RESEARCH ARTICLE

(Online First)Analysis of Application of Environmental Engineering Construction in Ecological City

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Abstract:At present, with the continuous deterioration of the ecological environment and the gradual deepening of human understanding of the relationship between man and nature, the construction of an ecological city has become the trend and inevitable urban construction in the future. Finding harmonious development among cities, human beings, and the natural environment through the construction of the ecological environment is an inevitable choice for human and urban development. In order to provide sufficient theoretical exploration for the construction of ecological cities, this paper first introduced the two important concepts of ecological environment and environmental engineering and the necessity of ecological construction. On the basis of this, it analyzes the various obstacles and predicaments in the current construction of ecological cities and achieves the purpose of clarifying the problems; finally, it proposes corresponding countermeasures[1].

Keywords:Environmental engineering; sustainable development; ecological city

Introduction

As a gathering place for the people, build an excellent urban environment, and strengthen the control over the internal resources and environment of the city to cope with the challenges brought about by the sand, sewage and other natural environments. To provide the impetus for the sustainable development of the city, to create a healthy and green living environment suitable for long-term living, and then to seek a virtuous circle. Environmental engineering is a core element of an eco-city and its application deserves our in-depth study.

1. Introduction of related concepts

1.1 A brief introduction to the construction of ecological city

Due to the exploitation of the earth resources in the agricultural era and the uncontrolled emission of the earth's environment in the industrial age, the information age of twenty-first Century has entered the information age. The shortage of resources and the continuous accumulation of environmental pollution have become the two difficult problems in the development and survival of the human society, which needs to be solved urgently. This issue is already very urgent. The “garbage mountain”, “sewage pond” and “fog and haze” in the city, the desert and yellow sand outside the city are all reminding us that we must pay attention to environmental issues and strive for survival. In this environment, “eco-city” came into being and became a best choice for environmental construction and urban construction in various countries. In theory, the ecological city is to use the relevant principles and knowledge of ecology to seek the urban system of building a harmonious relationship between man and nature. It combines

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environmental engineering, system engineering technology and so on to coordinate the development of the city, the life of the residents, and the protection of the environment. The urban development and environmental protection are taken into consideration. In other words, the construction of the ecological city is to improve the utilization efficiency of resources, reduce the waste of resources, strengthen the rational management of the utilization of resources, maintain the health and balance of the ecosystem, and constantly improve the self-regulation of the system, repair the ability, and ultimately protect the protection of nature and the rights of human development[2].

1.2 A brief introduction to the concept of environmental engineering

The concept of environmental engineering has a broad and narrow sense. In general, environmental engineering in a narrow sense is a discipline that focuses on environmental pollution and control technologies. The research content mainly involves the sources, characteristics and corresponding prevention or treatment techniques of solid waste, industrial waste water, light pollution and so on. In a broad sense, the relevant systems, personnel, and regulations are all part of the larger system of environmental engineering. That is, the environmental system, environmental assessment, and environmental monitoring also fall within the category of environmental engineering concepts.

2. Analysis on the necessity of ecological city construction

At the moment, industrialization and urbanization have been carried out in every region of our country. However, due to the unreasonable development or poor management of these two processes, the industrialization of industrialization has brought a devastating blow to the ecological environment as well as the improvement of the people's life. The ecological environment has become more fragile, fog and haze weather, unqualified drinking water, and yellow sand, which have rarely occurred in the agricultural society in recent years, and these problems have emerged in the lives of urban residents. We can no longer ignore environmental issues and turn a blind eye. Therefore, in recent years, residents' environmental awareness has greatly improved. Rethinking the irrational and negative impacts of industrialized urbanization, and seeking a more compatible development model for cities, humans and the environment, building ecological cities has become an inevitable choice[3].

2.1 The inevitable choice to deal with the current resource and environmental crisis

We all know very well that the development of any city or community must depend on certain natural resources. However, the shortage of resources which we are facing with the predatory development, especially the depletion of some non renewable resources, can not continue to provide sufficient impetus for the continued development of the city. In the environment, it is also the same reason. In the process of development, the one-sided pursuit of economic benefits or lack of supervision leads to the destruction of the city to the ecological environment, and reduces the self-regulation ability of the ecological environment, which has affected the healthy life of the human being under this ecosystem. Whether it is the continued development of the above-mentioned supporting cities or the preservation of an ecological environment suitable for human habitation, the construction of ecological cities is an urgent and unique path that lies ahead of us. It is to promote resource conservation and environmental protection, and the need for an ecological city is obvious[4].

2.2 The inevitable choice for ensuring sustainable development of nature, mankind and society

Humans acquire the necessary materials for their survival and development from the natural world, naturally providing a living environment for human society and other systems of green vegetation, aquatic environments, and so on. We must clearly recognize that human beings are part of the natural system, and that the natural world is our home with other creatures. Once the natural environment is damaged by unreasonable development, it is difficult to make up for it and eventually destroy its own habitat. The shortage of resources and environmental pollution are the common difficulties for the people of the world. We should avoid overtaking them too much and change the short-term profits at

the expense of the sustainable development of human beings. The concept of sustainable development is integrated into the planning and construction of cities, and the problem of resource waste is strictly protected. Through scientific research and technology, it is necessary to search for new resources, improve the utilization rate of existing resources, and pay attention to the two or more recycling of resources. In terms of environmental protection, waste control is controlled through both technology and management. The ideal state is to treat wastes and turn waste into treasure. Our city is in a large natural system. The sustainable development of natural ecosystem has a precondition and decisive significance for the development of human society. Therefore, we must keep consistent and try to find a harmonious coexistence between the three people, nature and the city[5].

2.3 The only way to innovate the model of urban development

From the perspective of the development of human society and the concept of "people-oriented", safeguarding sustainable economic development and improving people's living standards are our constant pursuit. It is undeniable that the urbanization process has promoted China's economic development. But at the same time, we must realize that this process requires us to have a planned design and proceed in an orderly manner so as to avoid the unpredictable consequences of lack of experience. We think that there is a lack of overall systematic planning in the current urbanization so that the ecological environment of multi region is destroyed in practice. This kind of rough development will bring a series of hidden dangers to the construction of the city. Finally, it runs counter to our original intention. In order to build a livable city, we must first recognize the state of the ecological environment in which the city is located. We must comprehensively measure economic and environmental factors, and build a sustainable city with space for development. This should be our goal.

3. Obstacle analysis of ecological city construction and environmental engineering implementation

As the name suggests, eco-city is to use the relevant theory of ecology to seek to build a harmonious sustainable urban environment, and environmental engineering as a project to solve the problem of urban environmental pollution has a crucial impact on the construction of eco-city. Therefore, applying environmental engineering to the construction of ecological cities is a necessary and feasible solution. However, due to the existence of various factors, the promotion of environmental engineering and the construction of ecological cities still face many difficulties. Here, we have summarized and summarized the following perspectives in order to clarify the issues, do a good job of pre-cognition work, and support the formulation and implementation of late-stage program strategies.

3.1 The scientific nature of ecological city planning and design needs to be improved

Since the concept of an eco-city has been proposed for a short period of time, the construction of an eco-city is still in a fumbling process. In addition, ecological construction is a major issue, and our country's relevant experience is relatively lacking. Therefore, this work itself has a pioneering difficulty. In the exploration period, it is of great significance to formulate a relatively complete and scientific plan. On the one hand, it is possible to plan and analyze the situations that may occur in the practice and to have a clearer picture of the relevant inputs and construction progress. On the other hand, through the comparison of plans and the elimination of unreasonable factors, the waste of resources, time, etc. in practice can be reduced[6].

3.2 The technology and management methods of environmental engineering are relatively backward

In the actual operation process, we must rely on the specific technology of environmental engineering to complete the environmental management, which is one of the most direct elements. The applicability of the technology, the quality and effect of technology treatment are the key issues we must pay attention to. There are mainly sewage treatment, solid waste treatment and so on. First of all, existing wastewater treatment technologies need to be updated.

Generally speaking, there are two main types of wastewater in cities: industrial wastewater and domestic wastewater. The most common method adopted by most cities in China is to treat some of the underground sewage first for secondary use. In this case, there is a problem of whether the treatment is in place. At the same time, the imbalance of sewage treatment equipment and personnel across the country has also affected the progress of the overall wastewater treatment, which has affected the construction of ecological cities. Secondly, the promotion of environmental engineering must rely on management assistance, and the absence of urban management brings many difficulties to the construction of environmental engineering and ecological city. For example, when the growth rate of urban waste in China is high, how to reduce the total amount of waste through multi-stage waste separation and recycling, how to supervise the treatment of waste through the supervision system to prevent the secondary pollution caused by the treatment process, these problems all require corresponding management measures to implement and promote[7].

3.3 Climate change has made it more difficult to build ecological cities

At present, unstable variables such as global climate change have added difficulties to the construction of complex ecological cities. In the later period of the city, the density of the urban buildings became larger, the heat was difficult to spread, the pollution of the industry was aggravated and the self purification of the environment was reduced. In addition, the construction of the traffic system became more prominent in the city's “heat island effect”. This brings certain fluctuations to the city's light, wind direction, air and so on, and indirectly affects the temperature and precipitation in the city. It can be said that these factors make the urban ecosystem more unstable, weaken the self-regulation ability of the urban ecosystem, and the ecosystem is fragile.

4. Application of environmental engineering in the process of eco city construction

As a technology that is currently prevalent on a global scale, environmental engineering plays an extremely important role in urban construction projects and provides support for the construction of ecological cities. I will introduce the application of eco-city construction from environmental engineering technology.

4.1 Reclamation and utilization of sewage

The recovery of sewage is an effective means of saving water resources and promoting the reuse of water resources. It is also an important measure to reduce the pollution of sewage and protect the environment. However, the recovery and treatment of sewage must be treated with caution and prevent the expansion of water pollution caused by personnel problems and technical problems and the re-use of non-compliance. In the construction of the ecological city, we can make full use of the sewage reclamation project. The core of the construction of the sponge city in China is to organize the water system of the city with the low influence development model, in order to enhance its integrity and connection. At present, the rapid development of urban construction, the continuous expansion of the scale of the city, the increasing population of the city, and the shortage of resources as the typical representative of water resources are highlighted, the shortage of water resources and over exploitation of underground water make the urban ecosystem more fragile, which makes the recovery and utilization of sewage become inevitable. The sponge city proposed suggestions for the reuse of rainwater and sewage treatment. We think that the treatment method is relatively simple and the treatment efficiency is relatively high in view of the pollution which has not very serious pollution. After determining the basic water use standards, it can be directly applied to urban water use projects such as irrigation, cleaning and sanitation. For industrial wastewater, domestic sewage and other serious polluted sewage, it is necessary to adopt new equipment and strengthen technical problems. It is necessary to strictly control the treatment steps and qualified standards of these wastewater, so as to prevent the occurrence of two pollution problems[8].

4.2 Recycling of solid waste

In addition to the above-mentioned sewage treatment, another difficulty in the process of urbanization is the solid

waste that urban residents form and discharge in production and life. This is an important by-product of urban life and production, according to their nature, they can be divided into two categories: recyclable waste and non-recyclable waste. For the former, solid waste that can be recovered, we mainly control the total amount of emissions through recycling, classification, and recycling. On this basis, a special and perfect garbage disposal system should be set up to cooperate with the policies and regulations of the corresponding competent departments of the state, by strengthening the publicity of environmental protection ideas and promoting environmental protection methods, even economic means can be used to encourage residents to classify wastes to prepare for later disposal and recycling of waste.

4.3 Application of energy saving and emission reduction technology

As one of the key elements of eco city construction, the key of energy saving and emission reduction technology is to control, detect and minimize the carbon dioxide emission and energy use of the target city, so as to support the construction quality and efficiency of the ecological city. During the construction of environmental projects, we can use energy-saving and emission reduction technologies to achieve the transformation and upgrading of the industrial structure of the target cities, to control or rectify those enterprises with high energy consumption and to set the emission of carbon dioxide and other harmful gases, in order to improve the state of the urban environment and ensure the quality of the ecological city. In addition, the application of energy saving and emission reduction technology should also make rational use of urban natural resources. For example, photovoltaic power generation and wind power generation can be used to reduce urban energy consumption while ensuring clean production and improving resource utilization efficiency.

5. Conclusion

In order to ensure the continuous and in-depth advancement of China's urbanization process and help build a modern, strong country, we must put ecological city construction in a prominent position, cooperate with the construction of environmental engineering, make full use of new technologies and new methods, and give play to scientific and technological advantages. With the goal of resource conservation, environmental protection, economic development, and people's happiness life, we should seek the best fit between cities, humans, and ecology, make continuous efforts for the sustainable development of our country and the continuous improvement of people's living standards.

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