

Study on China's River Chief System: Development History, Security Governance Function and Improvement Prospects

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Abstract

The river chief system is an innovative institutional design in terms of ecological security governance of river basins in China. In modern China, the river chief system is first practiced in Changxing County of Zhejiang Province in 2003, and it is tested effective in the emergency management of Taihu Lake cyanobacteria in Wuxi of Jiangsu Province in 2007. After 2007, the river chief system begins to be widely promoted and gets authorized as a nationwide working model since 2016. Under the guidance of the holistic approach to national security, China's river chief system has the function of helping ecological security governance, which should be improved. The way to improve the function of the river chief system in the future can be to add as a special chapter on the river chief system into a piece of central legislation, or to formulate a special piece of administrative regulation on the river chief system, or to continue to provide provisions in the form of local legislation, no matter at the provincial or municipal level.

Keywords: River Chief System, river security governance, legislation on River Chief System

1. Introduction

China is a country with many rivers, and therefore how to realize the harmonious symbiosis between man and river has been a persistent problem for thousands of years on China. In thousands of years, successive Chinese people have made continuous institutional explorations of river governance mode, and found that the river chief system is an effective system in this regard. Such experience has been passed down from ancient times until today and exerted profound influence on the design and implementation of the river chief system. This article is to carry out a further study on the river chief system under the general background of China's comprehensive rule of law. What should be made clear before discussion is that due to the limitation of space and the choice of main content, this paper studies the practice of river chief system in China after 2003. Of course, this paper admits that the practice of river chief system in ancient China has many influences on the practice of river chief system in contemporary China, such as the cultural idea, the way of implementation and the expression of public opinion. Therefore, in terms of the content structure arrangement of this paper, this paper will first discuss the historical origin of the river chief system in China, and then demonstrate the historical and cultural basis of why China must set up the post of "river chief" to promote the implementation of river governance tasks. Then, this paper will specifically analyze the practice of river chief system in contemporary China. The concrete approach is to analyze the first practice in Changxing County, Zhejiang Province in 2003, and the successful experience of the application of river chief system in the treatment of cyanobacteria incident in Taihu Lake in 2007 and its institutional diffusion effect through case analysis. Then, it analyzes why China should promote river chief system nationwide in 2016, and how the legislative work of China helps river chief system to be implemented after relevant opinions were released. Then this paper will analyze the practical characteristics and limitations of the implementation of the river chief system, and finally put forward the way to improve the river chief system.

2. The Development of River Chief System in China

As Montesquieu, a jurist, indicates in his book, geographical environment has a very important influence on a country's institutional choice (Fekadu, K., 2014). This is a very subtle finding, although there is a disagreement in the academic community about whether it can be understood as “geographical determinism” in the development of state institutions. Just as it is, although geographical environment is not a decisive factor, resource endowment brought by geographical environment has a direct impact on a country's choice of development mode and natural disaster response requirements. As a country with abundant river systems, China's large river basins provide a large number of material nutrients and living resources for the reproduction of Chinese population. From the perspective of the overall population division, the area with dense river network tends to have a larger population than other arid areas. Therefore, we can see from the geographical reality that the river basin is carrying the natural ecological mission of providing for the population, but also facing the great ecological security pressure of human activities. And in this situation, what China has long been exploring is how to achieve harmonious coexistence and mutual benefit between people and river basins. In such a practical situation, the design of the river chief system is to find out specific individuals among a large number of people who can influence or administrate others, and entrust them with important responsibilities to coordinate the different needs of a large number of people, so as to defuse the threat of human activities to the ecological environment of the river basin.

2.1 The Practice of River Chief System in Ancient China

To get a closer view on the river chief system itself, the so-called river chiefs in ancient China are different from those under the practice of the institutionalized river chiefs system in contemporary China. But the context of institutional practice is consistent. In ancient background, river chief is also named after their work related to river management, who the officials in charge of water conservancy work. They are mainly responsible for the management of river courses and the organization of the construction of river water conservancy projects. There are also records indicating some river chiefs mediating civil disputes near rivers. From these descriptions, we can see that the current river chief system is related to its working mode, which is also similar to ancient river chief system practices to some extent, which reflects the influence of Chinese traditional water conservancy culture. Among the many studies on ancient river chief system, there is viewpoint clearly guess that the earliest embryonic form of practice of river chief system in our country was from the Great Yu's water control story, which points out Great Yu's father and himself are the recorded earliest ‘river chief’ in China's history (Chen T., 2018). Although this view has been questioned by later scholars, it does reflect the understanding of two basic characteristics of the practice of river chief system in early China. The first is the emergence of the river chief system because of the need to control the river, that is, all the work of the river chief system acts on the rivers and their surroundings, including the near-by human activities. Second, people who are considered to be “river chiefs” often play a leading role in river governance. Third, the systemic design and implementation of the river chief system have obvious “risk response” feature, which means all the work of the river chief in Great Yu's story and other ancient stories as such is to reduce the risk of the river basin to a level acceptable to human activities. Under such basic assumption, the ancient practice of river chief system has the characteristic of typical dependence on individual, especially paying great attention to the charismatic leaders or powerful officials.

From the current perspective on practice of river governance, the ancient river chief system has a profound influence on the present one. But the two systems are not the same thing. Because the connotation of the current river chief system is more abundant than that of ancient times, and the overall system running logic is also very different from the ancient one. Such changes reflect the development of institutional civilization as well as an upgrade of river governance ideas. In order to understand the development status of the river chief system, we should start from the formal origin of the river chief system in contemporary China.

2.2 Practice of River Chief System in Contemporary China

The practice of river chief system in contemporary China can be divided into three stages, and each stage is highly connected to the previous one.

2.2.1 Practice of River Chief System in Changxing County in 2003

The practice of river chief system in contemporary China is widely believed to have originated in Changxing County of Zhejiang Province in 2003, which can be described as follows (Zhang Zheng, Shen Yaofeng, Yan Hongfeng, et al., 2018). In 2003, in order to win the title of National Sanitary City, Changxing carried out the “responsibility contracting responsibility system” in terms of urban sanitary management. According to such a design, a number of official staffs have been given corresponding responsibilities for river health conditions and have been given related posts in the name of ‘river chief’ — meanwhile, those officials responsible for the sanitary situation of the urban streets are called “street chiefs”. Finding the relevant result is satisfied, in October of that year, the county commission Office issued a document to pioneer in implementing the river chief system for urban rivers in China. At that time, the position of ‘river chief’ is held by the heads of Water Resources Bureau and the Department of Environmental Protection. Their main job is to carry out dredging and cleaning of

the water system.

2.2.2 Practice of River Chief System in Wuxi City in 2007

From the description above, it can be seen that the basic characteristic of river chief system in contemporary China are no longer based on disaster response in traditional China, but aimed at further improving the governance level of urban river basins. Meanwhile, the disaster control function of the river chief system is not gone but still retained, which is reflected in the cyanobacteria control emergency of Taihu Lake in 2007 as demonstrated below (Guo, L., 2007). From the perspective of the occurrence principle of the cyanobacteria event in Taihu Lake, the event was mainly due to the accumulation of cyanobacteria near the water source, and the anaerobic decomposition process produced a large number of NH₃, mercaptan, thioether, hydrogen sulfide and other odors. These harmful substances came from a series of pollution caused by the construction and use of industrial plants around Taihu Lake, which was an ecological cost caused by economic development at that time. It can be said that the cyanobacteria incident in Taihu Lake is a sudden ecological environment security risk challenge. Because it not only comes suddenly, but also has an impact on the quality of drinking water, and then actually affects the level of living security of people in many cities around the Taihu Lake. To analyse in a deeper manner, the occurrence of cyanobacteria event in Taihu Lake reflects the stage embodiment of the inner conflict between economic development and environmental protection. Therefore, in order to reconcile the contradiction between economic development and environmental protection, the government should not limited in the scope of environmental health governance to seek paths out of trouble, but find solutions from a higher level. With this in mind, Wuxi continued to adopt the approach of river chief system for environmental governance, but upgraded it. The most typical manifestation of upgrading is to let the Party and government leaders at all levels to serve as the river chief so as to integrate political resources at a higher level and form more optimal schemes. After the success of the cyanobacteria control event in Taihu Lake in Wuxi in 2007, the institutional advantages of the river chief system were further widely recognized, which also led to the follow-up application in more cities such as other cities in Jiangsu Province. Therefore, from the perspective of the characteristics of this process, the practice of river chief system in Wuxi is also considered as a milestone event in vigorously promoting the practice of river chief system, because its related performance is highly similar to the current design of river chief system (LI X. M, Zhao J. P, Chen F, Zheng S & Chen Y., 2017).

2.2.3 Practice of River Chief System in National Wide after 2016

As the previous system has worked well in practice, China decided to introduce the river chief system nationwide in 2016. The most basic reason is after the 18th CPC National Congress, China begins to pay higher attention than anytime before to the construction of ecological civilization, containing “ecological civilization” into the overall layout of “The Five-sphere Integrated Plan” (Xie, Z., 2020). From the perspective of institutional practices related to the river chief system, the most typical example is that the General Office of the CPC Central Committee and the General Office of the State Council jointly issued a guiding document on the implementation of the river chief system in 2016 for the reference of the whole country. The document is called “Opinions on the Full Implementation of the River Chief System” and in this document, six main tasks and four safeguards and other content are proposed. To sort out, the tasks are to strengthen the protection of water resources, to strengthen the management and protection of the shorelines of rivers and lakes, to strengthen the prevention and control of water pollution, to improve the water environment, to strengthen the restoration of the water ecology, and to strengthen relevant law enforcement and supervision. From these task descriptions, we can see that the starting point of the top-level design of the river chief system is still to give play to the river chief’s river management function, rather than also taking responsibility on disputes mediation and other social management matters related to the people living in the basin area and around, as happened in ancient practice many years ago. What is worth mentioning here is that although such practice has not been reflected in the system design, the river chief, in fact, will take social management issues into account in his work because of his status as a local leader. And some river chiefs have applied ideas such as “grid” approaches that used to be used primarily for social management to river management (Dai Wen & Yan Wenqin, 2020; SHEN Qi, 2022). As for safeguard measures, the five mentioned in the opinion paper are to strengthen organizational leadership, to improve working mechanisms, to strengthen assessment and accountability, and to strengthen public oversight. The core idea orientation reflected in these safeguard measures arrangement is to achieve the efficient operation of the river chief system as far as possible with the help of institutionalized organization, extensive force participation and effective force supervision .

From the perspective of institutional construction, we can also find after the publication of that document, China’s legislation has followed up. The most typical example of this is that the Law on the Prevention and Control of Water Pollution, which was revised in 2017, has a special provision for the full implementation of the river chief system. To be clear, its article 5 regulates provinces, cities, counties and townships shall establish the river chief system to organize and direct, at different administrative levels and at different sections, the

protection of water resources of rivers and lakes, the management of water shoreline, the prevention and control of water pollution and the improvement of the water environment in their respective administrative areas. This article is also the upper law basis of the later series of local legislation on river chief system. However, we should also find that not all provinces and prefecture-level cities have introduced local legislation on the river chief system, and a considerable number of provinces and prefecture-level cities still rely on relevant policy documents to guide their work.

2.3 The Basic Practical Characteristics of River Chief System in China

From the above analysis and discussion, we can draw three characteristics of the practice of river chief system.

First, the overall implementation logic of the river chief system follows the idea of risk management. The benefit of this logic is that limited governance resources can be invested in real risk points. That is, through the work organization of the river chief, the relevant departments are invested in the specific work of river basin ecological governance. This has the advantage of high efficiency, but the disadvantage is that it may overemphasize the characteristics of emergency administration, thus leading to difficulties in coordinating the needs of different groups of people living near-by, which means such a working model needs to be restricted by clear procedure norms. This is also the basis of the design of legal rules related to the river chief system.

Second, the implementation of the river chief system pays special attention to result-oriented. The implementation effect of the river chief system aims at balancing the contradiction between river ecological prosperity and human needs for survival and reproduction. The most obvious evaluation method is to see whether the ecological indicators of water environment reach the standard. The river chief is required to have the ability to coordinate economic and social development and environmental protection. This is why, in the practice of the river chief system since 2007, the post of river chief is usually held by local party and government leaders.

Thirdly, the river chief system began to move towards the operation mode based on the rule of law. From the above review, it can be seen that the practice of river chief system in 2007 and later accumulated valuable experience resources for the formal establishment of national river chief system later. For example, after Wuxi's policy-making practice in 2007, Kunming City confirmed the "River chief system" as a comprehensive water management system in the "Kunming River Management Regulations" in May 2010, which regulates Kunming City implements the responsibility system of river chiefs (sections) who are in charge of the director at the city, county (urban area, township (town, sub-district)) level. Such legislative practice is highly similar to the later national legislation and local legislation practice. A judgement can be made here is that the river chief system in contemporary China has experienced a process of "from a special working mode of striving for excellence or crisis response, to a policy-guided institutional practice, and then to a working system supported by law". This opinion shows that the river chief system is trying to get full rid of the limitation of "campaign-style governance" only and stepped onto the track of rule of law (Song Weizhi, 2020). However, due to the characteristics of cross-cyclical exposure of ecological environmental risks, the legislative technical level and implementation effect of the series of legislation in recent years remain to be further tested.

The above is a review of the long - term practice of river chief system in China. It can be seen from this process that China's river chief system is developing continuously, and there is still room for improvement in the relevant legislation of river chief system. It can be seen from this process that China's river chief system is developing continuously, and there is still room for improvement in the relevant legislation of river chief system. Therefore, special theoretical tools can be used to re-understand the river chief system, and such understanding results can provide reference for the future improvement of the rule of law of the river chief system.

3. The Logic Between River Chief System and Security Governance

River governance is a common problem facing the world. Different countries take different ways to make river coexist harmoniously with human life. For example, the Thames River governance in the United Kingdom, the Mississippi River governance in the United States and the Cheongheok River governance South Korea as well as the Ganges River governance in India are all famous river basin governance cases in the world, providing a vivid practice model for follow-up research. At the same time, China's practice of river director system has created a new model of Chinese-style river governance. We should further learn from others' strong points and adopt a new theoretical analysis framework to provide more effective ideas and reference for river basin governance in China. At present, when analyzing the improvement of China's river governance in the future from the perspective of the application of the river director system, a localized theoretical tool that can be used is the holistic approach to national security. Under the guidance of the holistic approach to national security, we can have a deeper thinking on how to coordinate the development and security of river governance.

3.1 Connotation Expansion of River Security Governance in Contemporary China

From the perspective of security governance theory, China's current national security governance perspective is overall, and the ecological environment security is a very important field. River governance is a sub-topic within

the theme of ecological environment security governance. Applying the security theory to examine the issue of river security governance, what enlightens us is that we should pay attention to the security status and capacity to maintain security state of rivers. The application of China's new river chief system, which is formally introduced after 2016 as mentioned above, have the potential to play such a dual oriented function. In this regard, we can propose a theoretical attention model based on the performance perspective of "river chief" as showed below.

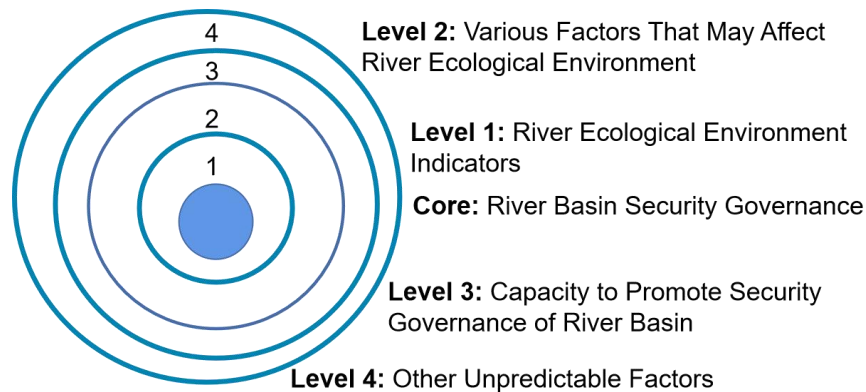


Figure 1.

From the above concentric circle model, it can be seen that the attention distribution of river leaders in China shows the characteristics of spreading from the center to the periphery. The core work attention of the river chief system lies in the realization of river safety management. To achieve this goal, the first layer focuses on the river's ecological environment itself; The second layer focuses on various factors that may affect the ecological and environmental security of the basin, including but not limited to industrial development, human aquaculture emissions, and other imaginable risks and challenges that directly affect the water quality of the basin. The third layer pays attention to the construction of various systems to maintain the safety of the basin, such as considering the force allocation of river patrol and river protection, the river chief office's work team construction, and other themes. The fourth layer pays extensive attention to other factors that are not yet anticipated but can not be ruled out to pose challenges to the security of the basin, which is in line with the thinking requirements of "taking full account of various risks and challenges that can be encountered and difficult to foresee" emphasized by the current holistic approach to national security. It is a comprehensive thinking model so there exists academic opinion saying that river chief system is a system to reach a trade-off between economic development and environmental governance (Li, J., Shi, X., Wu, H., & Liu, L., 2020).

3.2 The Function of River Chief System in River Connotation Expansion of River Security Governance in Contemporary China

Based on the analysis above, we can see the river chief system is helpful to guide river security governance from a broader perspective, especially in taking into account the many objectives related to the river governance. In general, the river chief system has three advantages to help the river security governance.

First, the river chief system can shape a more efficient way of using working resources. In the practice of the river chief system since 2007, the position of river chief is often held by the secretary of local party commission or the head of local government. Such a position arrangement would enable the implementation of the river chief system to be supported by stronger leadership, because it can improve the effectiveness of governance without creating new specialized agencies with new leaders. Based on international experience, it is often necessary to set up special institutions to promote watershed governance. For example, the Tennessee Valley Authority and the Mississippi River Commission are the two famous river management agencies. However, considering the actual hydrological situation that China has dense water networks and there is high overlap between river basins and residential areas, designing new institutions for each river is not the best idea for China. So, China's approach is to select special leader members to serve as river chiefs. This approach not only avoids the potential conflict between the new-established organizations and the original local bodies, but also improves the level of political resource allocation for river governance by relying on the experience advantages of these leading cadres, so as to realize the optimal allocation of force for river security governance.

Second, the river chief system can improve the perception and prevention of river-related risk. From the perspective of the theory of security governance, the best way of security risk governance is to avoid the occurrence of risks, and the second is to timely eliminate the early occurrence of security risks. Through the

work arrangement of the system, the river chief system has solved the problem of specific candidates for the post of river chief, set up a special “river chief office” with special staff to carry out daily work and river management, and put forward a series of special work arrangements for the implementation of the river chief system, so as to realize the functions of early detection of risks, early management of risks and long-term prevention of risks. To get a closer view, according to the central guideline document on the river chief system as mentioned above, the work attention of the river chief system not only includes the protection of river water resources, management and protection along the banks of rivers and lakes, water pollution prevention and control, water environment governance and other normal work contents, but also includes the water environment governance with the nature of post-remediation. This arrangement is consistent with the overall national water conservancy work and ecological civilization construction, and establishes a full-chain response to river security risks and challenges. As long as river chiefs at all levels can carry out the relevant contents of the opinions well in the process of performing their duties, the risk level of river safety can be greatly reduced. To help river chiefs fulfill their duties, special law enforcement and supervision duties are assigned to river chiefs so that they can properly cooperate with law enforcement departments and promote law enforcement activities related to river safety through joint law enforcement and other means. At the same time, the river patrol and river protection mechanism are specifically mentioned in the guiding opinions, as well, which is conducive to the regular investigation of river security risk points. The guideline also suggests to carry out publicity and education activities on river chief system for the public, which will help to enhance the whole society’s support for the function of river chief system, so as to improve the overall prevention level of river security risks.

Third, the river head system can provide long-term expectations for good governance on river security. At present, China is actively promoting the rule of law in an all-round way. Since the implementation of the river chief system, special attention has been paid to ensuring its implementation by the rule of law. As mentioned above, the “River chief system” has been written into the Law on Water Pollution Prevention and Control and many pieces of local legislation on river chief system have been put forward in many localities. A significant positive effect of this phenomenon is that the “river chief system” has been working on the track of rule of law, and will not become a temporary policy-oriented system phenomenon, but will be put into practice for a long time. Although some places have not specially introduced the legislation of the river chief system, they have actively explored the practical innovation of the river chief system under the guidance of the central legislation and policy documents. For example, although Beijing has not formulated regulations on the river chief system for the time being, Beijing has been actively exploring ways to improve the work level of the river chief system under the macro-guidance of the central government. A typical example is the Implementation Opinions on Further Strengthening the River (Lake) Chief System issued at the very beginning of 2023, which actively realizes the strengthening operation of the river chief system on the original basis (Beijing Daily, 2023). Moreover, although Hunan Province has not yet issued local legislation related to the river chief system, some academic studies have put forward relevant ideas, which will be conducive to the future legislation of the river chief system in Hunan Province (Wang Dapeng, 2022). Therefore, China’s legal mode to promote the river chief system of implementation not only has broad prospects for implementation, but also can provide increasingly stable river good governance expectations for the whole society.

4. Legal Path of the Future Development of River Chief System in China

Following the above, it can be seen that a significant advantage of the long-term implementation of the river chief system is to step on the track of rule of law. Therefore, in the future, it is a beneficial way to perfect the river chief system from the legal perspective. Specifically, it can be discussed from the two sides of central legislation and local legislation.

4.1 To Explore the Legal or Administrative Regulations of the River Chief System

According to the foregoing, at the central legislative level, the “river chief system” is only written into the Law on Water Pollution Prevention and Control in its revision in 2017. As far as the Law on the Prevention and Control of Water Pollution is concerned, it only implements the relevant requirements of water pollution prevention and control in the guiding opinions of the Central on comprehensively implementing the river chief system. Therefore, it is not comprehensive to rely only on the Law of Water Pollution Prevention and Control as the central legislative basis of river chief system. In the future, there are two paths that can be discussed. The first one is that the State Council formulates special administrative regulations called “Regulations on the River Chief System”. The second one is that the Standing Committee of the National People’s Congress formulates a Law on the Promotion of Ecological Civilization, and adds a corresponding section on the river chief system into it.

From the first path, what is needed is the formulation of a special administrative regulation. The key issue to be grasped here is the administrative regulation should not just copy and transport the original system documents in the name of administrative regulations. On the contrary, it should reflect the characteristics of administrative

regulations, and should be able to reflect the latest characteristics and practical needs of the river chief system in the recent six years. For example, many localities indicate that there is no legal basis for setting up the post of village river chief, so it can be clarified by adding relevant rules into special administrative regulations of river chief system, so as to avoid legal differences caused by the absence of local legislation or different provisions of corresponding river chief system in different places. As for the second path, the idea is to add chapter on river chief system into a special new-legislation called the ‘Law on the Promotion of Ecological Civilization’. Such a law is also an idea which is under consideration and to be formulated. However, different from the special administrative regulations on the river chief system mentioned above, this document is designed to be a piece of central legislation in essence. It is based on the logic that since ecological progress is an important part of China’s Five-sphere Integrated Plan, it is of great mean to explore ways to formulate a special promoting-style laws to integrate relevant institutional arrangements naturally including river chief system for safeguarding ecological security into a general legislation.

4.2 To Continue Promoting Local Legislation on the River Chief System

As mentioned above, many provinces and municipalities with legislative powers have enacted legislation on the subject of the river chief system. These laws are introduced intensively after 2017, reflecting the active implementation of the central policy guidance by local legislation.

Two points should be made clear when discussing the development of local legislation on river chief system in the future. First, the recent revision of the Legislation Law still retains the corresponding rules of local legislative authority, so that the subsequent local legislation will continue to appear and still be in a possible state. Second, in the amendment motion of the Legislation Law, the wording of “environmental protection” in the scope of local legislative powers was specifically proposed to be changed to “ecological civilization” (ZHU Ningning, 2022). This not only further reflects the requirements of the five-in-one overall layout, but also directly contributes to the continued emergence of the river chief system legislation in the future. Third, many places in our country have not introduced special legislation on river chief system, which may cause two kinds of future possibilities. On the one hand, a provincial level to introduce a regulation of the river chief system of the province’s local legislation. On the other hand, prefecture-level cities with specific legislative power enact the legislation of river chief system by themselves. Either scenario is possible, depending on the distribution of rivers in a particular province or the resources available to the river chief system. But it needs to be clear that the local legislation process should reflect the “characteristics” of local legislation itself but can not completely copy the existing legislative achievements in other places, otherwise the better path is the common provincial level or the central government to carry out unified legislation.

What has been discussed above are two ways to improve the legislation of river chief system. Legislation can play a multiplier effect for the security governance function of river chief system. Because many of the purpose descriptions or specific rules related to strengthening security governance capabilities of the river chief system can be written into the relevant articles. The concrete integration path can be designed in accordance with the harmonization requirements of legislative style in the legislative process.

5. Conclusion

This paper focuses on China’s system design on environment protection, or to be exactly, on ecological security governance. This paper reviews the development history of the river chief system in China, puts forward how the river chief system plays its function of ecological security management under the guidance of the new security concept theory, and finally puts forward the prospect of improvement in two aspects from the legal perspective. And by doing research we can discover, building a beautiful China has been an important task since the 18th CPC National Congress, and it is after 2012 that the effectiveness of the system and its nationwide popularizing value are officially discovered and confirmed. In the future, we should fully explore and pay necessary attention to the important functions of river chief system in terms of ecological security governance, and promote the implementation of river chief system by means of legislative perfection. It is worth waiting that the better river governance in China will make the natural environment more beautiful.

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