

Study on the Development of Urbanization in Hexi Area under the Background of Rural Contraction

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Abstract. With the rapid development of urbanization, the western region is characterized by the disorderly growth of towns and irrational contractions of villages. Based on the development needs of Hexi region to adapt to the new regional urbanization pattern, this paper studied the response dimensions of Hexi region's urbanization development, and then put forward suggestions for the effective establishment of the advance mechanism of planning and management, that can promote the coordinated development of regional urban and rural areas.

1. Introduction

As a typical region, Hexi corridor has received extensive attention at home and abroad. The development level of urbanization is affected by the regional economic environment and other factors. In the period of rapid urbanization with low quality, the villages in Hexi region show irrational shrinkage, which seriously restricts the sustainable development of urban and rural areas and the promotion of regional competitiveness in Hexi region.

2. Problems Faced by Regional Urbanization Development

In the new era, the problems of regional spatial development imbalance and ecological environment deterioration brought about by the development of traditional urbanization have become increasingly prominent. The development of urbanization has gradually turned to a new urbanization development model that seeks the harmonious development of regional urban space and social, economic and ecological environment.

2.1. Vertical extension of the globalization process

In the new era, urban areas are increasingly becoming the main carriers for countries to participate in global competition. The boundaries between countries, regions and cities are rapidly weakened, and the comprehensive competitiveness develops in-depth. Regional urbanization development strategy plays an important role in promoting regional economic development and alleviating the imbalance between urban and rural development.

2.2. Regional development gap is gradually increasing

The regional development gap is mainly manifested in the imbalance of spatial development, which is also the product of an unbalanced development strategy. The widening gap between urban and rural areas is the cause of rural contraction, while the household registration system and social security system are hindering the complete urbanization of the transferred population. However, many small towns and rural areas lack industrial support and public services, making it difficult for the population and industry to gather.

2.3. Ecological environment problems are getting worse

Since the reform and opening-up, China's economic development has shown an obvious "factor accumulation" growth model. This kind of growth mode, driven by factor input, has caused serious damage to the ecological environment system. The global market competition, the contradiction

between the supply and demand of resources and the intensification of environmental pressure have brought severe challenges to the industrialization development model of high input, high consumption and heavy pollution.

3. The Particularity and Development Trend of Urbanization in Hexi Area

3.1. The particularity of urbanization development

The Hexi Corridor has a dry climate and lacks water resources. Due to its special topography, population and economy are distributed to the Hexi Corridor, and water resources are relatively scarce. Urban development should be deployed in accordance with the specific characteristics of Hexi region.

At the same time, due to the cultural accumulation of the Silk Road, the history and culture of the Hexi Corridor are also relatively brilliant. For example, Jiuquan and Zhangye have Huoshaogou type culture; the Bronze Age was distributed in Yumen and Jiuquan; and Shajing culture (2700 years ago) mainly distributed in Yongdeng, Wuwei, Tianzhu, Yongchang, Zhangye and other places. There are thousands of Tombs of the Western Han Dynasty in Zhangye, Wuwei and other places; Mogao Grottoes in Dunhuang is the largest and most abundant Buddhist art sacred place in the world ... Under the influence of various historical cultures, the unique culture of the Hexi Corridor has been formed. [3]

3.2. The trend of urbanization development

There is a great difference in development between different regions in Gansu Province, which is due to geographical, demographic, economic, ecological and other factors. The government department regards Gansu Province as a whole with coordinated regional functions, strengthens the relevance of various regions, and promotes Gansu Province out of the vicious circle of poverty. Therefore, Gansu's future development will focus on the simulation of regional integration to form a benign interaction between regional economic development and urbanization. For Hexi region, urban-rural integration will be a key point in urbanization.

4. Response Dimension of Urbanization Development

The multi-dimensional optimization mechanism of regional urban space is an important way for the development of high-quality urbanization. Therefore, planning, policy, industry, society and so on are important dimensions to explore the mechanism of regional spatial optimization. [1]

4.1. Application of planning mechanism

The planning mechanism is the strategy of planning-oriented changes for the urbanization development in Hexi region. Some city planning texts refer to the reference and interpretation of planning orientation. For example, Jiayuguan proposed to implement "Made in China 2025". The upper-level plans referred to include "Gansu Province Planning in Main Functional Areas", "Gansu Province Urban System Plan" and "Gansu Province New Urbanization Plan", etc., which will lay a solid foundation for future planning and urbanization.

4.2. Grasp policy opportunities

The policy mechanism refers to the influence of national planning policies, such as "new urbanization" on regional development and evolution.

(1) Spatial planning: The planning of Hexi region is rich in the reference and interpretation of relevant national planning policies. Among them, the Wuwei city plan is guided by the "five-in-one" overall layout and the "four comprehensive" strategic layout major strategies, and respects the laws of urban development. Relying on the "Silk Road Economic Belt" international corridor, Jiuquan City opens up the routes to Xinjiang, Qinghai-Tibet, Inner Mongolia and outbound sea routes. Jiayuguan City uses the "new normal" and "new urbanization" as the basis, and incorporates the ideas in "Several Opinions of the Central Committee of the Communist Party of China on Further Strengthening the Management of Urban Planning and Construction" into the plan for reference and consideration.

(2) "One Belt, One Road" initiative: "One Belt, One Road" was proposed in the "Vision and Action for Promoting the Joint Development of the Silk Road Economic Belt and the 21st Century Maritime Silk Road" issued by the National Development and Reform Commission in 2015, and it

aims to use the historical symbols of the ancient Silk Road to actively develop cooperation and economic integration among the countries along the route, and build a community of fate and responsibility. As an important node of the Silk Road on the land, the Hexi area is a cultural channel for the exchange of civilization between the East and the West, as well as a trade channel between the East and the West. It is of great significance to create regional cooperation and achieve global urbanization. The special location of the Hexi region determines the particularity that cannot be ignored in its planning. With the development of the "Belt and Road" in the future, the Hexi region will also achieve a qualitative leap with the vigorous development of the Silk Road.

4.3. Industrial optimization path

From the changes in industrial structure and distribution, we can explore the adaptation and feedback of regional economic development and its structural optimization to the changes in urbanization pattern. [2] The industrial response of Hexi region can be analyzed through the role and composition of the three industries in all levels of cities and towns in the region. As can be seen from Table 1, the proportion of the primary industry is generally declining, while the proportion of the secondary industry is slowly rising, indicating that industry is still the main support for the current economic development, while the proportion of the tertiary industry is slowly rising, indicating that the tertiary industry has a large room for growth. Therefore, industrial development focuses on industry and the tertiary industry.

Table 1. Changes in the proportion of the industrial structure of the Hexi Corridor from 2016 to 2017

City	Wuwei			Jinchang			Zhangye			Jiayuguan			Jiuquan		
Industry	Primary industry	Secondary industry	Tertiary industry	Primary industry	Secondary industry	Tertiary industry	Primary industry	Secondary industry	Tertiary industry	Primary industry	Secondary industry	Tertiary industry	Primary industry	Secondary industry	Tertiary industry
Increase or decrease	↑	↓	↑	↓	↑	↑	↓	↓	↑	↓	↑	↓	↓	↓	↑
Percentage point	2.3	7.9	5.6	0.8	0.2	0.6	0.57	3.39	3.96	0.7	12.5	11.8	3.4	0.4	3.8

Data source: National Economic and Social Development Bulletins by City

The industrial development mechanism mainly depends on the changes in the industrial structure. The essence of industrial structure transformation and upgrading is the continuous optimization of the allocation of factors, including resources, funds, and human resources. Urbanization, as a process of continually concentrating the population from rural areas to urban areas, can provide human capital for the evolution of the industrial structure. [4] Generally speaking, the higher the human capital, the stronger the spillover effects of the skills and knowledge it contains, the more it can induce technological innovation, and the more it can promote the upgrading and evolution of the industrial structure. Therefore, the Hexi Corridor region should attach great importance to the great value of human capital in the development process.

4.4. Social development analysis

Regional social equity is guided by the values of social equality, and the issue of sustainable development of regional society is examined with the concept of spatial justice. The phenomenon of semi-urbanization provides a basis for its optimization path.

The level of urbanization development in the Hexi Corridor region is relatively low, and it is generally in the development stage of semi-urbanization. The social benefits of the semi-urbanized population are solidified in their own social space, forming a dual social space structure with residents with urban household registration.

The problem of semi-urbanization in the Hexi Corridor is quite prominent. As can be seen from Figure 1, the proportion of the semi-urbanization population in the Hexi Corridor area is generally higher than in the urban population. Judging from the distribution of the semi-urban population in the Hexi Corridor, it is mainly concentrated in Zhangye, Jiuquan and other areas. It can be seen that the differences in urbanization are manifested in the population's tendency to provide higher levels of public services under the constraints of different financial capabilities. And this will aggravate the spatial polarization of population distribution, which is not conducive to the overall and balanced development of the region. Therefore, the semi-urbanization in the Hexi Corridor area is the core factor that causes the low quality of regional urbanization development.

While urbanization is shrinking in the countryside, high-quality production factors are flowing and converging to the city in one direction, resulting in a lack of endogenous power in the rural areas, and forming the phenomenon of economic and social decline in rural areas.

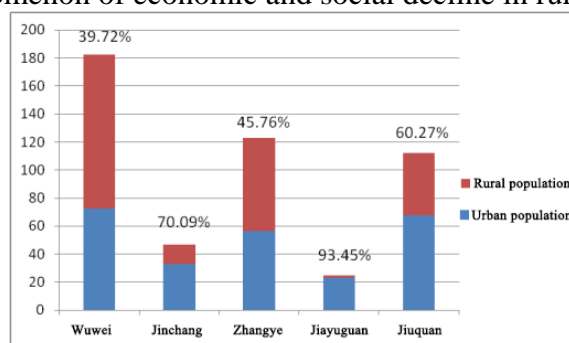


Figure 1. Comparison of urbanization rates in Hexi Corridor

Data source: Statistical Yearbook of Gansu Province in 2018

5. Proposal of Urbanization Development in Hexi Region

5.1. Taking the road of urbanization with Chinese characteristics

(1) Relying on the new industrialization development model

The new type of industrialization is to promote industrialization with informationization, promote informationization with industrialization, and follow the path of industrialization under high technology. The indicators of the new industrialization are high scientific and technological content, good economic benefits, low resource consumption, small environmental pollution, and full use of talents.

(2) Transformation from urbanization to ecological development

Cities (towns) must transition to ecological and low-carbon development models. First, adhere to the basic national policy of protecting the environment and resources. The second is to comprehensively consider the level of economic and social development, market conditions and the affordability of society, and play an important role in the market in promoting urbanization. The third is to rationally determine the goals of urbanization development according to the level of economic and social development of cities and towns at all levels, location characteristics, natural resources and environmental foundations, so as to achieve the complementary and common development of urban and regional advantages. [5]

(3) Promoting the new urbanization road

To promote the new urbanization road, while maintaining the necessary speed of urbanization, we should promote industrial agglomeration to drive population agglomeration; comprehensively improve the level of urban and rural construction and management, improve infrastructure and public service facilities, and comprehensively enhance the carrying capacity and competitiveness; The institutional obstacles in urban and rural areas have been gradually eliminated, and the gap between urban and rural development and regional development has been gradually narrowed. [6]

5.2. Guarantee the driving mechanism of urbanization

The driving force of urbanization development in Gansu province mainly comes from national policy support, foreign capital and industrial transfer in developed regions. Besides system and mechanism innovation, the internal driving force is mainly manifested in "bottom-up" industrial development and urban expansion. The accumulation of talents promotes the development of the urban industry and the improvement of urbanization quality. Urban-rural communication promotes rational development in rural areas.

Only regional urbanization development strategies adapted to local conditions can effectively improve the quality of urbanization development, reduce irrational growth in cities and towns and irrational contractions in villages, promote the harmonious development of urban and rural space, society, economy and ecological environment, and enhance regional competitiveness.

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References

- [1] Lu Yuan. Spatial pattern, process and response of regional urbanization: A case study of Shaanxi Province [D]. Northwest University, 2014: 6-30
- [2] Wang Ke. Response of evolution of urban ethnic system in ethnic interlaced zone: A case study in Hehuang area [D]. Northwest Normal University, 2010: 5-1.
- [3] Yu Guangjian. The evolution of the urban system and the scale spatial structure of the Hexi Corridor in the Qing Dynasty: Focusing on Fuzhou County [D]. Northwest Normal University, 2008: 5-1.
- [4] Ma Guoyong, Cai Lingsong. Research on the Interaction Mechanism between Urbanization and Industrial Agglomeration [J]. Journal of Harbin Institute of Technology (Social Sciences Edition), 2019: 09-12.
- [5] Yang Kaizhong. New Urbanization and Regional Coordinated Development [J]. Science Focus, 2019: 08-15.
- [6] Huang Zhifang, Ding Ning. Analysis on the countermeasures of comprehensive implementation of regional coordinated development in the new era [J]. Theoretic Observation, 2019: 08-20.