demonstration area for high-quality development in the Yellow River Basin

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Abstract: Zhengzhou is an important part of the development of the Yellow River Basin and one of the national central cities. This paper analyzes the development environment of Zhengzhou from four aspects: industry, service industry, infrastructure and open environment, and puts forward policy suggestions for Zhengzhou to build a core demonstration area for high-quality development in the Yellow River Basin from four perspectives. They are: (1) Improve pollution control capacity and comprehensively promote ecological construction. (2) Vigorously implement the innovation-driven strategy and lead the regional scientific and technological innovation capabilities. (3) Give full play to the location advantages and strengthen the role of the logistics center. (4) Improve the level of openness and strengthen the role of radiation.

1. Introduction

Zhengzhou is an important part of the development of the Yellow River Basin and one of the national central cities. Secretary Xi Jinping emphasized at the sixth meeting of the Central Finance and Economics Committee chaired on January 3, 2020 that "strengthen the leading role of Xi'an and Zhengzhou as national central cities, give play to the leading role of the Shandong Peninsula urban agglomeration, and promote the central cities and urban agglomerations along the Yellow River. High-quality development." Zhengzhou, as one of the central cities in the Yellow River Basin and the center of the Central Plains urban agglomeration, has a total GDP of 1,200.3 billion yuan, ranking second among the key cities in the basin. At the end of 2019, Zhengzhou had a permanent population of 10.35 million, which is one of the key cities in the basin. Number one in the city. Therefore, accelerating the construction of Zhengzhou into a core demonstration area for high-quality development is of great significance in promoting the high-quality development of the Yellow River Basin, but Zhengzhou still lacks in overall innovation strength and infrastructure construction. This paper takes other eight provincial capital cities in the Yellow River Basin (including Xining, Jinan, Yinchuan, Chengdu, Hohhot, Xi'an, Lanzhou and Taiyuan) as the benchmark areas, and analyzes the construction of Zhengzhou through 2016-2019 development data. The comparative advantages and disadvantages of the core demonstration area for high-quality development in the Yellow River Basin,

thus proposing a path to accelerate the construction of Zhengzhou's core demonstration area for high-quality development in the Yellow River Basin.

2. Comparative analysis of Zhengzhou's high-quality development environment

From the existing research at home and abroad [1-3], the current definition of high-quality urban development is mainly reflected in four aspects: coordination, greenness, openness, and innovation. Therefore, this paper analyzes the development environment of Zhengzhou from the four aspects of industry, service industry, infrastructure and open environment, and selects individual indicators related to green development, and strives to have a more comprehensive research on the development environment of Zhengzhou.

2.1 Industrial Environmental Analysis

In terms of industry, this paper selects two indicators from the 2016-2019 yearbook, the total profit of industrial enterprises above designated size and the discharge of industrial wastewater to analyze the industrial environment between provincial capitals.

Judging from the statistical yearbook of the provincial capitals in the Yellow River Basin from 2016 to 2019, Zhengzhou's total profits of industrial enterprises above designated size ranked first in all provinces and cities over the years. Zhengzhou is also the only city in the basin that has exceeded 100 billion for five consecutive years. The average annual profit of Chengdu is more than 50 billion, and Xining, Yinchuan, Lanzhou and Taiyuan are all below 10 billion, which shows that compared with other provincial capitals, Zhengzhou is in a more important core in the process of social reproduction. The processing location has a stronger ability to drive the service level of surrounding cities in the entire production chain. In contrast, it is easier for the surrounding cities to provide Zhengzhou with upstream or downstream support in the production chain, allowing Zhengzhou to continue to play a core role in the industry. Cities around Zhengzhou can become part of this socialized production chain. It can be seen that Zhengzhou has significant advantages in the industrial level. Leading industries such as automobile and equipment manufacturing, electronic information industry and other leading industries have provided a solid industrial foundation for Zhengzhou to build a core demonstration zone in the Yellow River Basin, and provided a strong material guarantee for Zhengzhou to build a core demonstration zone.

The leading industrial level has also brought serious pollution treatment problems to Zhengzhou. From the perspective of industrial wastewater discharge from 2016 to 2019, Zhengzhou's industrial wastewater discharge is basically more than 75 million tons. Except for Jinan and Chengdu, The discharge of industrial wastewater in other provincial capital cities in recent years has not exceeded 50 million tons. In 2016, Zhengzhou's industrial wastewater discharge was as high as 193.94 million tons, equivalent to the total of Xining, Yinchuan, Xi'an, Lanzhou and Taiyuan in the same year, but it dropped to 79.66 million tons in the following year. The problem is still evident.

2.2 Service Industry Environmental Analysis

This paper selects three indicators from the 2016-2019 yearbooks of provincial capitals, including education expenditure, science and technology expenditure, and books per 100 people in public libraries to compare the level of service industry between cities horizontally.

From the perspective of education expenditure level, Zhengzhou's educational expenditure over the years is second only to Chengdu. In 2019, Zhengzhou's education expenditure exceeded 20 billion, which is equivalent to the sum of Xining, Lanzhou and Taiyuan in that year. In contrast, five of the nine provincial capital cities in the Yellow River Basin have educational expenditure levels below 10

billion yuan. It can be seen that Zhengzhou's investment in education is greater than that of other provincial capital cities. The city with the fastest growth in education expenditure. In 2016, Zhengzhou's education investment was 12.44086 billion yuan, and it reached 21.29214 billion yuan in 2019, with a five-year growth rate of 71.15%. The growth rate of other provinces and cities is below 60%. According to this Trend, Zhengzhou's education expenditure will surpass Chengdu in the next three years, becoming the city with the largest education expenditure among the nine provincial capitals in the Yellow River Basin.

From the perspective of scientific and technological expenditure, Zhengzhou's advantages are much smaller. The data shows that Zhengzhou ranks third among the nine provincial capitals in the basin, behind Chengdu and Xi'an, and it lags far behind. In 2019, Zhengzhou's science and technology expenditure was 3.61748 billion yuan, while Chengdu's was as high as 73.0705 million. 100 million yuan, twice as much as in Zhengzhou. However, although Zhengzhou lags behind Chengdu and Xi'an by a large margin, it still has significant advantages compared to Xining, Yinchuan, Hohhot and Lanzhou. The scientific expenditures of these provincial capitals do not exceed 1 billion.

Zhengzhou has a significant disadvantage in the collection of books per 100 people in public libraries. Judging from the data from 2016 to 2019, Zhengzhou ranked seventh among the nine provincial capital cities, only surpassing Lanzhou and Xining, and the gap compared with Jinan, the first place. It is relatively large, and the public collection of books per 100 people is only half the level of Jinan.

2.3 Infrastructure Situation Analysis

This paper selects two indicators of urban road area and total water supply from the 2016-2019 yearbooks of provincial capitals to compare the level of infrastructure between cities.

In terms of urban road area, Zhengzhou is located in the middle reaches of nine provincial capital cities in the Yellow River Basin. According to 2019 data, Zhengzhou's 61.18 million square meters of road area is similar to Taiyuan's 61.72 million square meters, and similar to Jinan and Chengdu. There is a big gap between Xi'an and Xi'an. The road area of these three cities exceeds 100 million square meters, but there are still significant advantages compared with Xining, Yinchuan, Hohhot and Lanzhou. The road area of these three cities None of them exceed 30 million square meters, of which Xining has only 12.3 million square meters. From the perspective of the total water supply in the city, in addition to Chengdu, which is far ahead with a total water supply of more than 1 billion tons, Xi'an continues to maintain a total water supply of more than 500 million tons, and Zhengzhou, Taiyuan, and Jinan are all at 300 million tons. level around. The total water supply of Xining, Yinchuan and Hohhot is about 100 million tons.

Judging from the above two indicators, the infrastructure level of Zhengzhou is only in the middle reaches of the nine provincial capitals in the Yellow River Basin, which is lower than that of the previous cities (Chengdu and Xi'an), but lower than that of the lower ones (Xining, Yinchuan, Hohhot). City) is more than enough. Zhengzhou needs to invest more in the infrastructure construction of the city.

2.4 Analysis of open environment resources

This paper selects two indicators from the 2016-2019 yearbooks of various provinces and cities to compare the open environment of each city by selecting two indicators, the total import and export value and the actual use of foreign capital. Zhengzhou's total import and export value ranks third among the nine provincial capitals, second only to Taiyuan and Chengdu, with a large gap between it and Taiyuan. Taking 2019 data as an example, Taiyuan's total import and export value is 108.629 billion, while the total import and export value of Zhengzhou was 61.507 billion. In recent years, the

total value of imports and exports in Chengdu has increased significantly. In 2015, 2016 and 2017, its total value of imports and exports was lower than that of Zhengzhou, but in 2019, it surpassed Zhengzhou to become the second. Zhengzhou has obvious advantages compared with other provincial capitals in the basin. The total import and export value of Jinan, Yinchuan and Lanzhou has not exceeded 20 billion, and Xining, Hohhot and Xi'an have not exceeded 10 billion.

In terms of the actual use of foreign capital, Zhengzhou ranks third among the nine cities, but there is a significant gap between the cities. The actual use of foreign capital in Chengdu is about three times that of Zhengzhou, and Xi'an is about 1.5 times that of Zhengzhou. The provincial capital is lower.

It can be seen that the open environment of Zhengzhou is at an average level among the nine provincial capital cities. Compared with Xining, Yinchuan, Hohhot, Lanzhou and Jinan, the advantages are obvious, and the advantages are not significant compared with Xi'an and Taiyuan. There is still a big gap in Chengdu.

3. Strategic path design for Zhengzhou to build a core demonstration area for high-quality development in the Yellow River Basin

This paper uses the situation analysis method to design the strategic path for Zhengzhou to build a high-quality demonstration area in the Yellow River Basin. The situation analysis method originates from the strategic analysis of enterprises and is a method often used in strategic planning analysis. It mainly analyzes the strengths, weaknesses, opportunities and challenges of the organization, and then It is called SWOT analysis.

From the comparative analysis of the above aspects, it can be seen that compared with other provincial capitals in the Yellow River Basin, Zhengzhou has the advantages of building a core demonstration zone for high-quality development in the Yellow River Basin: First, the abundant labor resources have created Zhengzhou's developed industrial level, Zhengzhou's Compared with other provincial capital cities in the Yellow River Basin, the industry has an obvious leading advantage, and it has a stronger ability to drive the manufacturing service level of surrounding cities in the industrial production chain. Second, compared with the other eight cities, Zhengzhou pays more attention to education, although At this stage, education expenditure is temporarily behind Chengdu, but the growth trend is obvious and there is more room for improvement.

The disadvantages are as follows: First, the environmental pollution caused by industrial development is relatively serious, and the discharge of industrial wastewater is high and has no downward trend, which will affect the ecological construction of the entire city; second, Zhengzhou's innovation capability is relatively weak. Although the educational expenditure in the past two years has gone up, it still takes time to settle from capital investment to innovative achievement output. Zhengzhou's science and technology expenditure is less than half of Chengdu's level at the emerging stage, and it is far behind Xi'an and other cities in terms of university construction. Thirdly, there are deficiencies in the construction of infrastructure, and the location advantage has not been fully exerted: there is a significant gap between Zhengzhou's urban road area and Jinan, Xi'an and Chengdu; fourthly, the level of openness is not strong, and it lags behind Xi'an as a whole. There is a big gap between Chengdu and Taiyuan.

Its opportunities are reflected in: Zhengzhou, as one of the nine national central cities, can receive more macro policy support in the future; Zhengzhou has obvious geographical advantages, and may be the first to build a "rice-shaped" high-speed rail network center and become a hub connecting all parts of the country; airports The opening of the Zhengzhou-Europe train has successfully promoted Zhengzhou to become the largest port for the import and export of inland goods, and Zhengzhou has become the core node of the "Air Silk Road".

Its threats are reflected in: first, external threats. Zhengzhou is not the only national central city in central China. Wuhan, which is also one of the national central cities, will also directly compete with Zhengzhou in terms of resources; second, internal threats, subdivided areas. The lack of supporting industries has led to the outflow of high-end talents, the problem of scarcity of high-end talents is difficult to solve, and there is an obvious bottleneck in industrial upgrading.

According to the above SWOT analysis of the development path of Zhengzhou's construction of a high-quality demonstration area in the Yellow River Basin, and combined with the development experience of other provincial capitals, this paper believes that the basic path for Zhengzhou to build a high-quality development demonstration area in the Yellow River Basin includes the following aspects: First, high pollution Low industrial pollution is a breakthrough point, focusing on production waste treatment and industrial wastewater treatment, and comprehensively promoting urban ecological construction; the second is to adhere to opening up to attract high-end elements, lead comprehensive innovation with scientific and technological progress, innovate talent development systems and mechanisms, and improve urban The third is to develop and utilize the location advantages as the starting point, seize the opportunity of opening ports along the "Belt and Road", and strengthen regional cooperation; fourth, to improve the The level of openness of the city. Through these paths, Zhengzhou will be built into a demonstration area for the free flow of production factors, and ultimately achieve its goal of serving as a benchmark for high-quality development, a test field and a regional economic engine.

4. Path analysis of Zhengzhou's construction of a core demonstration area for high-quality development in the Yellow River Basin

This paper will put forward corresponding policy suggestions for Zhengzhou to build a high-quality development core demonstration zone through four paths of comprehensively promoting ecological construction, enhancing innovation ability, giving full play to location advantages and improving opening level, so as to make up for the relative disadvantage of Zhengzhou's development and promote the all-round and balanced development of Zhengzhou.

4.1 Improve pollution control capacity and comprehensively promote ecological construction

Control from the source. Innovate the production technology of industrial enterprises, introduce advanced production equipment and technology, strictly control the quality of raw materials, and use raw materials with low pollution; cultivate employees' environmental awareness, improve production efficiency and product yield, and do a good job in recycling and reusing waste, so as to In the production process, the generation of waste is reduced.

Improve wastewater treatment capacity. All industrial enterprises are required to be equipped with pollution treatment equipment, raise the threshold for waste water discharge, and do a good job in the pretreatment of waste water before leaving the factory; establish a complete waste water treatment system in the chemical park, and comprehensively use physical, chemical and biological methods for secondary treatment of waste water. There must be corresponding treatment measures for all kinds of wastewater.

In terms of ecological construction, take the Yellow River as the main line, take the Funiu Mountains, Taihang Mountains, Tongbai-Dabie Mountains and other mountains as barriers, and take the Huaihe River, the middle line of the South-to-North Water Diversion Project, the Grand Canal of the Sui and Tang Dynasties and the old Yellow River in the Ming and Qing Dynasties as the main series corridors, and coordinate and promote the construction of nature reserves, implement the forest chief system, and build an ecological protection pattern of "one belt, three screens, three corridors and multiple points".

4.2 Vigorously implement the innovation-driven strategy and lead the regional scientific and technological innovation capabilities

At present, Zhengzhou's university resources are relatively lacking, and there is a big gap between Chengdu and Xi'an in terms of university construction. Zhengzhou should increase its efforts to support the construction of first-class universities and first-class disciplines in the city's universities, actively introduce high-level universities at home and abroad, and encourage national-level scientific research. The institute has set up a branch in Zhengzhou to actively build a national research center.

Adhere to opening up to attract high-end elements and lead comprehensive innovation with scientific and technological progress, and build more dynamic scientific and technological innovation centers and innovation and entrepreneurship centers. Starting from the advantageous areas, relying on the Zhengzhou-Luoyang-Xinxiang National Independent Innovation Demonstration Zone, focusing on supporting and cultivating leading innovative enterprises and innovative industrial clusters, improving Zhengzhou's independent innovation capability by point and area, and leading the innovation and development of Henan and even the Central Plains Economic Zone.

Innovate talent development systems and mechanisms, implement innovative talent introduction policies, and seize the commanding heights of talent competition; fully integrate into the global innovation system, strengthen scientific and technological innovation cooperation with countries and regions along the "Belt and Road", and attract world-class scientific research institutes, multinational companies, and international scientific and technological organizations Set up R&D center and test base in Zhengzhou. Increase the introduction of innovative talents and investment in innovation funds, continuously stimulate the vitality of multi-subject innovation, continuously improve the platform for the transformation of innovation achievements, increase the proportion of authorized patents, and improve the output capacity of innovation.

4.3 Give full play to location advantages and strengthen the role of logistics center

Compared with other provincial capital cities in the Yellow River Basin, Zhengzhou's location advantage is more obvious. In the future development, it should continue to introduce various major infrastructure projects and give full play to its role as a comprehensive transportation hub.

The overall layout of the meter-shaped high-speed railway network and the meter-shaped intercity railway network will be carried out, and the construction of the passenger and freight trunk railway network will be promoted in an orderly manner. Improve the passenger route network, achieve full coverage of major domestic cities and open intercontinental routes in an orderly manner. Accelerate the construction of expressways and arterial roads, improve the modern comprehensive transportation network that integrates the three networks, efficient connection, and smooth internal and external; Full coverage pattern.

Develop port economy. Seize the opening of ports along the "Belt and Road", promote the construction of international trade windows based on electronic ports, and support enterprises to set up "overseas warehouses" in special customs supervision areas or bonded supervision areas; in creating a high-level open business environment, On the basis of attracting and gathering high-end element resources, improve the "one-stop" large customs clearance service system, and create a comprehensive service platform of "four-port linkage and multimodal transport";

Taking the legalization, facilitation and internationalized policy supporting environment as the guarantee, strengthen cross-regional cooperation with cities along the Silk Road Economic Belt, the Yangtze River Economic Belt, Beijing-Tianjin-Hebei and Northeast China, to create high-quality services, developed port economy, An advanced hub demonstration area with extensive regional cooperation.

4.4 Improve the level of openness and strengthen the role of radiation

At present, Zhengzhou's radiation and driving role in regional development is not obvious compared with other provincial capital cities in the basin. Therefore, it is necessary to improve the opening level of the city, strengthen the linkage development between Zhengzhou and the Central Plains city group and cities in the central region, and give full play to the radiation driving role. Play a leading role in the rise of central China.

Increase the level of openness. Include in-depth reform in the urban development strategy, promote the internationalization of urban industries in a larger space and at a deeper level, deeply integrate into the global urban network, and build a modern city with strong international competitiveness. Seize the historical opportunity of the "Belt and Road" construction, take the construction of the Henan Free Trade Zone as the guide, and comprehensively upgrade the Zhengzhou Airport Economic Comprehensive Experimental Zone, the Cross-border E-commerce Comprehensive Experimental Zone, the International Land Port, and various customs special supervision zones and other open platforms. function, build a new pattern of all-round opening to the outside world, and enhance Zhengzhou's international influence and competitiveness. With institutional innovation as the core, speed up the construction of a free trade pilot zone, actively create a legalized, internationalized, and convenient business environment, and strive to build Zhengzhou into a high-quality demonstration area of an inland open highland.

Clear the radiation channels. Establish a market integration and infrastructure integration system in the Central Plains region, Henan Province region and even the central urban region to increase population carrying and absorption capacity. Accelerate the construction of sub-center cities in the Central Plains urban agglomeration, continuously improve the transportation infrastructure between core cities in the metropolitan area, focus on the high-speed railway network, expressway network, aviation network and pipeline network, improve the comprehensive transportation network system, and form Zhengzhou as the center The radial road network will promote the economic connection and industrial connection of surrounding cities; strengthen the effect of social structure, speed up the removal of administrative barriers and institutional barriers, enhance information sharing and resource flow between cities, form a new pattern of regional integrated development, and promote the central The high-level development of the region; the third is to strengthen the construction of a new generation of information infrastructure, combine various industries with Internet services, promote the opening and sharing of government data and public data between regions, strengthen the connection between regions, and then achieve the promotion of urban The purpose of group network structure effects.

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