Analysis on Water and Soil Conservation Measures of Water Conservancy Project Based on Urban Water Affairs Construction

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Abstract: With the needs of urban development and the continuous progress of human activities, Urban construction leads to more and more serious problems of urban water and soil loss, Which further affects the utilization of urban water and soil resources and ecological environment, In order to ensure the stability and harmony of the ecological system of urban construction, It is necessary to manage and prevent the soil erosion caused by construction, Water and soil conservation is an important planning in water conservancy project management, In water conservancy project construction, Comprehensive and long-term protection measures and means should be taken to prevent and supervise water and soil conservation management, So as to comprehensively control water and soil loss and improve rural production conditions and ecological balance, In this paper, The measures to be taken for water and soil conservation in water conservancy projects based on urban water construction are analyzed in detail, And then the key points and countermeasures for prevention and control of water and soil conservation are put forward

1. Introduction

In recent years, the country has vigorously promoted the ecological construction of soil and water conservation, relying on small watershed units, unifying the planning of the primary industry, and comprehensively improving the comprehensive management level of water, fields, forests, electricity, and roads [1]. With the support of local policies, soil and water conservation and ecological construction have achieved good results in terms of ecological benefits, social benefits, or economic benefits. But at the same time, what must not be faced is that there are also many problems in soil and water conservation [2]. In the specific construction process of water conservancy projects, it is a more effective solution to strengthen the importance of water and soil conservation. Its positive role in sustainable development is more prominent, and it should be paid attention to in the subsequent construction of water conservancy projects. [3]. It can be seen that the effective solution of various problems encountered in soil and water conservation, the widespread promotion and application of soil and water conservation work, and the effective implementation of water and soil conservation plans for water conservancy projects and the proposed countermeasures for the growth of China's national economy and agricultural development, Play a very good role in promoting and promoting [4].Ecological civilization construction and urban soil and water conservation are connected and inseparable. In order to meet the needs of urban soil and water conservation under the new situation, it is necessary to integrate the concept of ecological civilization construction into urban soil and water conservation, strengthen urban soil and water conservation construction, and deepen the research on Urban Soil and water conservation measures, It is the inevitable way to realize the effective protection and comprehensive utilization of water and soil resources, which can effectively promote the virtuous cycle of urban ecological environment, make the coordinated development of urban economy and resource environment, and build a new environment for urban development and construction [5].Ecological civilization construction and urban soil and water conservation are connected and inseparable. In order to meet the needs of urban soil and water conservation under the new situation, it is necessary to integrate the concept of ecological civilization construction into urban soil and water conservation, strengthen urban soil

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and water conservation construction, and deepen the research on Urban Soil and water conservation measures, It is the inevitable way to realize the effective protection and comprehensive utilization of water and soil resources, which can effectively promote the virtuous cycle of urban ecological environment, make the coordinated development of urban economy and resource environment, and build a new environment for urban development and construction [6].

2. Harmfulness Analysis of Soil Erosion

2.1 Causes and Harmfulness of Soil Erosion

Urban soil and water loss is the soil and water loss caused by human activities in the process of urban development and construction, and it is a new disaster that has serious harm to urban ecological environment and even social and economic development, including the destruction and loss of water resources and soil resources [7]. In urban construction, engineering construction involving site leveling, land reclamation, quarrying, and earth and stone abandonment will all cause water and soil loss in different degrees. However, people lack of awareness of water and soil conservation, construction units do not pay attention to prevention and control during development, and government supervision departments lack of enforcement, which makes urban water and soil loss worse [8]. In areas where soil erosion often occurs, the domestic annual loss of land loss due to soil erosion is about 2 million mu, the population and environmental capacity has dropped sharply, the investment is insufficient, the governance efficiency and speed are too slow, and the promotion of technical research in related fields is slow, etc. [9]. In general, the main causes of soil erosion are as follows. Insufficient awareness of natural geological disasters, environmental protection, and shortage of funding sources for governance. The ecological construction system of soil and water conservation is a subsystem of the existence and human natural social system. It has an inseparable relationship with the economic system and social system in the human society system, as shown in Figure 1.

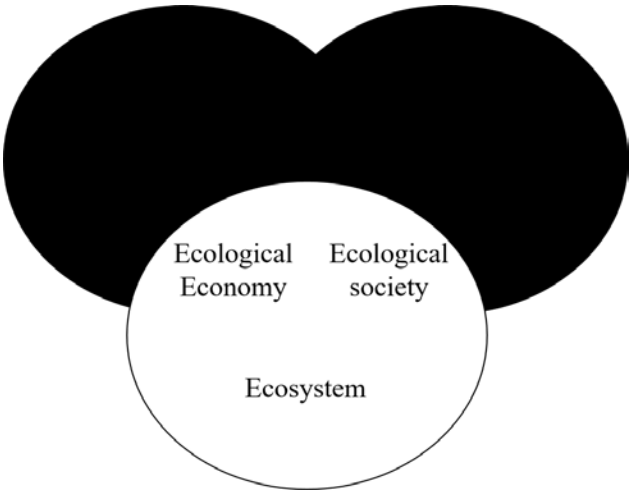

Fig.1 Relationship between Systems

Combined with various environmental threats faced by China's social development at the present stage, soil erosion is a more important aspect, and its harmfulness is more prominent, which is manifested as follows: the drought problem is becoming more and more serious, the flood disaster is becoming more and more serious, the debris flow is becoming more frequent, the benefit of water conservancy projects is affected, and the environmental problems are becoming more and more serious. In the process of urban development and construction, the land area involves destruction and has a wide range of influences, which will directly or indirectly disturb the original landform, destroy vegetation and water and soil resources. Urban water and soil loss is induced by natural factors and human actions. To sum up, it has the following characteristics. (1) The ground is composed of complex materials and various forms of soil erosion. (2) The intensity of soil erosion is large, and the temporal and spatial distribution is extremely uneven. (3) The damage is serious

and the loss is huge. (4) It involves a wide range and difficult governance. The hazards of urban soil erosion include (1) urban ecological environment destruction and serious environmental pollution. (2) Soil erosion has intensified and soil erosion has increased. (3) The water resources loss is serious, and the ground subsidence is aggravated. (4) Urban disasters are frequent and waterlogging is escalating; (5) Environmental costs are rising, and the cost and difficulty of treatment are increasing. (6) Affect the image of the city and hinder the economic development. (7) Harm to residents' production and life.

3. Countermeasures for Soil and Water Conservation of Water Conservancy Projects Based on Urban Water Affairs Construction

3.1 Measures for Soil and Water Conservation

A large amount of local materials are consumed during the construction of the project, and the project will plan to take materials along the line from the perspective of construction convenience and cost. However, it can be concluded from relevant data that many projects have different mining depths at the reclaimer due to different project locations and engineering quantities, causing serious damage to the local ecological environment, and also laying the roots of water and soil erosion. Therefore, in the construction process, it is necessary to strengthen the water and soil conservation prevention and control of the reclaiming field.

Table 1 Water and Soil Conservation Measures System of Civil Construction Engineering

Project type		Classification of measures	Main measures
Civil construction engineering	Residential area construction	Engineering measures	Flood prevention and drainage, slope protection, ground hardening
		Plant measures	Vacant land greening
		Temporary measures	Temporary hardening of construction roads, temporary drainage, temporary soil pile cover, drainage around the temporary soil pile, temporary soil pile protection
	Public facilities construction	Engineering measures	Flood prevention and drainage, slope protection, ground hardening
		Plant measures	Green space
		Temporary measures	Flood prevention and drainage, slope protection, ground hardening Green space Temporary hardening of construction roads, temporary drainage, temporary soil pile cover, drainage around the temporary soil pile, temporary soil pile protection Flood prevention and drainage, slope protection, ground hardening Green space Temporary hardening of construction roads, temporary drainage, temporary soil pile cover, drainage around the temporary soil pile, temporary soil pile protection

In the light of the effective implementation of water and soil conservation in the current water conservancy project construction, its positive role is really outstanding, especially in the satisfaction of sustainable development strategy, its value is more obvious, and the specific performance is: it can improve the flood control and drought resistance capacity, help avoid debris flow disaster, and improve the environmental protection effect It is helpful to improve the economic benefits of water conservancy projects. Based on the more value and benefits of water and soil conservation in the sustainable development of water conservancy project construction, in order to make all the values better presented, it is necessary to promote the soil and water conservation work in the relevant

water conservancy projects to be carried out better, Among them, the core implementation measures are: raising awareness of soil and water conservation, improving system construction, making overall planning, and innovating and applying various technical means. Measures for water and soil conservation of water conservancy projects in urban water construction are as follows: Self-embedded retaining wall is a flexible structure, which is developed on the basis of dry foundation masonry technology. It mainly relies on retaining blocks and fill soil, and resists static and dynamic loads by the self-weight of the composite formed by the connection of reinforced belts, so as to achieve a stable effect. It is widely used in rivers, coasts, highways, railways, gardens and landscapes, etc.

Fig.2 Schematic Diagram of Self-Embedded Retaining Wall

Comprehensive slope protection engineering is a protection method that combines vegetation protection on the basis of slope protection technology to achieve common slope protection. Generally, concrete, mortar/dry masonry, etc. are used to form a slope protection skeleton or use gabion, concrete interlocking blocks, Pavement such as prefabricated high-strength concrete blocks is made into cushions, and then grass or vines are planted in the frame and on the surface of the cushions. The advantage of this kind of project is that it has the stability of engineering protection and the ecological function of plant protection. The effect is fast and the investment is low. Topsoil stripping and stacking refers to the process of stripping and transporting the matured soil from the surface of the land to a designated site for stacking, and taking water and soil erosion control measures. After the main project is completed, it will be spread back to the surface of the disturbed site where plants need to be restored.

4. Conclusions

With the rapid development of modern society and economy, urban land is scarce, which can't satisfy the economic development. It gradually starts to develop to the surrounding rural areas, and reclaims the land and develops the economy in this area. Water conservancy project is an important foundation of China's water conservancy construction. In the process of engineering construction and development, due to various reasons, soil erosion is easy to occur, which affects soil and water conservation. Therefore, it is necessary to take certain engineering protection and environmental protection measures, strengthen the management in the project, and carry out land remediation in time when the project is completed, so as to improve the vegetation coverage rate, effectively control soil erosion, and ensure that the soil and water conservation work plays an active and effective role in the construction of water conservancy projects. We should also focus on water and soil conservation, so as to make the corresponding water and soil conservation show strong value for sustainable development, so as to fully enhance the efficiency of environmental optimization and improvement, and form ideal avoidance effect for various problems existing in current social development, which should be highly valued in the future.

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