

The experience of Zhejiang province to implement the most stringent water resources management system

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Abstract. This paper introduces the main practice and experience of implementing the strictest water resource management system in Zhejiang province, and provides reference for other regions to implement the strictest water resource management system.

1 The situation of the most strict water resource management system in Zhejiang province

In 2012, opinions of the people's government of Zhejiang province on implementing the strictest water resource management system to comprehensively promote the construction of water-saving society put forward that by 2020, two-thirds of counties (cities and districts) in the province will basically meet the standards for water-saving social construction, and the water-saving social pattern will be basically formed, and the strictest water resource management system will be initially established. Issued in 2015 "about Zhejiang provincial water resources bureau released the first batch of water-saving society construction standard county (city, area) list to start the second batch of county (city, area) of the construction of water-saving society", a third of the county, Zhejiang province (city, area) achieves the water-saving society construction standards, and launched the second batch of 20 counties (city, area) the construction of water-conserving society. In 2017, the implementation plan for promoting water-saving social construction in Zhejiang province (Zhejiang water conservancy [2017] no. 8) was issued to launch the third batch of 32 counties (cities and districts) of water-saving social construction. Subsequently, according to the national deployment, the implementation plan for the construction of the county water-saving society of Zhejiang province (2018-2022) was issued, requiring that by the end of 2018, 24 counties (cities and districts) should meet the national standard of the county water-saving society, and by 2022, more than 95% of the counties (cities and districts) in the province should meet the provincial standard of the county water-saving society[1].

By the end of 2017, Zhejiang provincial government has carried out the assessment of the most stringent water resource management system for 2014-2016 for all cities and districts. In Zhejiang province during the period of "much starker choices-and graver

consequences-in", "water conservation priority, spatial equilibrium, system management, hands power" policy as a guide, deepen the reform, and to implement the most strict water resources management system at the core of promoting water-saving society construction important gripper, and strive to strengthen the leadership of "three line" rigid constraints, and vigorously promote the industry, agriculture, life saving water, increase the intensity of unconventional water resources development and utilization, to further improve water use efficiency and benefits. We will establish a monitoring and warning mechanism for the carrying capacity of water resources, strengthen the primary responsibility of local governments for conserving and protecting water resources, strengthen the administration of water conservation in accordance with the law, carry out standardized management of water conservancy projects, strengthen the construction of water ecology, and make innovations in the management of water resources. Full implementation of the country's most strict water resources management system requirements, by 2020, two-thirds of the county (city, area) to achieve water-saving society construction standards, the province's basic to establish relatively perfect water resources management system and supervision and management system, basic build water-saving society, optimized allocation of water resources, increasing water use efficiency and benefit, economic and social development will markedly enhance its capability of water security.

2 Main methods

2.1 The indicator system

The "12th five-year plan" assessment indicator system: according to the interim measures for the implementation of the strictest water resource management system in Zhejiang province, the "12th five-year plan" assessment indicators are divided into 3 major indicators: total water consumption control

indicators, water efficiency control indicators, water function area restriction and pollution control indicators. Total water consumption control indicators include total water consumption, living and industrial water consumption. The water efficiency control indicators include three indicators: water consumption of 10,000 yuan industrial added value, effective utilization coefficient of farmland irrigation water, and water consumption of 10,000 yuan GDP. The indicators of water pollution limitation in water functional areas include three indicators: water quality compliance rate of important river and lake water functional areas, water quality protection assessment of river sections across regions and cities, and water quality compliance rate of urban water supply sources.

Assessment indicator system of "13th five-year plan" : based on the assessment method of the most stringent water resource management system and the implementation plan of "13th five-year plan" in Zhejiang province, the assessment indicators of "13th five-year plan" are divided into three categories and 9 indicators. Compared with the assessment indicator system of "12th five-year plan", the total amount of pollutants entering the river is increased to reduce emissions. The control indicators of "three red lines" are divided from provincial level to prefecture-level city, and then from prefecture-level city to county (city, district).

2.2 The optimization of water resources management system

Water intake permit system: revised and promulgated the "measures for the administration of water intake permit and water resource fee collection in Zhejiang province", promoted the management of water intake permit in agriculture, standardized the compilation of water resource demonstration table, and strengthened the file management of "detailed rules for the construction and management of water access regulation archives".

Demonstration system of planned water resources: establishment of demonstration system of planned water resources is not a pilot demonstration system of regional water resources.

The system of paid use of water resources: the standards for the collection of water resources fees have been adjusted to strengthen supervision and inspection.

Planned water consumption system: officially issued and implemented Zhejiang water quota, revised and issued the annual water intake plan management regulations of Zhejiang province to achieve full coverage of planned water use[2].

Water resources protection: the regulations on the protection of drinking water sources in Zhejiang province was promulgated, and the first group of drinking water sources above the county level were published. Push forward regulation of sewage outlets into rivers.

2.3 Advance of engineering measures

We completed ten billion water resources protection projects: the construction of Huzhou totan reservoir, Ningbo zhougongzhai reservoir, Longyou muchen reservoir, Tiantai huanglong reservoir and other water sources projects, the first phase of the taipu river water intake project in Jiashan, the Dongtou land area water diversion project, the Zhoushan mainland water diversion project, eastern Zhejiang water diversion project and other water diversion projects. The overall pattern of water resources allocation project has taken shape.

We launched a project to provide drinking water to tens of millions of rural residents. Since 2003, more than 12 million rural residents have had access to safe drinking water.

We Promoted water-saving projects: launching and implementing four million water-saving irrigation projects; We will accelerate the transformation of water supply networks and promote the upgrading and innovation of traditional industrial technologies.

Construction of unconventional water utilization project: since 2005, the provincial government has allocated 10 million yuan of special funds every year to support the development of seawater desalination industry. At present, the province has a desalination capacity of about 200,000 tons per day.

In accordance with the concept of harmonious water control, in combination with the construction of new rural areas, we organized and implemented the "clean water river course renovation project", vigorously promoted the construction of small ecological clean river basins in the province, and completed a total of about 35,000 kilometers of cleaning and renovation of river courses, and carried out a comprehensive daily cleaning work to promote the improvement of water ecological environment.

We will carry out soil and water conservation work, give full play to nature's ability to repair itself, and focus on strengthening soil and water erosion control in source areas and water conservation areas. At the same time, we will strengthen supervision over the formulation and implementation of water conservation plans for construction projects to prevent man-made soil erosion.

We will push ahead with the construction of sewage treatment facilities, so that there will be sewage treatment plants in counties and counties.

2.4 Creation of water-saving carrier

Issued water-saving irrigation areas, water-saving enterprises to establish standards, comprehensively promote the creation of water-saving carriers.

2.5 Supervision and inspection

The assessment method for the strictest water resource management system in Zhejiang province was issued in 2013 and revised in 2017. In 2016, the assessment results were included in the performance assessment of leading cadres by the organization department of the provincial party committee.

3 Experience gained

The strictest water resource management system has become the core of the construction of water-saving society and water ecological civilization city in Zhejiang province. In water resources management in Zhejiang province "twelfth five-year" period, to perfect the system and mechanism innovation, improve the institutional system, demonstration project construction, enhance the promotion of water regime, etc was improved and the measures to further the implementation of the water resources management system, the total water control, the control efficiency of water use, continue to strengthen water function limit, further, to further improve water management infrastructure. During the 13th five-year plan period, Zhejiang province closely combined the work arrangement of "five water co-governance" with the implementation of the strictest water resource management system, increased the construction of water conservancy infrastructure, accelerated the construction of water-saving society and water ecological civilization, and further enhanced the carrying capacity of water resources and water environment in the province.

3.1 System improvement and innovation are the core foundation of water resource management

Institutions and institution building have always been promoted as the core work. Water resources management is a complex and systematic project involving a wide range of areas, which needs long-term persistence and joint construction by the whole society. The long-term and effective management system has become a key link in promoting the construction of water-saving society in an all-round way. Each region has established its own water-saving management system according to local conditions, established and improved water-saving management institutions, standardized and improved water-saving management work, studied and formulated plans and policies, etc., explored and innovated the system, formed a system model with regional characteristics, and provided a solid foundation for water resource management.

3.2 Government leadership is an important guarantee for advancing all kinds of work

The strictest assessment of water resources management system will be incorporated into the assessment of party and government leaders' "five water co-governance", circular economy and ecological province construction, and water-conserving society construction. The government shall establish a coordination mechanism to divide the objectives and tasks into various departments concerned. The government implements the target responsibility, establishes the department linkage mechanism, and carries out the target responsibility assessment regularly. These efforts provide a performance incentive mechanism for advancing the strictest water resource management system.

3.3 The construction and demonstration of carriers is a key link in the construction of water-saving society

The organic integration of carrier construction and system implementation, through the construction of water-saving carrier gripper, worked out the water-saving units, enterprises, irrigation area, such as construction standards, in the standard into about water management and water user responsibilities, water-saving management system and evaluation index, weak links and basic work in advance, for various industries in the whole society provides a carrier construction and system construction with the combination of flexible platform, also in order to further straighten out water-saving management system provides a unified basis. By carrying out the construction of water-saving carrier, promoting the transformation of water-saving technologies in industries, agriculture, urban and rural life and other fields, it has played a guiding role in promoting the water-saving work of the whole society.

3.4 According to local conditions and time-sharing is the dominant mode of water resource management

For resource-deficient areas, water-saving has become a spontaneous internal power, with emphasis on the improvement of water use structure, water efficiency and non-conventional water conservancy. In the engineering water shortage area, give full play to the role of government regulation, in economic means to strengthen regulation; In water-scarce areas with water quality, pollution should be controlled at the source, supervision should be strengthened, and water-saving and emission reduction should be promoted. In regions with relatively abundant water resources, attention should be paid to water conservation, source protection and "water conservation and thrift" mode. The construction of water-saving society should be based on the reality of regional economic and social development by solving the problem of water resources and restricting conditions.

In different period, the economic and social development goals and wait a new policy for water-saving society construction put forward new and higher requirements, every stage have different regional focus on the surface, the new and old water issue, the water-saving society as a platform, according to do routine work in stages, "short board", advantage, the pilot exploration and other categories, combining with the field demand to carry out the appropriate red blue yellow hierarchical management of water resources the dominant way more and more obvious.

3.5 Scientific and technological innovation and increasing investment are important supports for water management and construction

Along with the construction of water-saving society, and the most stringent water management system and how to carry out comprehensive economic and social

development, ecosystem protection and water saving, the coordination between the systemic problems need to be solved is more and more complex, many decisions require scientific basis, such as in the implementation of the national assessment of target requirements problems, combining the reality of water resources management in Zhejiang province has carried out eight evaluation index decomposition technique, county (city, area) index system of water-saving society construction, regional water amount and water use efficiency evaluation method, etc., research on the key technologies of management needs, the role of science and technology innovation and technology support has become increasingly obvious.

At the same time, the implementation of the goal and task of building a water-conserving society needs to constantly increase the fund input, and the fact that some areas have less local financial input becomes a constraint factor in the actual work. The establishment of a sound reward and punishment and incentive mechanism is an important support for the comprehensive development of water-conservation society[3].

4 conclusion

Zhejiang must be guided by the idea of "water saving priority, space balance, systematic governance and two-handed development". We should follow the overall approach of "overall planning, coordinated development, focusing on key areas and promoting comprehensive development", implement the scientific outlook on development and stick to the strategy of sustainable development. We should focus on improving the utilization efficiency and efficiency of water resources, coordinate regional water-saving plans, strengthen the control of water consumption intensity and total amount, and create water-saving systems and mechanisms. On this basis, we will gradually implement the strictest water resource management system, optimize the allocation of water resources, and comprehensively promote the construction of a water-conserving society.

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