

Research Progress of Eco-city and Human Settlement Evaluation

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Abstract

New-type urbanization is urbanization with the basic characteristics of urban-rural coordination, integration of urban and rural areas, industrial interaction, conservation and intensiveness, ecological livability, and harmonious development. With the rapid advancement of industrialization and urbanization, the bottleneck of new urbanization has become increasingly prominent: (1) Incomplete ecological planning and incomplete technical system. High-quality urban development requires a complete planning system and technology to support it. (2) Extensive use of construction land, quality problems are becoming increasingly prominent. From 2000 to 2010, urban built-up areas across the country continued to expand with extensive land use and energy use. Before land development and utilization, the issue of land quality and health was not considered. (3) Regional development is not coordinated, and the human settlement environment gap is large. At the micro level, there are relatively few studies on the evaluation of the suitability of human settlements in a certain area of the city, and the evaluation methods adopted are relatively simple. Corresponding research is urgently needed. Technology research and development and intelligent human settlement research based on cutting-edge information technology provide scientific basis, theoretical basis and practical guidance for the development of new urbanization in my country to meet the urgent needs of my country's new urbanization construction.

Keywords

Eco-city; Human Settlement Evaluation; New-type Urbanization.

1. Introduction

New-type urbanization is urbanization with the basic characteristics of urban-rural coordination, integration of urban and rural areas, industrial interaction, conservation and intensiveness, ecological livability, and harmonious development. It is a town where large, medium and small cities, small towns, and new rural communities develop in harmony and promote each other. change. The requirement of new urbanization is to continuously improve the quality and connotation of urbanization construction. Compared with the traditional formulation, new urbanization not only focuses on economic and social development, but also strengthens environmental and cultural upgrading, and emphasizes the comprehensive transformation of economy, society, environment, and culture. The focus of the integrated development of urban and rural areas lies in the overall improvement of internal quality. "New" refers to concept renewal, system innovation, and technological innovation. It is the ecological development process of new industrialization, regional urbanization, social informatization and agricultural modernization. "Type" refers to the transformation, including the transformation of industrial economy, urban transportation,

construction land, etc., and environmental protection should also shift from end-of-pipe governance to the five-synchronized ecology of "pollution prevention-clean production-ecological industry-ecological infrastructure-ecological administrative district" The transformation of civilization construction. With the development of the times, new urbanization has gradually become an important part of the development of modern society. The core is human urbanization. The key is to improve the quality of urbanization, take a new path of intensive, smart, green, and low-carbon, and strive to improve the internal carrying capacity. Strengthen urban and regional ecological planning, achieve "multiple planning in one", reasonably handle the immediate and long-term, partial and overall ecological relationships in urban construction, and focus on the construction of ecological infrastructure and livable ecological projects.

Urbanization is the due meaning and basic policy of modernization. my country's urbanization started in 1949. Compared with developed countries, it started late and the level was low, but the speed was fast. By 2017, my country's urbanization rate was 58.52%, 3.7 percentage points higher than the world average, but it was nearly 7 percentage points lower than the average level of upper-middle-income countries at the same stage of development, and the gap with high-income countries was even greater. Big, there is still great potential for development. In March 2014, the "National New-type Urbanization Plan (2014-2020)" was officially released. According to the clear timetable of the National New-type Urbanization Pilot Program, the pilot program will be started before the end of 2014, and the program will be continuously improved according to the situation. By 2017 The pilot tasks have achieved phased results, forming reproducible and extendable experience; from 2018 to 2020, the successful experience of the pilot areas will be gradually promoted nationwide, which shows that China's new urbanization is a definite general direction. In addition, the report of the 19th National Congress of the Communist Party of my country pointed out that the main social contradiction in our country has been transformed into a contradiction between the people's growing need for a better life and unbalanced and insufficient development. The people's food and clothing problem has been basically solved, and people's yearning for a better life has shifted to more comfortable living conditions, a more beautiful environment, and more reliable social security.

According to data from the Shaanxi Provincial Bureau of Statistics in the past decade, the urbanization rate of Shaanxi Province from 2000 to 2018 was lower than the national average, but the urbanization rate gradually approached the national average, reaching 58.13% in 2018. As the birthplace and bridgehead of the construction of the Silk Road, Shaanxi Province has shown a strong economic development trend and huge development potential in recent years. Its new-type urbanization development process will surely promote the development of the provincial economy. However, looking at the theory and practice of new urbanization, domestic scholars' research results on new urbanization mainly focus on the definition of the concept of new urbanization, the analysis of development stages and characteristics, the dynamic mechanism, the development model, the promotion path, the evaluation index, and the practice. Explore other aspects of research. The lack of systematic research on the application models of new urbanization that can be popularized and replicated has severely restricted the rapid development of new urbanization in my country.

2. Related problems

With the rapid advancement of industrialization and urbanization, the bottleneck of new urbanization has become increasingly prominent: (1) Incomplete ecological planning and incomplete technical system. High-quality urban development requires a complete planning system and technology to support it. Various plans are self-contained, conflict in content, and lack of cohesion, making it difficult to achieve coordinated management and control of the main functional areas of the city. The current urban ecological construction is mainly based on theoretical research. On the one hand, it lacks practicality and implementability, and on the other hand, it lacks a comprehensive assessment of ecological construction. (2) Extensive use of construction land, quality problems are becoming increasingly prominent. From 2000 to 2010, urban built-up areas across the country continued to expand with extensive land use and energy use. Before land development and utilization, the issue of

land quality and health was not considered. This led to the emergence of "poisonous land" in many places, endangering human health, and the whole process was in "Sub-health state. (3) Regional development is not coordinated, and the human settlement environment gap is large. Excessive advantageous resources are concentrated in areas with better location conditions, the living standards of residents have been continuously improved, and the ecological environment has improved year by year. On the contrary, some areas have less investment in development, low economic levels, lack of intelligence and intelligence elements, and policies The difference between the system and the management system has caused a growing gap in the quality of human settlements, ecological environment, education, medical and other supporting facilities, which is also a core issue that hinders the construction and development of new cities and towns.

3. Current reserashes of Eco-city and Human Settlement Evaluation

Since 1971, the United Nations Educational, Scientific and Cultural Organization (UNESCO) initiated the Man and Biosphere Programme (MAB), which clearly put forward the concept of eco-city, and promoted the wide application of ecological theory and the development of eco-city in the world. explore. Foreign scholars generally believe that the eco-city model is an ideal paradigm for sustainable development [1]. Tsolakis et al., (2015) evaluated the sustainability of eco-city through system dynamics simulation and proposed the basic framework of eco-city construction. Urban green space has played an important role in the construction and sustainable development of ecological cities [2]. Urban green space can improve the quality of life, provide ecosystem services, and enhance regional value. Comprehensive measures should be taken in the planning, design and monitoring of urban green space to improve the sustainability of the urban environment. In Europe, the European Union is pursuing an ecological modernization model. Through qualitative analysis of environmental projects, it is found that it is conducive to enhancing social inclusiveness, and ecological innovation will promote sustainable social development [3].

Since the 1990s, our country has gradually paid attention to the construction of ecological city theory. It regards the harmony between man and nature and the sustainable development of society, economy and nature as the value orientation of ecological city, guides corresponding planning and design, and comprehensively elaborates the concept of ecological city [4-6]. Wu Liangpu (2001) pointed out in the article "Exploring the human settlement environment in harmony between man and nature" that the science of human settlements is a discipline that focuses on the coordination of man and nature and takes the living environment as the research object [7]. Comprehensive discussion and overall thinking on issues such as, society, environment, etc., to meet the urgent needs of the development of the current era. By discussing the relationship between ecological city clusters and livability, the ecological city cluster's "four layers and one core" human settlement environment spatial hierarchy theory is proposed from the four levels of living environment, community environment, urban environment and urban agglomeration environment. Evaluation index system for the livability of eco-city clusters. Some scholars, starting from economic development, urban construction, ecological environment, and social harmony, establish an indicator database that combines common indicators and characteristic indicators, and study the construction model of low-carbon eco-city indicator system and its implementation strategies from multiple dimensions. The essence of urban ecological construction is to improve the quality of human settlements. Ecological construction should actively adapt to the reform of the spatial planning system, improve the level of demand for urban ecological construction, expand the niche of urban ecological planning in multiple dimensions, explore the innovation of urban ecological planning system, and construct ecological urban planning theory and practice with Chinese characteristics System. At present, the construction of eco-city mainly stays at the level of theoretical research, lack of identification and evaluation of ecological elements, unable to adapt measures to local conditions, scientific development, and lack of implementable planning schemes for specific projects. Zhang Wenzhong et al. (2013) believe that the key to studying the human settlement environment is to monitor the evolution process of the human settlement environment and judge the evolution trend of the human settlement environment, including obtaining

data on the dynamic evolution of the human settlement environment and establishing an indicator system for evaluating the evolution trend of the human settlement environment [8]. On this basis, domestic scholars have conducted a lot of methods and theoretical mechanism explorations, and conducted empirical research in different regions. Yang Qingqing et al. (2018) started from the core systems of human settlements such as ecology, housing, public services, and leisure environments, and comprehensively used AHP and geographic detector methods to analyze the spatial-temporal evolution process and core drive of urban human settlements in urban agglomerations in the middle reaches of the Yangtze River from a macro level [9-11]. The force and driving mechanism have been systematically studied. However, at the micro level, there are relatively few studies on the evaluation of the suitability of human settlements in a certain area of the city, and the evaluation methods adopted are relatively simple. Corresponding research is urgently needed.

4. Conclusion

In response to this social reality demand and the urbanization bottleneck mentioned above, centering on the national strategy of new-type urbanization and beautiful rural construction, combined with the successful engineering practice of Shaanxi Provincial Land Engineering Construction Group in the construction of the Shichuan River human settlement environment in recent years, The project is based on pure land, ecological environment as the premise, and people's yearning for a better life as the goal. It plans to carry out theoretical research on urban ecological construction, evaluation of human settlements suitability, and organic soil reconstruction on the north bank of the Han River in Chenggu County, Hanzhong City. Technology research and development and intelligent human settlement research based on cutting-edge information technology provide scientific basis, theoretical basis and practical guidance for the development of new urbanization in my country to meet the urgent needs of my country's new urbanization construction.

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