

Analysis of Land Engineering Construction and Development Based on Land Use Change

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Abstract

The land project belongs to a major project related to the national economy and people's livelihood. It has become a more concerned issue to further build it so that this project can be better developed. In the current process of land engineering construction and development, there are actually many problems. The existence of these problems is the main reason to encourage the progress of our land engineering construction. In the process of social development, land engineering is of great significance. The development of land engineering has promoted the development of the times to a great extent. The situation of resource consumption, ecological degradation and environmental pollution is very serious. Only by establishing the ecological civilization concept of respecting nature, conforming to nature and protecting nature can we ensure the development and progress of human civilization. In order to ensure the quality of the construction process, we must adopt a more engineering-friendly way and make some improvements in the actual work process.

Keywords

Land use change, Land engineering construction, Development analysis.

1. Introduction

With the continuous development of China's market economy, land engineering is also in a very broad market development environment, and China's related land engineering industries are also facing great opportunities for market development, among which the most important competitiveness is land engineering construction [1]. Land engineering refers to the process of improving the quality and quantity of land by rectifying the quantity of farmland or making specific utilization plans for the land according to its topography. With the continuous development of land engineering construction, the problems of building quality appear frequently, and people from all walks of life to all walks of life in our country have begun to pay attention to the problems of building quality [2]. Therefore, it is an important duty of our construction practitioners to solve the problem of short-lived building quality. The material guarantee of construction is the basic premise of China's economic development and the indispensable condition for industrial sector to develop material space. Land engineering refers to the process of improving the quality and quantity of land by rectifying the quantity of farmland, or making specific utilization plans for the land according to its topography [3]. China's land resources are diverse. How to adapt to local conditions and make rational use of land will be the main means to protect land resources and the environment. For land development units, the stage of land engineering construction and subsequent development is a key link, which needs to be highly valued by people at all levels. This link has a great impact on people's lives and property, and can also affect the economic, social and environmental benefits of land engineering projects. Therefore, it is of great practical significance to strengthen the control and management of land engineering construction and development [4].

2. Land use change and land engineering construction

2.1. Land use change

Faced with the increasing population-resource-environment problem, global change research has become one of the most active research fields in the world in recent years [5]. Among many global change problems, the study of land use/land cover change is particularly important for two reasons: First, land use/land cover change is the main cause of other global change problems, so it plays an important role in the study of global environmental change and sustainable development; Secondly, earth system science, global environmental change and sustainable development involve many aspects of nature and humanity, and among the global environmental changes, land use/land cover change can be said to be the most closely intersected problem between nature and humanity [6]. The hierarchical structure diagram of land use data is shown in Figure 1.

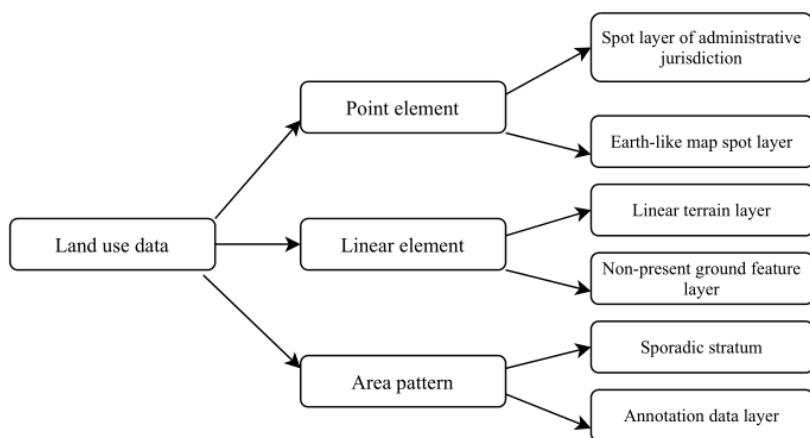


Fig. 1 Hierarchical structure of land use data

Conceptually, land use means land use status, social and economic attributes of land, etc. Land cover refers to the attributes of the earth's surface, including natural attributes and physical attributes, which together constitute the dual attributes of land [7]. Therefore, land cover covers a wide range of contents, and the changes in land cover are basically caused by human use of land. Therefore, if we want to know the change of land cover, we must know the situation of land use. In order to restore and reconstruct the modern process of land use change in China, and better forecast the trend of land use change, it is necessary to build a complete data platform with temporal and spatial characteristics that reflects the modern process of land surface evolution. The increase of accumulated temperature caused by climate warming has promoted the transformation from traditional pasture to cultivated land [8]. In addition, driven by local farmers and herdsmen and foreign investors' short-term benefits through grassland reclamation, the cultivated land area continues to increase. By understanding the contents and methods of land use, we can build a dynamic change model of land [9]. In this way, it is possible to build a model to predict the causes, processes and future development of land use change, and it is also the main method to study land use change. For a long time, in many research fields, people have built a large number of models from different angles, which have played a positive role in the study of land use/land cover change [10].

2.2. Engineering is an important means to improve land quality.

Ensuring the quality of land construction projects is conducive to making full and rational use of land resources and realizing the maximum utilization rate of resources. Limited land can guarantee the high-quality life of residents and promote the economic development of national land resources. Land refers to the applied materials, equipment and technical activities such as survey, design, construction, maintenance and repair, and also refers to the object of

engineering construction [11]. That is, all kinds of engineering facilities, such as houses, roads, railways, pipelines, tunnels, bridges, canals, dams, ports, power stations, airports, offshore platforms, water supply and drainage and protection works, which are built on the ground or underground, on land or in water and directly or indirectly serve human life, production, military affairs and scientific research. The land is vast, the natural conditions are complex, and the regional differences are great; Large population, poor economic foundation and backward science and technology all have a profound impact on the development and utilization of land resources. The idea of ecological suitability evaluation of land remediation project layout is shown in Figure 2.

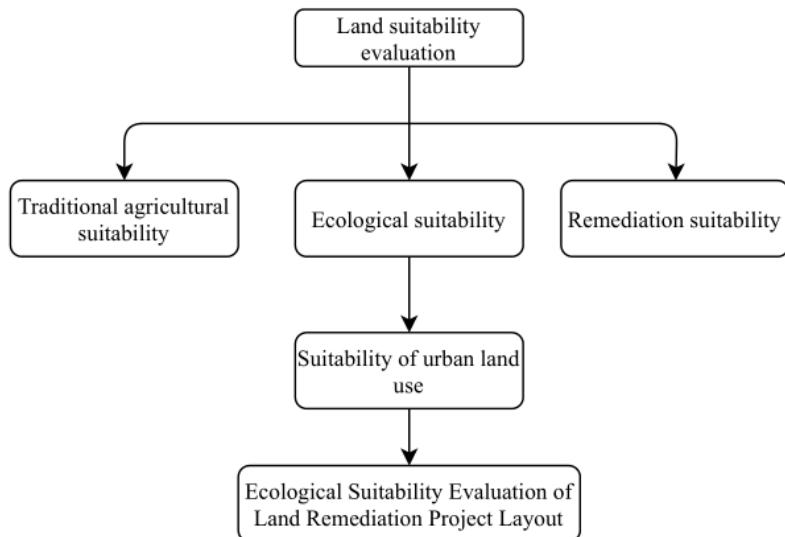


Fig. 2 Thoughts on ecological suitability evaluation of land remediation project layout

It is necessary to understand the positive significance of land engineering construction, so as to ensure that land construction can realize its due value. Land engineering is to solve the problem of land existence by means of engineering, to turn unused land into usable land, or to make efficient and full use of the land that has already been used, so as to achieve the goal of actively coordinating the rational development of man-land relationship. Planning and management of land engineering construction is conducive to promoting the development of ecological civilization. In land construction, we can make full use of limited resources, realize sustainable utilization of land resources and deepen the clean utilization rate of land resources.

The degradation of land resources is serious, which is mainly manifested in the continuous development of large-scale soil erosion, land desertification and salinization, as well as the pollution of large areas of land near towns with concentrated industries by solid wastes and sewage. There is a serious loss of cultivated land. Due to the influence of market economy and the needs of development and construction, all trades and industries are reaching for important places. Under the impact of this torrent, most of cultivated land in various regions is gradually being used for other purposes. In the planning of land engineering construction, we can change the polluted land resources with science and technology, save the metal polluted land with biochemical methods, restore the green land resources with policies, clean the city again, improve the existing land conditions, and make rational use of urban land.

3. Problems and strategies of land construction

3.1. Problems of land engineering construction

At present, there are still many problems in China's land resources. The land resources are seriously degraded, which is mainly manifested in the continuous development of large-scale soil erosion, land desertification and salinization. Industrial areas are mainly concentrated

around towns, causing serious pollution of land by solid waste and sewage and serious loss of cultivated land. At present, the land resources are vast, but the population base is large, so it is difficult to guarantee the quality of land allocated to individuals due to the lack of land resources per capita. Land resources are the foundation of the progress and development of the country and society, and economic development and urban development can't be separated from the support of land policies. Therefore, we should earnestly implement the construction of land resources.

Although the current economic and social development has made obvious progress, and the people's living standard has also improved significantly, the economic development has led to a considerable number of farmland and cultivated land being occupied, especially the economic development of cities. This situation leads to a great reduction of land resources from the quantitative point of view, and of course it can greatly limit the subsequent scientific development and utilization of land resources. The sharp decline of cultivated land directly weakened the grain production capacity. The contradiction between population and cultivated land supply and demand is prominent. With the development of economic construction, non-agricultural land increases, cultivated land decreases year by year, while population increases year by year, so the contradiction between population and cultivated land supply and demand intensifies.

Many rural areas indicate that the land has been occupied by cities. Farmers will lose their income if they don't have enough land to plant. And the resources of the whole land have been reduced to a certain extent on the basis of the scarcity at first. This is detrimental to the overall development. We have become more concerned about the changes in the ecological environment around us, and this social phenomenon sets stricter requirements for the construction of land projects. However, in the process of construction, land projects are often in a relatively obvious state of change, which can also lead to a significant decline in the construction quality of land projects to a certain extent, and also lead to other associated problems.

3.2. Effective strategies of land management

Nowadays, land remediation is mainly divided into land leveling engineering, water conservancy engineering, traffic road engineering, forestry engineering and power distribution system engineering. Only land leveling engineering is very close to land engineering, so it is necessary to identify the core foundation of land engineering, promote innovation and popularize land engineering technology, and effectively improve the quality of land engineering. We must pay attention to the preparatory work of land construction projects, and the perfection of the preparatory work can ensure the rationality of design, the simplicity of construction, the quality of the project and the economy of maintenance. A good preliminary preparation can improve the construction quality, shorten the construction time and save the construction cost. A scientific and perfect management system must be established for land construction, which is an institutional guarantee and a practical and effective guarantee.

At present, the construction of land projects should be realized, the construction of land project management mechanism should be strengthened as soon as possible, the management level should be improved, all land management departments should be clearly required to coordinate with each other, their management responsibilities and management scope should be defined, and the responsibilities should be assigned to people, so as to ensure the unification of powers and responsibilities in the process of land project management. Land construction must be strictly in accordance with the construction plans and standards approved by the state, and the preparation work should be carried out realistically according to different resource conditions in different regions. In the early stage of land engineering construction, the management of construction projects should be deployed step by step. It is necessary to timely

refer to the formal basis for project bidding, bidding, work supervision, contract planning and management, etc., and implement each work. Be sure to clarify everyone's responsibilities in the process of construction. Everyone is on duty, responsible for the project budget and supervision of their own areas. Besides, in the process of land construction, everyone in the engineering department is not allowed to leave the post without authorization, and every process and department must be guaranteed in terms of quality.

4. Conclusion

The social development process has brought certain pressure to the national land resources management. Based on this challenge, relevant departments and staff should actively raise their awareness, so as to realize the scientific, stable and rapid development of land engineering construction and make it the core goal in the field of land engineering. Land is the foundation of our country's development. If we don't protect our motherland's territory, how can we have a better future development? Besides, in the new era, if we want to ensure the development of the country, we must ensure the land utilization rate and efficiency of this country. How to carry out the construction and development of land projects is the foundation for ordinary people to settle down, and it is also a problem that we practitioners need to improve and discuss together. The construction and development of land is an important yardstick for us to measure the quality of China's construction industry. In the process of construction and development, we should also use high technology to vigorously develop the national construction economy.

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