Research on the Role of Water Conservancy Technology Innovation in Improving Water Conservancy Management

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Abstract: Water conservancy projects are closely related to people's daily lives. The construction of water conservancy projects can improve the utilization of water resources on the one hand, and improve the quality of life of people on the other hand. The continuous development of the society promotes the water industry to progress to a higher level, and also puts forward new requirements for the development of the water conservancy industry. The person in charge of the water conservancy industry should strictly regulate itself and improve management capabilities. The water conservancy technicians should constantly improve. The level of technology stimulates innovative thinking. The water conservancy project has developed rapidly in recent years, and the new development of water conservancy construction has greatly improved the management efficiency of water conservancy projects. Therefore, water conservancy projects should strengthen technical input, develop ways to promote, and improve water management capabilities. This paper starts with RTK technology and analyzes the effect of this technology on hydraulic engineering.

1. Introduction

In this era of rapid economic and social development, people's water demand is increasing, and the development of water conservancy has attracted more and more attention. Driven by the development of various science and technology, China's water conservancy technology has also made certain progress, and the realization of the water conservancy management capacity of China's water conservancy departments through the innovation of water conservancy technology has become an important task currently faced by water conservancy enterprises.

2. The Importance of Water Management

The continuous development of the society promotes the water industry to progress to a higher level, and also puts forward new requirements for the development of the water conservancy industry. The person in charge of the water conservancy industry should strictly regulate itself and improve management capabilities. The water conservancy technicians should constantly improve. The technical level, stimulating innovative thinking and improving water management capacity are the ineviTable requirements of social development. As a key link to promote social development, the importance of water management is also increasing. The improvement of economic level has led people to better improve their quality of life, and the resources they need are increasing. From the perspective of water conservancy management, managers should improve their overall quality and management level to meet the new social requirements. In some rural areas of China, because the locals always try to develop the economy and ignore the protection and construction of the environment, in addition to these, people have weak awareness of environmental protection and lack of advanced sewage pipe network systems. Serious pollution. In addition, some urban areas that develop industries are also facing the crisis of environmental pollution. The discharge of industrial wastewater is not strictly controlled, which seriously pollutes residents' domestic water and poses a threat to the survival of aquatic animals and plants. Improving the management of water conservancy can improve the phenomenon of environmental pollution to a certain extent, and also guarantee people's basic life. Therefore, relevant departments should attach great importance to water conservancy management, and find that the situation of polluted water bodies should be dealt

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with and punished immediately, listen to public opinion, and strive to build a sewage pipeline system to achieve the purpose of protecting water bodies and improving ecology.

3. Development Status of Water Conservancy Management

With the development of society and the progress of the times, all walks of life have entered the stage of modernization and high-tech development. The rapid development of industry and agriculture has turned the traditional manual technology into the current mechanization, modernization and automated production. However, while promoting the rapid development of the economy and bringing huge economic benefits, it has also caused great pollution to the environment. For a long time, people have paid too much attention to production, while neglecting and ignoring the important role of the environment. The environment on which people depend for survival has been destroyed, and the pollution phenomenon is very serious, which is not conducive to the governance of the environment, and is even more detrimental to the realization of the goal of sustainable development in China. Because the natural environment is destroyed, resulting in ecological imbalance, it increases the probability of natural disasters. If continuous rain occurs during the rainy season, it will easily lead to flood disasters. In the city, the existing drainage facilities are relatively old, the drainage pipeline facilities can no longer be adapted to the rapid development of the city, the rainwater can not be discharged in time, and the urban shackles are more serious. These are problems in water management, if they cannot be effectively solved It will pose a huge threat to people's lives and property, and affect people's traffic and travel.

Water conservancy management is an important task of the water conservancy department. It is also the foundation for building water conservancy projects. Strengthening water conservancy management can create a more harmonious and harmonious social atmosphere. Looking back at China's development process, the pace of economic development is accelerating, and the rapid development of China's industrialization has been realized. However, in the process of economic development, there have also been many examples of one-sided development of the economy and sacrificing environmental construction. Many departments only pay attention to The growth of GDP has neglected the investment in environmental protection. China is still in the primary stage of socialism. The state has introduced many positive policies to promote the development of the local economy, and all walks of life have shown a prosperous development trend. Under such circumstances, people’s awareness of environmental protection is weak, and relevant departments have not paid attention to it. Lead to many shortcomings and management blind spots in water management. The water conservancy project is still under construction and can solve the water supply problem in some water-deficient areas. In order to promote the management capabilities of water conservancy engineering enterprises, government departments should attach great importance to and give strong support, strengthen the funding of water conservancy projects, and at the same time formulate relevant laws and regulations to protect the environment. In addition, in response to the weak environmental awareness of the people, relevant government departments should open up publicity channels, popularize awareness of environmental protection, and strengthen guidance for people. Resources are limited. If resources are not protected and developed blindly, it will lead to natural disasters. In order to alleviate the damage caused by natural disasters, government departments must do detailed planning and construction work in advance, dredge urban drainage pipes, strengthen road drainage capacity, reduce urban shackles, and build sewage pipeline systems to protect water bodies and ultimately improve ecology.

4. The Role of Water Conservancy Technology Innovation in Improving Water Conservancy Management

With the rapid development of urbanization and industrial economy, the proportion of agriculture in national economic and social development seems to be getting smaller and smaller. This value orientation makes local governments not pay enough attention to rural environmental protection. In view of the fact that rural pollution presents the characteristics of “wide area, many

points, and complex pollution sources“, water conservancy science and technology innovation can play a role in improving the rural environment. As for the city, in the rapid development of the city, due to the weak awareness of water resources protection by some enterprises and the masses, and the imperfect urban sewage pipe network, coupled with inadequate ecological environment supervision, a large number of industrial wastewater exceeded the standard. The phenomenon of emissions and large-scale pollution is directly caused, which directly leads to different levels of pollution in the waters of some rivers and reservoirs.

On the basis of actively pursuing the investment of water conservancy management at all levels of finance, we must do a good job in safety management, mainly through engineering management, technical management and information management to ensure project safety. We must do a good job in legal system management, adhere to the law in accordance with existing laws, regulations, rules and regulations, and strive to achieve law-abiding, law enforcement, and law-abiding, ensuring that all management tasks are carried out in an orderly manner, and that management is managed. Make full use of water conservancy projects, water and soil resources and other advantages, and make great efforts to carry out diversified operations and strive to improve economic efficiency.

Informatization technology can provide flood prevention plans and support active support for meetings. It is a common problem that water conservancy informatization can not provide administrative decision-making services to executive leaders. In order to meet the needs of the water management department, it is necessary to add a flood prevention plan to the information system to provide early warning of floods. For example, when the flood reaches a certain early warning level, such a system can give a corresponding early warning plan. According to the plan, the leader will make corresponding scheduling decisions in the meeting. Before the decision, the system can simulate how much flooding is put and what effect it will have on the downstream.

RTK (Real-time kinematic) is a real-time dynamic measurement. For RTK measurement, as with GPS technology, it is still a difference decomposition calculation, but the difference is only real-time differential calculation. The application of RTK technology in water conservancy projects and the popularity of computers can revolutionize the traditional operation mode and greatly improve work efficiency. RTK is a new common GPS measurement method. Previous static, fast static and dynamic measurements require post-calculation to obtain centimeter-level accuracy, while RTK is a measurement method that can obtain centimeter-level positioning accuracy in real time in the field. It adopts the carrier phase dynamic real-time differential method, which is a major milestone of GPS application. Its appearance is engineering lofting, topographic mapping, and various control measurements bring a new dawn, greatly improving the efficiency of field operations. RTK technology has obvious advantages over GPS technology. High-precision GPS measurement must use carrier phase observation. RTK positioning technology is a real-time dynamic positioning technology based on carrier phase observation. It can provide the measurement station in the specified coordinate system in real time. The result of three-dimensional positioning and achieving centimeter-level accuracy. In the RTK mode of operation, the base station transmits its observations and station coordinate information to the rover via the data link. The rover not only receives data from the base station through the data link, but also collects GPS observation data, and forms differential observations in the system for real-time processing. At the same time, the centimeter-level positioning result is given, which is insufficient.

How RTK technology is applied in water conservancy is an important topic. In the traditional geodetic survey and engineering control measurement of various control surveys, triangulation and wire mesh methods are used to test, which is not only time-consuming, requires inter-point visibility, and accuracy. The distribution is not uniform, and the precision is not known in the field. The conventional GPS static measurement, fast static, pseudo-dynamic method can not know the positioning accuracy in real time during the field measurement process. If the measurement is completed, it will be found after returning to the internal processing. If the accuracy is not satisfactory, it must be returned to the test. RTK is used for control measurement, and the positioning accuracy can be known in real time. If the point accuracy requirement is met, the user

can stop the observation and know the quality of the observation, which can greatly improve the work efficiency. .

RTK technology can also be applied to topographic maps. In the past, when measuring the topographic map, it is generally necessary to establish a map root control point in the survey area, and then put a total station on the map root control point with the small flat panel map, and now develop into the field total station and electronic handbook. Cooperate with the ground object coding, use the large scale mapping software to carry out the mapping, and even develop the nearest field electronic flat mapping, etc., all of which require the measurement of the surrounding landforms and other broken points on the station, these broken points They all look at the station, and generally require at least 2-3 people to operate. If the accuracy is not met in the puzzle, they will get the field to go back to the test. Now when using the RTK, only one person is carrying the instrument in the ground to be measured. Stay in the department for a second or two, and input the feature code at the same time. You can know the accuracy of the point in real time through the handbook, return to the room after measuring a region, and output the required topographic map by a professional software interface. With RTK, only one person needs to work, and does not require inter-point communication, which greatly improves work efficiency. The use of RTK for hydraulic engineering measurement is not limited by weather, terrain, visibility, etc. The section measurement operation is simple, the work efficiency is several times higher than the traditional method, and the manpower is saved.

Strengthen organizational leadership. All relevant leading cadres should implement the scientific development concept in place, and actively implement the strategic policy of rejuvenating the country through science and education, improve and improve the leadership of water conservancy science and technology work, and put the water conservancy science and technology work on the agenda, directly set as the assessment. The mechanism system of cadre effectiveness. According to the actual characteristics of water conservancy projects, the scientific and rational development plan for water conservancy science and technology will be scientifically and rationally formulated, and various measures that can promote the development of water conservancy science and technology will be put in place to better help the advancement of water conservancy science and technology. All relevant leaders should pay more attention to scientific knowledge, play a leading role, play a leading role, and make decision-making more scientific and scientific in a scientific way.

The quality of the construction quality of water conservancy projects reflects the level of project management. High-quality management can reduce the construction cost and improve the economic benefits of enterprises. Checking the feasibility of the construction plan, the degree of matching between technology and engineering, the impact of the project on the environment and the quality of the project can ensure the construction progress and construction quality of the project. Strengthening the training of construction management personnel of water conservancy projects can improve the construction management level to a certain extent. The construction site management can directly improve the safety construction quality and construction skills, ensure the efficiency and quality of the project construction, reduce or even avoid construction accidents.

For the construction of water conservancy projects, the main project must be constructed by the relevant departments themselves to ensure the quality of the construction of the water conservancy project. When assisting in the construction of auxiliary projects, there should be no contempt or sloppy psychology. The contractor should be strictly examined to verify whether the contractor has the technical strength, economic strength and the contractor itself. Qualification. During the construction process, special water conservancy construction quality management personnel shall be dispatched to strictly monitor the water conservancy projects constructed by the contractor to prevent potential quality hazards in the construction of water conservancy projects.

5. Conclusion

To achieve steady development of water conservancy projects, it is necessary to continuously improve the water conservancy project management system. Relevant enterprises must assume certain social responsibilities, improve water conservancy management capabilities, and fully

demonstrate the advantages of information technology in management technology. At the same time, broaden the promotion channels and actively adopt new ones. Programs and new technologies. As the leading force in management technology, RTK's superior technology can promote the construction of water conservancy projects. The adoption of new technologies such as RTK by water conservancy engineering enterprises is a reflection of the development of the times and a powerful driving force for promoting their own management capabilities, ensuring water conservancy projects. The smooth implementation of the benefits of the community.

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