

## **Review Article**

# **The Development Direction and Strategy of New Urbanization from the Perspective of Ecology Theory**

**Lingyong Ma<sup>1,2</sup>, Jing Liang<sup>1,2</sup>, Xiaoli Xu<sup>1,2</sup>**

<sup>1</sup>College of Civil and Architecture Engineering, Northeast Petroleum University, Daqing, Heilongjiang, 163318, China

<sup>2</sup>Heilongjiang Key Laboratory of Disaster Prevention, Mitigation and Protection Engineering, Daqing, Heilongjiang 163318, China

### **\*Corresponding author**

Xiaoli Xu

**Email:** [xxl\\_nepu@163.com](mailto:xxl_nepu@163.com)

---

**Abstract:** The new urbanization development in China can't develop like some western developed countries, which have experienced the urbanization, industrialization, then globalization, informatization and are pursuing the ecology now, and an ecological new urbanization path paralleled the ecological, livable and urbanization. Ecological theory has important guiding significance to dealing with the relationship between urban development and ecological environment, even promoting the position of a city or a country. In this paper, the development and research results of the theory of eco city at present are summarized. According to new urbanization with Chinese characteristics, the development strategies of the new urbanization were analyzed from three aspects: the nature and landscape ecology, economic ecology and human ecology.

**Keywords:** New urbanization, urban ecology, sustainable development, ecological and intensive

---

## **INTRODUCTION**

### **Problems and challenges for new urbanization**

The Prime Minister Keqiang Li repeatedly mentioned "New breakthroughs were made in advancing the new urbanization...Urbanization plays a good support role to the modernization." in 2015 government works report of the State Council, from which we can deep understand the government's determination in new urbanization. The new urbanization development in our country is facing serious problems and great challenges: on the one hand, the county is forced to bear the environmental consequences arising from the development of the developed countries, facing climate change, energy crisis, food security and other global challenges; on the other hand, there are also unique opportunities for urbanization in information era and the ecological civilization period [1]. The new urbanization development in China can't develop like some western developed countries, which have experienced the urbanization, industrialization, then globalization, informatization and are pursuing the ecology now. A new ecological urbanization path should parallel the ecological, livable and urbanization.

### **The value and significance of ecological town theory to the new urbanization development**

The past urbanization development has proved that the increase of towns and population and the

unceasing enhancement of urban industrialization level, the contradiction between urbanization development and urban ecological environment has become increasingly acute. Therefore, it is great significant that dealing with the relationship between urban development and ecological environment equals to the urban development and the promotion of a country's position. Ecological town theory precisely provides theoretical support for harmonious and balanced development between them, and the ways for solving huge problems in the new urbanization, and the ways and methods for implementing sustainable, healthy and coordinated development for urban and its ecological environment.

The value of ecological town theory of the new urbanization mainly reflected in three aspects: the natural ecology, social ecology and economic ecology.

### **Natural ecological values**

The towns' developments often rely on the ecological environment themselves, which provide the development basis and material resources for agriculture, forestry, animal husbandry and fishery, and industrial production in city. But with the rapid development of industrialization and urbanization, at the same time of the pursuit of better human material civilization, the human survival environment is damaged; environment degraded and ecological balance

has been broken. Especially, the rural areas has been the role of the server in the urban development, offers a wide range of material resources and human resources for the city, so the land, water, forest, grass and other natural ecological environment are damaged to a large extent. But the income, welfare and quality of life in rural area, are far less than in the city, the structure contradiction between the urban and rural is more and more fierce.

In view of the contradiction, the new urbanization under the guidance of ecology theory is put forward. Its basic characteristics are planning urban and rural areas as a whole, economical and intensive, ecological livable and harmonious development, making cities and small towns and rural area develop harmoniously and promote mutually, not at the expense of the agriculture and food, ecological and environmental cost [2].

### **Social ecological value**

The town is a complicated synthesis, closely linked with human culture from the beginning of the birth. The urban ecosystem including invisible ecological relations and ecological factors besides tangible natural ecological system, Social ecological system is an important part of urban ecosystem, including politics, law, economy, culture, education, science, etc. The construction and development of the city manifests the progress of human civilization and human culture history. In fact, civilization of the city is reflected in the immaterial production of urban ecological system, i.e., in the city social ecological value.

However many towns often directly transplant typical urban development pattern in the development process, lost comparative advantage and characteristic, appeared the phenomenon thousand cities closely resembled, seriously restricted the development and progress of the town. The town of non-material production function of the city should be strengthened in the new urbanization, so that can improve the grade of the town, which is beneficial to improve the spirit civilization of the town and even the whole of the human. Therefore, the pursuit of the intangible advantages and characteristics in the town's culture, history and context, is a reflection of social ecological value of the new urbanization.

### **Economic ecological value**

Constructing a beautiful urban ecological environment with reasonable structure is not only the inevitable demand for improving urban residents' life, is also an important way to promote the development of urban economy.

First of all, the urban space in a good ecological environment is more advantageous to attract

investment. The development of the urban extroverted economy depends largely on attracting foreign investment in the towns. In order to attract foreign investment, the towns should not only have convenient traffic, information, services, facilities, but also have the beautiful town ecological environment. The planning and reconstruction of urban space environment can promote the construction of infrastructure, improve the residents' comfort, and create a good investment environment. To attract domestic and foreign companies and investors, one should obtain a new economic growth point.

Second, beautiful ecological environment in the town is conducive to the further development of local tourism. The tourism has become a new economic growth point in China. Now, tourism development put forward higher request to the urban ecological environment. Beautiful ecological environment in the city can promote the development of tourism with the excavation the value of the cultural business center as well as historical and cultural tourism.

Again, the urban ecological environment protection and renewal can also achieve the goal of the revitalization of urban vitality. If the town has a beautiful ecological public space environment, it will be the place which is attractive to tourists, so as to attract a large number of consumers, promote the development of the third industry, such as business, entertainment, services, and economic booming. It can also urbanize the local countryside and small towns, reduce the gap between urban and rural, thereby giving impetus to the comprehensive promotion of the new urbanization.

### **The development of the ecological city theory Ecological city theory development abroad**

In general, the formation and development of ecological city theory abroad mainly experienced three stages.

- The beginning: Before the 20th century.

In 1898, "the garden city" theory built by Howard who came from British is considered to be the origin of the modern ecological city theories.

- The formation stage: About before the 1980s.

At the beginning of the 20th century, a group of foreign scholars begun to utilize ecological ideas to research the city problems, laid the foundation of ecological city theory research. In 1977, B.J.L Berry published the contemporary urban ecology, laid the foundation urban factor ecology research. At this point, the framework of ecological city theory basically formed.

- The development stage: since the 1980s around to the present.

With the rapid development of urban ecology, the concept of ecological city theory was highly researched. Since the 80s, many scholars respectively researched ecological city from different aspects, just like construction principle, connotation, main characteristics, specific target, system index and planning ideas and steps, etc [3].

#### **Ecological city theory development inland**

In China, the research of ecological city theory is started late, but developed rapidly. In December 1984, "the first national ecological science conference" was held in Shanghai, "urban ecology professional committee of China" was set up at the meeting, and it is the first organization which mainly aimed to research urban ecological in China, marking the beginning of China's urban ecological research. The next few decades, the development of domestic ecological city theory mainly reflected in how to strengthen the ecological city theory research and its practical application in city planning, construction and management; Urban compound ecosystem theory research; The yard stick of ecological city; Cybernetics principle and the principle of ecological city construction; The indicator system of eco-city research; and put forward the "landscape city", "green city" and other conceptions model [3]. In practice, many domestic cities has put forward the goal of construction of ecological city, some cities have made some attempts. But how to make new urbanization with Chinese characteristics combined with ecology still should be further researched and explored.

#### **New development strategy of urbanization in our country based on the ecological concept**

##### **New development strategy of urbanization based on the nature and landscape ecology**

The development of new urbanization should be on the premise of urban natural ecological environment, and urban planning layout should be fit and coordinated with the natural ecological environment. Therefore, original unilateral development in the city should be broken; perfect nature and landscape ecological system network should be established in the range of the whole town. Most importantly, it will be better to deal with the relationship between the economic development and ecological environment protection.

##### **New development strategy of urbanization based on the economic ecology**

The town's economic activities and the development are the foundation and vigor of urban development and construction, also the material basis for the protection of ecological environment protection and development. During economic promoting, the ecological environment mustn't be damaged in the new urbanization. It should be complementary to each other

and mutual development between economy and ecology.

Urban development depends upon land, which is a scarce resource. The new urbanization needs to develop scientifically; therefore, compact towns should be proposed, prompting an intensive, stereoscopic, diversified and sustainable urban land. In addition, the construction of ecological infrastructure can improve the investment environment in the towns, improving the economic and social benefits of new urbanization.

#### **New development strategy of urbanization based on the humanities ecology**

Urban ecological environment also includes cultural ecological environment besides the natural ecological one. Urban humanities ecological environment is wisdom crystallization created by working people in the long-term process which traces with each era in the history of the urban development. At the central meeting Xi general secretary required the urbanization "Make the town have historical memory, regional characteristics and national features, not similar in the thousands of cities and buildings", so the development of new urbanization should improve the humanism ecological consciousness of people; increase public participation; create historical memory and cultural characteristics of the towns and so on.

#### **Acknowledgement:**

Foundation item : Daqing Philosophy Social Sciences Foundation (DSGB 2014008); Daqing Philosophy Social Sciences Foundation (DSGB 2015067)

#### **REFERENCES**

1. Lan Zhou, the Strategy in Urban Planning and Construction of New Urbanization, Architectural Journal, 2015; 2:13-17. In Chinese
2. Hongqing Rong; the New Urbanization and Ecological Environment Protection in China, Modern Economic Research, 2013; 8: 5-9. In Chinese
3. Qing Zhao, Luoping Zhang; Ecological City Theory Research Review, Ecological Economics, 2007; 5:155-159. In Chinese
4. Qingji Shen; The New Urbanization Based on the Ecological Civilization, 2013; 1:29-36. In Chinese