

Ecological City Planning in Urban Planning and Design

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Abstract: Based on the actual situation, this paper summarizes and analyzes the key points of eco-city planning in urban planning and design, and hopes to provide help to researchers in related fields after the discussion.

Keywords: Urban planning and design, Eco-cities, Planning analysis

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1 Introduction

Ecological urban planning construction must carry on the scientific and reasonable planning and design, to select the most suitable design scheme, at the same time also need to considering aspects such as society, economy, according to the principle of corresponding to carry out planning and design, in order to improve the comprehensive performance of ecological architecture, reach the purpose of the human and the nature harmonious coexistence, eventually can realize sustainable development.

2 Urban planning and design and connotation

2.1 Urban planning and design

The urban planning and design plan includes the related contents of public space. The main goal is to improve the quality of urban ecological environment, apply urban interior space scientifically and reasonably, and improve the quality and level of people's life, so as to promote the rapid development and progress of the city. Main characteristics of urban planning is in accordance with the requirements of the digital and abstract painting, while the urban design is mainly from the

perspective of graphics and visualization, can only be better would be both the perfect fusion of architectural design, landscape design, as well as for the inside the city space environment, reasonable planning and application fully meet the needs of urban residents of the mental and spiritual. Under the rapid development of China's cities, there are serious problems and defects, which lead to the existence of some social and environmental problems. Second, the urban planning, construction personnel should master the relevant knowledge in the field of multiple, and resource in the planning and design is needed to fully considering the influence factors of humanities and science, especially the need to pay attention to the development of the ecological environment, to fully meet the needs of sustainable development, to lay good foundation to the survival and development of human beings.

2.2 Connotation of eco-city

The concept of eco-city first appeared in the 1970s of the last century. Once it was put forward, it received the attention of all countries in the world and was promoted and implemented globally, but it did not form a complete eco-city system. Traditional concept of ecological city, the main purpose is to better alleviate the waste of resources, can improve the utilization rate of water, space environment, effectively reduce carbon dioxide, methane, emissions of waste gas, waste water etc., avoid to cause serious environmental pollution, thus can greatly enhance the level of the quality of the environment and make people's life quality improved, also can promote the rapid development and progress of the city. The concept of eco-city is put forward in accordance with the needs of the development of The Times. In the process of application, the gradual realization of the transformation of eco-city is also consistent with the development of human beings. The

effective display of the cultural connotation in the city can better promote the overall economic development, social stability, people's quality of life, and effectively realize the sustainable development of the ecological environment. On this basis, the city planning scheme for the establishment of the purity of the increased need for urban internal environment, people's living standard, etc., to build a more perfect social security system, will comprehensively the application of advanced science and technology, and better reflect the important role of ecological environment, can comprehensively improve the level of people's life, also can achieve the ultimate goal of sustainable development, has the very high practical significance.

3 The important influence of eco-city planning on urban planning and design

3.1 Comprehensively improve the rationality of urban structure

At present, the speed of urbanization in China is gradually accelerating, and this is the continuous increase in the number of urban population, and the city is also comprehensively carrying out the construction of the project, so it causes the city's internal land resources increasingly tense. Therefore, in urban construction, the concept of urban ecological construction should be applied for planning and design, so as to effectively improve the utilization rate of urban land resources. In this way, urban ecological construction can be realized and a good living environment can be created for people.

3.2 Actively promote the sustainable development of cities

Current fast economic and social development in our country, greatly promoted the urbanization process, so the whole urban internal proportion of industrial production continued to increase, under the background of the urban rapid development at the same time, in air, water resource is seriously polluted great threat to people's life and health, and restricts the sustainable development of human society. In the current urban development, water pollution, haze and other problems are extremely serious. Under the current development situation, if the urban planning and design scheme cannot be adjusted actively, the urban development will be greatly hindered. Based on this, in urban planning and construction, it is necessary to take effective ecological planning and design measures,

timely discover some ecological problems in urban development, and actively improve the current actual situation, so as to promote healthy and efficient urban development.

4 Ecological city planning in urban planning and design

4.1 Elaborate eco-city planning scheme

In the process of planning and designing an eco-city, an effective design scheme should be worked out so as to better avoid the destruction of the ecological environment, better protect the ecological environment, cultural environment, historical and cultural environment, and preserve the outstanding heritage of mankind. In planning and design, in line with the specific conditions to determine the appropriate engineering graphic design program, and should be carried out in accordance with the urban space in the contour line to reasonable layout design, can effectively complete corridor traffic network line Settings, appropriate increase the corridor greening construction area, to establish a more complete urban greening system, actively improve the urban ecological environment. In practice, the application of plaque design after dry, such as central park, square green space design as part of economic green belts, etc, should be reasonable to afforest engineering decorate, also should show a history and culture, folk culture, etc., let the modern city can not only have natural breath, at the same time also can have the connotation of culture, provide people with a better life, finally can establish a more perfect ecological system.

4.2 Create landscape according to local conditions

Urban ecological planning and design, landscape design is also a very important part of, in the process of design, should be reasonable urban location and perfect combination with the history and culture, specific include the following two aspects: one is the cultural landscape, to a reasonable shape the development of the human landscape, which contains such as sculpture, painting art form, can better show the city characteristics^[2]. The second is natural ecological landscape, which is generally built in a non-artificial way, such as plants, water, flowers and plants, which can better improve the ecological environmental benefits of the city and improve the environmental quality of the city.

4.3 Build a scientific ecological city spatial structure

Comprehensive construction of urban ecological space structure is of great significance. It is necessary to reasonably determine the urban ecological planning scheme in consideration of urban natural environment and personnel structure, so as to complete the construction of characteristic cities and meet people's normal use needs. Modern urban planning and design, you need to be able to show the characteristics of the city, and to the implementation of the comprehensive ecological optimization design, can better use of all kinds of characteristic resources, especially for some of the city's old town reconstruction, should retain the original historical landscape and ecological landscape, and then on this basis, optimization design, formulate feasible measures, implement comprehensive retrofit design of the old town, you can better show the urban ecological landscape, improving the quality of ecological environment.

4.4 Build a comprehensive eco-city planning network

From the analysis of the current actual situation, it can be found that the urban ecosystem in China is still relatively fragile, specifically in terms of the overall appearance of greening. Therefore, measures should be taken to strengthen the urban ecological construction, build a more perfect ecological city network, and finally achieve the purpose of transforming the urban ecological environment. In the urban planning and design, we should realize the comprehensive landscape optimization design and realize the benign development.

4.5 Green urban traffic planning strategy

From the analysis of the current actual situation, the problem of urban congestion is very common, mainly because of the continuous increase in the number of private vehicles, the road has a serious overload operation problem, resulting in increasingly serious road congestion. In addition, the number of vehicles continues to increase, leading to increasingly serious urban environmental pollution problems, which is mainly due to the continuous increase of vehicle exhaust emissions, for example, haze is generated on this basis^[4]. For this problem, we should strengthen the construction of green transportation. First, we should carry out the construction of public transportation,

encourage people to choose the way of public transportation as far as possible, which can reduce exhaust emission, effectively alleviate the problem of traffic congestion, and realize the benign development of the city. Second, we will comprehensively encourage green transportation. This mode of transportation is an effective way to avoid the emergence of pollution emission problems, eliminate exhaust fumes, and encourage people to choose to travel by walking or cycling, which can effectively improve the urban ecological environment.

4.6 Pay attention to the planning of urban buffer public space

Inner cities by modern buildings and a large number of industrial buildings, etc., so need some natural city open internal space layout to better ease the tension of life, to separate the internal space of the city and nature in the design of the recreational area, want to reflect in planning and design scheme, at the same time also should better pay attention to the public square, green space planning and design of the project, such as in order to make urban planning more scientific and reasonable design scheme. In addition, it is also necessary to strengthen the planning and design of the surrounding environment of the city, especially the design of the urban-rural junction and the village in the city. The layout of some green belts and other parts in these areas can realize the transformation of urban atmosphere, adjust the internal environment of the city as a buffer, and actively improve the living environment of the city.

4.7 Build a comprehensive eco-city planning network

From the current actual situation analysis, in the construction of ecological city in our country, the whole ecological system is relatively weak, most of them from the perspective of the overall appearance of the city to afforest, led to the city's ecological environment is destroyed, therefore, in the process of concrete operation, should build a perfect ecological city network, in order to achieve the ultimate goal of improving urban environment. In the construction link of eco-city planning network, the construction planning and layout should be carried out from the overall perspective, not only to achieve the optimal configuration of the landscape environment, but also to comprehensively improve the landscape effect, so as to finally realize the orderly development of the city.

4.8 Green urban traffic planning strategy

According to the analysis of the actual situation, it can be found that the problem of traffic congestion is very serious in modern cities. This is because the number of private cars keeps increasing, which leads to the situation that the traffic road is in full load or overloaded, and then serious traffic congestion appears. The continuous increase of the number of cars leads to the continuous increase of automobile exhaust emissions, which leads to serious environmental pollution. Based on this, the construction of public transportation should be carried out comprehensively. Urban residents should be encouraged to choose public transportation as far as possible to reduce the emission of automobile exhaust. Second, we should encourage green transportation and try to choose green and environmentally friendly ways to travel, such as bicycles and electric cars, so as to reduce exhaust emissions, actively and effectively improve the ecological environment of the city, better promote the rapid development of the city, and better promote the overall improvement of people's quality of life.

5 Application of eco-city planning in urban planning and design

Urban ecological environment planning and design should be carried out from the following two aspects:

First of all, considering the bearing capacity of urban ecological environment, we should carry out the planning and design of urban ecology comprehensively. For example, the German city of kangshintanz has a north gernhard district with a total area of 5.7 hectares. Urban planners went into the area to conduct spatial utilization analysis, and found an area suitable for plant growth, with a large number of river channels inside, and relatively superior geological conditions. In order to achieve the needs of the ecological environment construction, should consider the carrying capacity of the urban environment, make the necessary adjustment of planning scheme, effective expansion of green space and finishing, can achieve the improvement of ecological environment, plants can fundamentally improve the quality of environment, avoid the existence of serious damage to the environment.

Secondly, from the perspective of multi-functional mixed city, it is necessary to carry out multi-angle and

all-round analysis and select the appropriate urban planning and design scheme. The German district of ritherfield, for example, has an internal sewage discharge system built in the 19th century. All the sewage in the city will be piped to the site and then discharged into the river after necessary purification treatment. As the 20th century progressed, the government structure of the area determined that 78 hectares of land would be developed for new areas, while the rest would be designated as nature reserves. In the new area, the cross shape is formed, the density of the whole area is relatively high, and the city forms a block-shaped enclosing structure. Under this design scheme, the space utilization rate inside the city is improved, the density in the central city is relatively high, and then gradually spreads to the outside, and the density continues to decline, and finally forms an overall structure with the natural environment. This design scheme, whether by walking or public transportation, provides favorable conditions to effectively limit urban pollution problems and promote the development of urban ecological environment.

6 Conclusion

To sum up, the city planning scheme, want to consider the local actual situation, combined with the economic and social development, considering the environmental carrying capacity, which can determine the most scientific and reasonable urban ecological planning and design, a comprehensive enhance the level of environmental quality and better improve the urban environment, to create a good living environment, improve the level of physical fitness, can also achieve the goal of sustainable development.

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