

Study on the Water Information Construction and Its Difficulties

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Abstract: Based on the analysis of the status quo of Chinese water conservancy informatization construction and its gap with foreign countries, this paper systematically analyzes in depth the problems such as lack of understanding, poor public platform and nonstandard market faced by China, hoping to put forward some suggestions and reference.

1. Introduction

Since 2001, the construction of water conservancy informatization in our country has been carried out in an all-round way across the country, and the "National Informatization Plan for Water Conservancy" was formally promulgated in 2003. At present, the National Hydrological Database, which is connected with key flood control provinces, municipalities directly under the Central Government and watershed agencies and hydrological departments, "Has been initially completed; the" National Flood Control Command System Project "covering the whole country has also completed the overall design and has entered the phase of construction of the project. Some of the projects have been put into operation; the project" Digital Yellow River "and" Huaihe River "have started to be started, With the further development of communications, satellite and computer technology, various water conservancy systems in the country have initially realized the collection and transmission of water and rain information, Receiving, processing and monitoring on-line flood forecasting. In 2003, during the flood control of the Huaihe River, the Ministry of Water Resources successfully applied the "satellite remote consultation system". At the same time, with the opening of such information websites as the Ministry of Water Resources, China Water Conservancy, Water Science and Technology, and Water Information Network, Water conservancy has been initially socialized; in recent years, with the promotion of e-government in various water conservancy departments, Remote file transfer, document management and records management has become possible, few departments have begun to achieve office automation [1].

2. Chinese water conservancy information with the foreign gap

According to the survey results of Chinese water conservancy modernization research group in February 2004, the informatization of Chinese water resources informatization (referring to flood warning, water resources dispatch and aquatic ecological monitoring System coverage, automation rate of water conservancy facilities and the degree of realization of e-government, etc.) only 30% of the status quo, while developed countries such as the United States and Japan in the 1990s the water informatization index reached more than 95% .In Chinese water conservancy informatization construction The gap between foreign countries is manifested in the following aspects:

Foreign water conservancy departments pay more attention to the basic data. The data of hydrological stations and water users are generally managed by computers and stored in files or databases. In our country, although there are enough experiences in many aspects, they do not form a complete According to the data from the developed countries such as the United States, Japan and other developed countries, water conservancy information database has been under construction since the 1960s. By July 2001, the National Water Information System Website, founded by the US Geological Survey, Tens of thousands of Geological Survey data collection points on the collection of data, users can get real-time data and file data online [2]; Chinese water conservancy construction of basic data is facing the shortage of stations, the lack of basic data on the status quo,

the survey data show, an average of 3700 hm² in large-scale irrigation areas in our country has only one water level. When the traffic observation points and the unit control points reach 94km, it is impossible to monitor and feedback water users' water use information in real time.

Western developed countries IT industry more developed, with the information technology supporting communications and computer network construction project is more complete, and Chinese public water conservancy information network has not yet been shared across the country, some means of communication is still relatively backward. According to China The survey conducted by the Telecommunications Administration of the Ministry of Information Industry shows that at present, the penetration rate of the Internet in China is only 4%, while that in North America and Europe has reached 39% and 27% respectively, while that in the Asia Pacific region has also reached 22%. Labourism in the Internet has seriously hampered Chinese water conservancy Information construction [3].

Developed countries, information technology required by the national information technology department unified research and development, information technology in the standardization and versatility done well, and most of the information technology software developed in our country there is not universal, performance Single problem. Water information software developed more mature, more emphasis on its versatility and modularity in the software development process, the development of the information software has good applicability and operability in the application [3]. Our country The research and development of water information software has just started, and most of them are completed by some water conservancy informatization companies. Due to the existence of technology monopoly among the companies, the developed software can not guarantee universality. In addition, the software developed by most informatization companies only Is targeted at a certain area of water conservancy information construction, a single performance, can not be promoted across the country.

3. Difficult water information construction

Although the construction of hydraulic engineering information has been carried out nationwide, but some areas did not recognize the importance of information technology is still engaged in the image. In some areas, even water conservancy informatization work is simply understood as adding a computer office and building an information network. This has a huge gap with the principle of water conservancy informatization. The most basic original construction that produces this situation covers a nationwide scale The main work of water conservancy information database is to build information archives. Because most areas are despising data collection and data processing, leading to poor information technology foundation, many of the data are not digital, still remain in the paper, photos, and information requirements of the larger gap. Moreover, the information storage method of such traditional media makes the storage of database information not be accomplished in a single step, and requires manual input to transfer the data to the database, which requires a large workload. Computer technology and water conservancy construction projects compared to the latter part of the technology. Engaged in water conservancy project construction staff understand computer technology is relatively small, and computer technology to grasp more comprehensive IT personnel and do not want to work in the water conservancy department, leading to personnel out of stock [4].

The construction of hardware and software in informatization construction must go hand in hand, but since the informatization construction in some parts of our country is only blindly engaging in "image engineering", there is a tendency of attaching importance to hardware input rather than software development investment. Although some fields are relevant Software development, but there is a single performance, poor scalability, low versatility and other issues. This not only makes the hardware unable to fully exert its effect, but also has difficulties in operation and maintenance of the system. The follow-up work such as data analysis and analysis still needs to be manually operated without really reducing the workload and improving work efficiency, resulting in a large amount of investment waste.

The water conservancy construction funds in our country have long been invested by the state and the local water conservancy departments at all levels rely on the national water conservancy

investment for information construction. This will inevitably result in a serious shortage of investment in water conservancy information, resulting in weak infrastructures for water conservancy construction and information sources. Lack of development, information collection and transmission generally more backward issues. So far, Chinese water conservancy has not yet formed an information network covering the whole industry, and has not formed a nationwide application system in such important fields as flood control and drought relief, water resources management, water quality monitoring, water and soil conservation involving national economy and people's livelihood [5].

Chinese water conservancy information systems engineering market is still not standardized, there is no perfect market mechanism. In the early stage of informatization construction, the lack of a feasibility analysis of the project and the user needs a comprehensive and accurate analysis of the lack of capacity of information engineering contractors, credit, qualification identified, which gave some information technology companies fraud provided The opportunity to take advantage of; in the process of building information, the lack of strict control of the progress and funding of the project, which resulted in many information projects unsuccessful, imperfect, long-term can not accept the mouth, "rubbish residue" project after another.

4. Chinese water conservancy construction of information countermeasures

At present, the task of water conservancy modernization in our country is arduous. We must profoundly understand the important role of water informatization in the reform and development of water conservancy at present and in a future period. We should take water conservancy informatization as a strategic task and pay close attention to it. Water conservancy system should be held regularly water conservancy informatization training courses, water conservancy information construction front-line personnel to implement certificates, at the same time can use the website, newspapers and popular water informatization knowledge [6].

The informatization of water conservancy is a systematic project that covers the entire country. We should comprehensively plan and unify the standards with the long-term and short-term goals of informatization construction and promote the construction of water conservancy informatization in our country. At present, provincial water conservancy departments should make full use of existing resources and formulate standards and rules for the implementation of informatization of all provinces and regions under the macro-guidance of the "National Plan for Water Resources Informatization". In formulating the detailed rules, Work needs, adopt a unified technical standards and norms, laying the foundation for network and resource sharing, we must resolutely put an end to low-level development and duplication. At the same time, it is necessary to strengthen the maintenance and management of water conservancy informatization infrastructure and networks. All provinces and localities should establish independent water conservancy informatization special agencies and carry out the information-based special-responsibility system to ensure the normal operation of water conservancy informatization projects.

Water conservancy information technology is high in science and technology, capital investment. To solve the problem of capital investment in information construction, we can implement the investment model of sub-construction and grading burden. In addition, water conservancy information construction should be included in the planning department at all levels of water conservancy capital construction plans, financial budgets at all levels should have water conservancy informatization subjects! Water conservancy informatization funds in water conservancy should account for a certain proportion! Yearly, step by step construction, Gradually improve. In reservoirs, watercourses, irrigation areas, hydropower and other new and renovation projects, according to the nature and scale of the project, determine the proportion of funds for the project information construction, to absorb some of the units and enterprises that benefit from water resources informatization, In accordance with the relevant provisions, the implementation of multi-channel financing. In strengthening the management of funds at the same time, take various measures to save money.

To establish a national public network of water conservancy information that can radiate water, it

may first establish its own database of information and information resources and the information network of water conservancy informatization at the water conservancy departments in all parts of the country, and then achieve the connection with public networks that radiate nationwide. Water conservancy departments throughout the water conservancy information network in the process of setting up, to achieve a unified standard, standard interface to connect with the public network to achieve the full sharing of information resources within the water conservancy system. At the same time, water conservancy websites at all levels should have such functions as online data transmission, voice and video transmission, non-confidential documents and online exchange of information. We should also be able to make use of the water conservancy websites at all levels to promote open government affairs, strengthen the links between government agencies and the community, publish public notices of tenders through the Internet, and publicize the water conservancy policies and regulations and handling procedures to facilitate social supervision.

5. Conclusions

With the economic and social development in our country, the three major public hazards facing water resources such as floods, drought and water and water pollution have become increasingly prominent and have begun to restrict the development of the national economy and society. To solve these problems, we must Break through the traditional water control ideas and rely on scientific and technological progress. In the modernization of water conservancy, we must vigorously promote the process of water informatization, water conservancy informatization as a strategic task, through the national flood control system and a series of systematic construction, improve information collection, Transmission of timeliness and automation level, in order to achieve the optimal allocation of water resources to provide means for flood control and drought provide the basis for the water conservancy to better serve the economic and social development to create conditions in this process, water information is the only way to promote water Unified management of resources, optimization and realization of water conservancy modernization, and finally the construction of Chinese "digital water conservancy" project.

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