Study on the Realization Path of Water Resources Audit Under the River Chief System

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Abstract: In recent years, China has been paying more and more attention to the construction of ecological and social civilization. In order to protect and improve the governance of the water resources environment, the State Council has proposed a special administrative system - the river chief system, which has become the focus and basis for the supervision and audit of natural resources and human assets. In this paper, we establish an audit system for water resources and the environment to effectively promote ecological and environmental governance and to promote a sound "river chief system".
Keywords: Water Resources Audit; "River Chief System"; Ecological Civilization Construction

1. Introduction

Since the reform and opening up, China has experienced rapid economic development. However, the ecological and environmental ills associated with high economic efficiency have also emerged, with problems such as scarcity of resources, environmental inefficiency and ecological degradation becoming increasingly prominent. The environment is fundamental to ecology, and rivers are the lifeblood of the environment. With their multi-functional functions of flood control, drainage, irrigation, water storage and navigation, rivers have become an important carrier of water resources and an important part of the sustainable development of the livelihood of society and ecological civilisation. Therefore, solving river pollution problems and implementing river management should be an important direction in the construction of ecological civilisation, and water auditing, which is established at the core of river management, should be an important criterion for its assessment.

The river management system is an inevitable requirement for implementing the concept of green development and promoting the construction of ecological civilisation, and is an institutional innovation for improving the water resources management system and safeguarding national water supply. The basin water management performance audit provides strategic support for the integration of the river basin management system with the actual situation, which is conducive to maximising the river and lake management functions of the river basin management system and deepening the differentiated performance assessment and reporting mechanism of the river basin management system.

This paper analyses the issues and contents of the river basin water audit and discusses ways to implement the river basin water audit in order to promote the river basin water audit and facilitate the establishment of a sound river basin system.

2. Content of water resource audits under the river system

As the content and scope of natural resource audits vary widely, it is not yet a standardised and universal system. The study of the content of water audits under the river chief system aims to identify problems in the implementation of the river chief system, promote the reliable implementation of the river chief system, facilitate the sustainable and intensive use and effective protection of resources, study a range of features of water audits under the river chief system, and improve the natural resource audit system. At the same time, it provides a basis for exploring the different contents of water audits and improving the natural resources audit system. The content of water audits under the framework of the River Governor System is divided into the following areas.

2.1 Water resources protection

Water resource protection is an important element of the river length system framework, and auditors should focus on whether the three red lines of water resources development and use control, water functional area pollution control and water use efficiency control meet their targets. Whether water use efficiency and the adoption of water-saving technologies in water-scarce and environmentally sensitive areas have improved; whether the pollution carrying capacity and limited total volume of wastewater in water functional areas exceeds the targets; whether wastewater discharges meet the targets; and whether the total volume of wastewater meets the targets. Whether the effluent discharge capacity and total volume of effluent in water functional areas exceeds the standard; whether the rivers and river source protection zones meet the zero discharge standard and other binding parameters; whether ecologically fragile areas, ecologically sensitive areas and areas of impaired water bodies are identified and strictly controlled.

2.2 Water pollution prevention and control

Once natural resources are seriously polluted, it is very difficult to recover and the chances of recovery are very low. Therefore, the audit process should focus on whether the control mechanism and assessment system for discharges to rivers, lakes and reservoirs are sound. Whether there are sources of pollution in the vicinity of rivers, lakes and reservoirs, with particular attention to different sources of pollution, such as manure and sewage from livestock and poultry farming, sewage from aquaculture, urban and rural municipal waste and municipal solid waste, industrial and mining waste, sources of pollution from agricultural land or soil, pollution from ships and ports, etc. Whether the services concerned are direct or indirect dischargers of industrial and municipal wastewater, and whether these dischargers have been inventoried and remedial measures implemented.

3. The river system water resources audit to achieve the path

3.1 Adopt a variety of audit methods, all-round audit supervision

3.1.1 Leading cadres' outgoing audits

On-site audits of the top command are essential to ensure the accountability of the "river leaders". Audits can focus on: 1) the development and utilisation of water resources. For example, whether the development and utilisation of water resources is in line with the requirements of sustainable development, whether water abstraction projects are in line with national policies and industry water use standards, and whether the total amount of water used is within national standards; ② water use efficiency. For example, whether wastewater is reused and whether there is a planned water resource management system; ③ Performance of water functions compared to standards. For example, whether the total volume of pollution and effluent is strictly controlled and whether appropriate corrective measures are taken in areas where the effluent volume exceeds the standard.

3.1.2 Follow-up audits on policy implementation

The outgoing audit of leading cadres is conducive to the implementation of the "river chief system" accountability system, but the discovery of problems lags behind and does not play a timely role in the use of water resources and the management of the ecological environment. In contrast, the policy implementation tracking audit is a whole process tracking audit, which is conducive to timely identification of problems and bottom-up feedback, enabling the government to provide a sound scientific basis for decision-making and timely correction of errors. In the audit process, reasonable staffing is required to develop a complete and coherent audit plan with dynamic management. In the follow-up to the audit, it is important to understand the key policy areas and set a reasonable direction. Focus on whether the "river chief" complies with relevant laws and regulations, and give full play to the role of follow-up audits throughout the process. In addition to the use of funds for natural resources projects, the focus may also be on relevant national policy provisions, covering policy implementation, the implementation process and the effectiveness of pollution control, as well as comprehensive audit arrangements.

3.2 Build a data sharing platform to achieve intelligent forensics

At present, water audits are still based on on-site inspections and manual expertise, but the river's long and winding course and the limited energy and time of auditors make it impossible to inspect the entire basin, leaving "blind spots" that allow some officials and companies to hide evidence and falsify data, seriously reducing the effectiveness of the audit. Advances in technology have made 24-hour monitoring and forensic analysis possible. Firstly, the audit department should implement a satellite surveillance network and increase the number of night vision cameras, especially on beaches, piers and other areas where violations are common; secondly, on-site audit teams should be equipped with drones equipped with high-resolution cameras to cover a wider area and transmit evidence directly to the audit team, thus effectively reducing the burden of on-site audits; and finally, the audit department could develop public-friendly mobile phone application. The app encourages citizens to take it upon themselves to monitor the safety of the water environment. Citizens can report environmental damage they find at any time and the administration will receive the report immediately and number it. The speed of response and feedback can be an important indicator for evaluating the performance of river managers.

3.3 Strengthening multi-sectoral cooperation

Audit cooperates with other departments to form a supervisory synergy Audit supervision should be combined with judicial and administrative supervision to promote an organic and integrated approach to all forms of supervision. Disciplinary and administrative supervision of party officials can be carried out through disciplinary inspection and supervision, and combined with external audits of management cadres, focusing on the public functions of "power brokers" in government. At the same time, information exchange and monitoring platforms can be established with other more supervisory departments, involving the public and public opinion in monitoring, expanding the scope of audits, improving audit governance, enhancing enforcement, and creating synergy in institutional safeguards to form a horizontal synergy mechanism for integrated planning and value-added audit supervision.

4. Conclusion

Natural resources auditing is a very new audit field, and water environment auditing, as an important part of natural resources auditing, will require theoreticians and practitioners to actively conduct theoretical and practical research in the future to study the content, methods and indicators of water auditing of major river systems, and to develop and promote a performance audit system for water management of major river systems. This will promote China's ecological and environmental management and ensure the integrated advancement of China's ecological civilisation strategic planning.

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