

The Evolutionary Trajectory and Developmental Dynamics of Intergovernmental Cooperative Environmental Governance from the Perspective of Historical Institutionalism

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Abstract

Ecological and environmental issues are trans-regional and holistic in nature, necessitating the breaking down of administrative boundaries and the pursuit of intergovernmental cooperation in environmental governance. This is not only an inevitable requirement for strengthening ecological civilization construction but also a vital path towards fostering a green economic development model. By adopting historical institutionalism as a significant lens to observe the evolution of China's intergovernmental cooperative environmental governance models, we discern four distinct developmental stages: inception and foundation, practice and exploration, enrichment and development, as well as deepening and innovation. Within the evolutionary logic of these governance models, there exists both self-reinforcement due to path dependence and significant changes triggered by the coupling of critical junctures. The driving force behind these model shifts stems from the power struggles among stakeholders such as the central government, local governments, regional enterprises, and the public. Looking ahead, China will aim to accelerate the reform of its ecological civilization system and build a "Beautiful China" as its developmental goals, strengthening intergovernmental cooperation to jointly tackle challenges in environmental governance and fostering a harmonious and symbiotic governance model among different levels of government.

Keywords

Intergovernmental Cooperation, Environmental Governance, Historical Institutionalism, Governance Model.

1. Problem Statement and Theoretical Framework

1.1. Problem Statement

In the face of increasingly severe cross-regional environmental pollution in China, the conventional hierarchical governance based on administrative divisions has encountered government failures, unable to effectively address the diffuse impacts of such pollution. As a result, regional cooperative environmental governance has gradually emerged as a universal consensus and key focus in the field of ecological environment protection. In 2018, the State Council issued the "Opinions on Accelerating the Battle Against Pollution Prevention and Control," emphasizing the necessity of advancing cross-regional pollution control and establishing mechanisms for inter-provincial pollution treatment. Furthermore, President Xi Jinping outlined the development goal of "promoting green development and fostering harmony between humanity and nature" in his report to the 20th National Congress of the Communist Party of China in 2022. However, China's intergovernmental cooperative environmental governance model, as a meso-level institution, inevitably confronts challenges in its implementation due to the complexities of cross-regional governance practices. The design and execution of this governance model create a dual tension, compounded by the

intricate interplay of multiple stakeholders with diverse interests involved in cross-regional environmental pollution issues. For instance, discrepancies in economic development levels and pollution control costs among different regions can easily lead to conflicts of interest. Thus, effectively coordinating the dynamic development of intergovernmental cooperative environmental governance models and enhancing the overall effectiveness of cross-regional environmental governance pose significant tests to China's environmental governance wisdom and experience.

Intergovernmental relations encompass vertical, horizontal, and oblique connections among governments at various levels, regions, and departments. Intergovernmental cooperation, based on existing administrative rules, relies on market contracts and negotiated collaboration to facilitate cross-sectoral and cross-regional cooperation paradigms. Currently, ecological environmental governance often follows the natural distribution of geographical resources, transcending artificially designated administrative hierarchies and spaces. The intra-regional ecological and environmental issues addressed in this paper primarily refer to cross-administrative public ecological and environmental issues within a given scope, necessitating intergovernmental cooperative governance. Therefore, the intergovernmental cooperative environmental governance discussed in this paper refers to the collaborative governance of cross-administrative ecological and environmental issues undertaken by government organizations at different levels and regions within China's existing hierarchical administrative system.

Current academic research has explored two main avenues: one focuses on international cases, drawing lessons from foreign experiences and typical examples of cross-regional cooperative environmental governance; the other, from a domestic perspective, centers on collaborative governance theory, network governance theory, and holistic governance theory, discussing intergovernmental cooperative environmental governance models by constructing ecological compensation mechanisms, responsibility sharing, and cost-sharing mechanisms. Research cases cover typical samples from various urban agglomerations, ranging from atmospheric pollution cooperative governance in the Beijing-Tianjin-Hebei region to cross-border cooperative water pollution control in Jiangsu, Zhejiang, and Shanghai. However, most current literature remains confined to specific contexts within particular fields, lacking insights into the historical evolution, driving forces behind changes, and multi-stakeholder interest games involved in intergovernmental cooperative environmental governance models.

In light of this, this paper adopts historical institutionalism as an analytical framework to review the evolution of China's intergovernmental cooperative environmental governance models over the past four decades.

1.2. Theoretical Framework: Analytical Framework of Historical Institutionalism.

1.2.1. The Connotation of Historical Institutionalism

In the 1980s, under the slogans of "institutional regression" and "state regression," historical institutionalism emerged and gradually evolved into a "new institutionalism" school that studies policy changes and social development through the lens of "institutions." After nearly four decades of development and refinement, the analytical framework of historical institutionalism has gradually matured, holding significant importance for the study of policy and institutional changes across extended historical periods.

Historical institutionalism focuses on the coupling and interactive relationships among institutional environments, institutional systems, and actors. It occupies a middle ground between rational institutionalism, which studies "atomized individuals," and functionalism, which focuses on "macro-structures," incorporating characteristics of both and developing a theoretical analysis framework centered on the medium-level concept of "institutions." By

delving into the nuances of history, historical institutionalism explores the origins and evolution of policies and institutions, paying particular attention to the "path dependence periods" of institutional persistence and the "critical junctures" of institutional change, thereby constructing causal chains of analysis.

Firstly, historical institutionalism defines "institutions" broadly as "formal or informal procedures, rules, norms, and conventions embedded in political or political-economic organizational structures" Its scope encompasses not only formal procedures and rules such as public policies, organizational structures, and social orders but also informal conventions like social ideologies and relationships embedded within organizational structures.

Secondly, "path dependence" and "critical junctures" are core concepts in historical institutionalism. The theory of path dependence emphasizes that once an institution is chosen, it exhibits inertia; unless impacted by external shocks, institutional evolution becomes increasingly difficult due to the self-reinforcing effects of positive feedback and the accumulated exit costs associated with path changes. Events with significant impact are regarded as "critical junctures," where the old institution ruptures, giving birth to a new one. John Kingdon explains critical junctures using the "multiple streams framework," arguing that policy change occurs only when originally independent "policy streams," "problem streams," and "political streams" are impacted by external events, creating a coupling effect.

Lastly, historical institutionalism underscores the importance of "actors." Under its analytical framework, "actors are not purposeless executors of historical determinism but rather active individuals motivated by certain goals and values" From this perspective, the continuation and sudden changes in institutions are not solely influenced by historical environments and social structures; the interest preferences and strategic choices of actors are also crucial factors affecting institutional change.

1.2.2. The Analytical Significance of Historical Institutionalism for the Evolution of Intergovernmental Cooperative Environmental Governance

In 1983, the first inter-provincial environmental protection cooperation agreement was signed between Hebei Province and Beijing, marking the beginning of intergovernmental environmental cooperation. Since then, various provinces have successively signed environmental cooperation agreements, gradually forming a pattern of intergovernmental environmental cooperation in China. Analyzing China's cross-regional environmental governance network from a historical institutionalism perspective helps clarify the trajectory of changes in China's intergovernmental cooperative environmental governance models, accurately grasp the core elements and governance logic of cross-regional environmental issues, promote the transformation and upgrading of institutions and policies, and enhance China's governance effectiveness for cross-regional environmental issues in the new era. Therefore, applying the analytical framework of historical institutionalism to explore the mode changes and evolution logic of China's intergovernmental cooperative environmental governance, and to discern the constraints under the current cross-regional environmental governance model, has practical applicability for achieving the development goals of accelerating the reform of the ecological civilization system and building a "Beautiful China."

2. The Evolution of Inter governmental Cooperation in Environmental Governance

Based on the framework of historical institutionalism analysis, this article divides intergovernmental cooperation in environmental governance into four historical stages: the beginning and foundation stage, the practice and exploration stage, the enrichment and development stage, and the deepening and innovation stage, with landmark historical events and important policy documents as key nodes. Next, this article will analyze these four stages

of development and clarify the evolutionary logic and driving mechanisms of China's intergovernmental cooperation environmental governance model.

2.1. Beginning and Foundation Stage (1983-1991)

Thanks to the pace of reform and opening up, China's social economy has entered a period of rapid development since the 1980s. However, due to the long-term industrialization process and extensive economic development model, environmental and ecological problems in some areas have become increasingly severe. This period is the initial embryonic stage of the intergovernmental cooperation environmental governance model, mainly led by the central government, and local governments began to attempt to sign intergovernmental environmental cooperation agreements. In May 1983, at the initiative of the Chinese environmental protection department, the governments of Beijing and Hebei provinces signed China's first inter provincial environmental protection cooperation agreement, which involved joint environmental testing, establishment of information sharing mechanisms, and other cooperative measures, marking the beginning of China's promotion of environmental protection cooperation and governance at the local level. Subsequently, various provinces signed environmental cooperation agreements one after another. In 1989, Shanghai, Jiangsu, and Zhejiang provinces and cities located in the Yangtze River Delta region signed an ecological protection and governance cooperation agreement, aiming to jointly maintain the ecological environment of the Yangtze River Delta region. This agreement is regarded as an important milestone at the beginning of the construction of China's intergovernmental cooperation and environmental governance pattern. However, due to the fact that most local government cooperation during this period only remained at the stage of agreement signing, there was no substantial work carried out on cross regional environmental governance.

The signing of inter regional environmental cooperation agreements has begun, and cross regional government cooperation in environmental governance has gradually been upgraded to a national policy. Article 15 of the Environmental Protection Law of the People's Republic of China, promulgated and implemented in December 1989, stipulates that "the prevention and control of environmental pollution and damage across administrative regions shall be resolved through consultation by the relevant local people's governments, or through coordination by the higher-level people's governments, and decisions shall be made." This initially established the legal normative status of intergovernmental cooperation in environmental governance. Afterwards, in 1991, the Ministry of Environmental Protection (now the Ministry of Ecology and Environment) issued a notice on strengthening environmental monitoring and information sharing, requiring the strengthening of environmental monitoring and information sharing across administrative regions, and the establishment of an environmental monitoring network and information exchange platform. This notice provides useful guidance for the informatization construction and sharing work in the field of environmental protection in China, and also lays the foundation for coordination and cooperation among various departments.

Overall, the intergovernmental cooperation environmental governance model in this stage is a system innovation that has emerged from scratch. Led by the central government, inter provincial environmental cooperation agreements have been signed one after another, gradually radiating the network of intergovernmental cooperation in environmental governance to the whole country. This stage has laid a solid institutional foundation for local governments to actively explore the practice of inter regional environmental governance cooperation.

2.2. Stage of Practice and Exploration (1992-2002)

The period from 1992 to 2002 was marked by Deng Xiaoping's Southern Tour, which not only fueled economic cooperation among provinces and administrative regions but also propelled the development of exploratory practices in intergovernmental cooperation for environmental

governance across regions. This stage witnessed a gradual yet steady progression in China's intergovernmental cooperation model for environmental governance, accompanied by the upgrading of relevant environmental management technologies and methodologies. Local governments, recognizing the unique circumstances within their jurisdictions, embarked on varying degrees of beneficial exploration and planning for the construction of such a cooperative model.

The passage of the "Law of the People's Republic of China on Environmental Impact Assessment" in February 1992, after its approval at the 2nd Ministerial Meeting of the Ministry of Environmental Protection (now the Ministry of Ecology and Environment), set a crucial precedent. This law mandated environmental impact assessment systems and emphasized the need for enhanced coordination and cooperation across administrative regions, thereby translating intergovernmental consultation and collaboration into concrete implementation in environmental co-governance.

In 1993, under the auspices of the State Council, China established the Intergovernmental Joint Conference on Environmental Protection, which underscored the importance of collaborative governance among governments at all levels in environmental protection. The establishment of this joint conference marked the official entry into the practical operational phase of intergovernmental cooperation for environmental governance in China.

During this period, local governments responded to higher-level directives by issuing policies, implementing, and refining central government regulations, gradually initiating practices of intergovernmental cooperation in environmental governance. In 1996, Henan and Hubei provinces signed the "Agreement on Comprehensive Soil Pollution Control in Central China," committing to enhanced information sharing, regular assessments, and joint efforts in soil pollution control within their regions. The following year, in March 1997, Shanghai, Jiangsu, and Zhejiang in the Yangtze River Delta region, having achieved initial success in water pollution control, signed the "Joint Implementation Plan for Air Pollution Prevention and Control in the Yangtze River Delta Region." This plan outlined collaborative measures such as the establishment of a joint monitoring network and the formulation of unified emission standards, marking a milestone in cooperation.

Further refinements in cross-regional water pollution control ensued in the Yangtze River Delta. Early in 2002, Zhejiang and Jiangsu initiated a provincial boundary water pollution prevention and control system along with a water environment information notification mechanism. Subsequently, they jointly established a joint monitoring mechanism for water quality and water pollution incidents at the Jiangsu Shengze and Zhejiang Wangjiangjing border waters, and collaboratively formulated the "Joint Prevention and Control Plan for Pollution in the Boundary Waters of Jiangsu Shengze and Zhejiang Wangjiangjing." Through concerted efforts, the water quality in the border waters significantly improved after several months of collaborative governance. In this stage, local governments took the lead in jointly exploring the preliminary contours of cooperative mechanisms. By facilitating information sharing and technological exchanges, these governments conducted varying degrees of beneficial explorations tailored to their local contexts, thereby injecting momentum into the development of China's intergovernmental cooperation model for environmental governance in the early 21st century and laying a procedural and legal foundation for its institutionalization. Nevertheless, hindered by the primary focus on economic development and the "political tournament" among local governments, the progress of intergovernmental cooperation in environmental governance remained relatively slow during this period.

2.3. Enrichment and Development Phase (2003-2011)

Over the past two decades, intergovernmental cooperation in environmental governance in China has achieved significant positive feedback, leading to varying degrees of improvement in

ecological and environmental quality. In 2007, the 17th National Congress of the Communist Party of China for the first time included the construction of ecological civilization as a new component, requirement, and important indicator for building a moderately prosperous society nationwide. It emphasized that through strengthening ecological civilization, a green economic development model should be fundamentally formed in China. This marked the elevation of ecological civilization construction to a national strategic level, providing strong political support and intrinsic motivation for the development of environmental protection nationwide.

During this period, intergovernmental cooperation in environmental governance in China entered a phase of comprehensive coordination, focusing on key regions and areas of environmental governance and the establishment of multi-departmental and cross-sectoral cooperation mechanisms. The number of policies regarding legislation, regulation, and assessment increased significantly, and vertical intergovernmental cooperation policies between central and local governments began to emerge. In 2003, the Ministry of Environmental Protection of China signed a regional joint prevention and control cooperation agreement on air pollution control with multiple provinces and cities, including Beijing, Tianjin, Hebei, Shanxi, and Liaoning. The signing of this agreement marked a significant event in the vertical extension of the intergovernmental cooperation environmental governance network, entering substantive governance cooperation. In 2011, the sixth national environmental protection work conference proposed recommendations to strengthen environmental standards, environmental supervision, and environmental emergency responses, calling for enhanced cross-regional environmental governance. As a result, the intergovernmental cooperation environmental governance network was further strengthened.

During this phase, local governments played a more active role in constructing intergovernmental cooperation environmental governance models, with a series of environmental protection collaborations being more effectively implemented. Starting in 2003, due to changes in the situation and governance needs, government-led cooperation in the Taihu Lake region was continuously strengthened. This was manifested in more frequent mutual visits among leaders of the five cities, innovative cooperative models such as departmental cooperation meetings and the Taihu Lake Ecological Forum, and increasingly extensive and closer cooperation. On April 29, 2009, the first joint meeting on environmental protection cooperation in the Yangtze River Delta region was held in Shanghai. The meeting agreed that the three provinces and cities would strengthen cooperation in innovating regional environmental economic policies, improving regional environmental supervision linkage mechanisms, and enhancing regional air pollution control. After discussions, the Shanghai Environmental Protection Bureau was appointed to lead the work on "strengthening regional air pollution control" and to formulate and implement air quality assurance measures for the regional linkage during the World Expo.

Simultaneously, market-oriented models began to emerge in the field of intergovernmental cooperation in environmental governance, traceable to the promulgation of the "Property Law of the People's Republic of China" in 2005. This law clarified the public goods attribute of the ecological environment, laying a legal foundation for implementing ecological compensation. Subsequently, the central government began to issue relevant policies and regulations to promote ecological environment protection and restoration, with local governments actively exploring the establishment of ecological compensation mechanisms. In early 2008, Jiangsu Province issued the "Pilot Scheme for Regional Compensation of Environmental Resources in the Taihu Basin," which clarified the responsibilities of upstream and downstream district governments for water source protection. According to the scheme, upstream regions must pay compensation funds to the provincial treasury if the water quality of rivers and lakes exceeds control standards.

Since entering the 21st century, intergovernmental cooperation in environmental governance in China has further improved in terms of legislation, with a surge in related policies. The number of horizontal and vertical intergovernmental cooperation policies has increased year by year, and vertical cooperation between central ministries and local governments has become more frequent. Cross-regional environmental governance has achieved phased results, and intergovernmental cooperation environmental governance models have begun to explore new market-oriented mechanisms.

2.4. Deepening and Innovation Phase (2012 to Present)

Since the 18th National Congress of the Communist Party of China, the Party Central Committee, with Xi Jinping at its core, has repeatedly issued a series of directives on ecological and environmental issues, setting "accelerating the reform of the ecological civilization system" and "building a beautiful China" as development goals. The Fifth Plenary Session of the 18th Central Committee of the Communist Party of China proposed the new concept of "green development," and for the first time, ecological civilization construction was included in the national economic and social development five-year plan. This period marks the phase of comprehensive strengthening of intergovernmental cooperation in environmental governance in China, with the framework of intergovernmental cooperation in environmental governance continuously deepening, and the central government's investment and efforts in key regions and areas of environmental governance consistently increasing.

During this stage, China's intergovernmental cooperation in environmental governance models has continued to upgrade, with the central government, possessing structural power, constructing a collaborative framework for intergovernmental cooperation in environmental governance dominated by information sharing and regulatory assessment. In 2018, the State Council issued the "Opinions on Accelerating the Fight against Pollution" and the Ministry of Environmental Protection issued the "National Ecological and Environmental Protection Inspection Work Plan," outlining the basic institutional framework for intergovernmental cooperation in environmental governance. China's strategic proposition for cross-regional environmental governance has also been further legalized and systematized. The "National Ecological and Environmental Protection Inspection Work Plan" stipulates strengthening cross-regional environmental protection inspection cooperation and establishing a cross-province ecological and environmental protection inspection mechanism, clarifying the procedures and methods of inspection work, thereby providing strong institutional guarantees for strengthening intergovernmental cooperation in environmental governance.

Meanwhile, local governments have continuously strengthened their environmental governance cooperation mechanisms, engaging in more frequent collaborative governance actions. In 2014, Beijing, Tianjin, and Hebei successively signed agreements such as the "Agreement on Implementing Major National Strategies for the Coordinated Development of Beijing-Tianjin-Hebei" and the "Framework Agreement on Strengthening Ecological Environment Construction Cooperation," clearly outlining cooperation in joint air pollution prevention and control. Since 2014, Beijing has invested 5 million yuan annually to cooperate with 25 counties and cities surrounding Beijing on the joint prevention and control of forest pests. In March 2020, Zhejiang Province issued the "Implementation Opinions on Strengthening Regional Ecological Environment Joint Prevention and Control," clearly promoting the construction of an ecological environment joint prevention and control system and establishing a cross-regional pollutant reduction joint enforcement mechanism to better serve regional development and meet public needs.

Additionally, during this period, the government explored more diverse means, such as market-oriented approaches, in intergovernmental cooperation to promote innovation and development in environmental governance. In 2013, Shenzhen launched the first emissions

trading system in China, effectively promoting corporate environmental management and providing crucial data support for government environmental policy formulation. In 2018, nine ministries jointly issued the "Action Plan for Establishing a Market-Oriented and Diversified Ecological Protection Compensation Mechanism", placing diversified ecological compensation mechanisms at a strategic level.

During this period, the construction of the intergovernmental cooperation environmental governance model mainly manifested in the issuance of numerous policy documents by central and local governments, which deeply discussed the scope of application, forms of cooperation, and rights and obligations of cross-regional environmental governance systems. Intergovernmental cooperation in environmental governance showed comprehensive cooperation across levels, administrative regions, and departments. Diversified effective governance methods mitigated the significant tension between the need for economic development and the high costs of environmental governance.

3. Evolutionary Logic of Intergovernmental Cooperation in Environmental Governance

3.1. Path Dependence of Gradual Development

Path dependence theory is one of the fundamental tenets of historical institutionalism. Once a particular system or model is established and developed, it tends to be imprinted with path-dependent historical characteristics over time. Its evolutionary logic follows historical inertia and self-reinforces, with political and ideological factors increasing the resistance to system or model changes. Since its emergence in 1983, China's intergovernmental cooperation environmental governance model has gradually established the inherent attribute of being guided by the central government and involving cooperation among local governments, exhibiting path-dependent historical inertia. The main reasons for the formation of path dependence in China's intergovernmental cooperation environmental governance model are the self-reinforcing mechanism of the governance model and the high exit costs of the governance system.

3.1.1. Self-reinforcing Mechanism of the Governance Model

In 1983, the governments of Beijing and Hebei Province signed the first inter-provincial environmental cooperation agreement, marking the transition of China's intergovernmental cooperation environmental governance model from non-existence to existence, and establishing an initial intergovernmental cooperation environmental governance network. This represented a shift from "fragmented" environmental governance limited by administrative boundaries to "integrated" intergovernmental cooperative governance. However, the "political tournament" atmosphere centered on economic development in the 1980s led various administrative regions to evade their responsibilities through non-cooperative gaming methods. To eliminate obstacles to intergovernmental cooperation in environmental governance, China has in recent years placed great emphasis on ecological civilization construction, incorporating environmental quality into officials' performance assessments, thereby effectively dispelling the impact of the "economy-first" ideology and further expanding the intergovernmental cooperative environmental governance network. Furthermore, during the gradual development of China's intergovernmental cooperation environmental governance model, positive feedback mechanisms have been observed, with some regions achieving significant cooperation results, leading to further self-improvement of related cooperation mechanisms and collaborative networks. Under the self-reinforcing mechanism of the governance model, central departments and local governments have subtly formed recognition and reliance on the current institutional model, tending to maintain the current mode of intergovernmental cooperation in environmental governance by following historical inertia.

3.1.2. High Exit Costs of the Governance System

On one hand, the intergovernmental cooperation environmental governance model involves multiple actors, primarily decided by the Central Committee of the Communist Party of China and the State Council, with local governments cooperating and executing policies. State Council documents and speeches by Central Committee leaders typically have long-lasting authority, which invisibly raises the resistance to institutional change. On the other hand, the intergovernmental cooperation environmental governance model is an important part of the national strategy, with multiple actors jointly weaving the intergovernmental cooperation environmental governance network. Since the 17th National Congress of the Communist Party of China in 2007, which included ecological civilization construction as part of building a moderately prosperous society, the emphasis on ecological environmental protection in China has increased unprecedentedly. Corresponding policy documents and intergovernmental cooperation practices have surged, further extending the network of intergovernmental cooperation environmental governance. Therefore, even minor changes can trigger a "ripple effect" through the governance network, significantly increasing the cost of institutional change. However, institutional self-reinforcement and transformative change are not two entirely separate states. Transformations and changes are constrained by the evolution of the institution, and the emergence of new institutions is influenced by the old. In China's intergovernmental cooperation environmental governance model, there have been beneficial explorations driven by self-reinforcement and the resistance of high exit costs, resulting in a series of institutional arrangements that adapt to contemporary developments. These arrangements become new precedents and starting points for path dependence in future model changes.

3.2. Key Nodes of Sudden Development

Key nodes refer to the time points at which the continuation of an institution intersects with a period of institutional change. They often occur when there are changes in the political or economic landscape of the country or when intrinsic factors within the institution trigger a qualitative change, disrupting the previous balance and allowing for the introduction of new rules.

Since the 1980s, there have been five significant key nodes in China's intergovernmental cooperation environmental governance model. The first key node was the signing of the first inter-provincial environmental cooperation agreement in 1983, marking the beginning of China's intergovernmental cooperation environmental governance. Subsequently, various provinces signed environmental cooperation agreements, gradually forming a pattern of intergovernmental cooperation in environmental governance. The second key node was in 1990, when the Ministry of Environmental Protection was established. This department became the main administrative body for environmental protection in China, responsible for formulating environmental policies and standards and managing environmental protection work, marking a new phase in China's environmental protection efforts. The third key node was in 2003, when the Ministry of Environmental Protection and several provinces, including Beijing, Tianjin, Hebei, Shanxi, and Liaoning, signed the Regional Air Pollution Prevention and Control Cooperation Agreement. This agreement aimed to jointly address air pollution issues, indicating that the central government and local governments were moving towards substantive vertical cooperation. The fourth key node was in 2011, when the State Council issued the "Notice on Printing and Distributing the Plan for Ecological Protection and Efficient Water Use in the Yellow River Basin," requiring the implementation of ecological protection and restoration projects in the Yellow River Basin and the establishment of an ecological compensation mechanism. The issuance of this notice marked the market-oriented ecological compensation mechanism as an important means to promote cross-regional ecological

environmental governance, entering a new stage of development for intergovernmental cooperation in environmental governance. The fifth key node was in 2017, at the Central Environmental Inspection Work Conference, which emphasized promoting regional environmental governance and intergovernmental cooperation, strengthening environmental inspection and accountability, and enhancing environmental cooperation mechanisms. This propelled China's intergovernmental cooperation environmental governance into a stage of comprehensive intergovernmental cooperation across administrative regions, departments, and levels.

Overall, China's intergovernmental cooperation environmental governance model has maintained relatively stable dynamic development, with five key nodes breaking the bottlenecks of the old model. These five key nodes have successively promoted the phased improvement of China's intergovernmental cooperation environmental governance model, breaking through the historical inertia of path dependence and resonating with contemporary needs. Ultimately, they have formed a cross-regional ecological environmental governance network with Chinese characteristics, revealing the internal logic and driving force behind model updates and changes.

4. Driving Mechanisms for the Evolution of Intergovernmental Cooperation in Environmental Governance

4.1. Institutional Environment

Within the analytical framework of historical institutionalism, the formation and evolution of institutional models are closely linked to their social environment, which provides the interpretive basis for the construction of institutional models. Therefore, it is essential to examine the transformation of intergovernmental cooperation environmental governance models in the context of specific institutional environments.

In the early 1980s, China's society was in a phase of recovery and rebuilding. To stimulate local economic growth, the "promotion tournament" and the "GDP-only approach" emerged, making local economic performance a key criterion for the promotion of officials, thereby driving China's rapid economic development. However, the local governments' fervent pursuit of economic performance placed immense pressure on the ecological environment in some regions, and the public's daily life was greatly affected by cross-regional environmental issues. Consequently, the central government began to establish a cross-regional ecological governance network, leading to the signing of China's first inter-provincial environmental cooperation agreement, initiating the model of intergovernmental cooperation in environmental governance.

After Deng Xiaoping's Southern Tour, China began implementing the reform and opening-up policy, which propelled market economy and modern development. However, this also led to more severe regional environmental degradation and increasingly serious cross-regional pollution problems, prompting greater calls from all sectors of society for cross-regional ecological governance. Additionally, the "special economic zone policy" broke the constraints of local administrative boundaries, granting local governments certain autonomy, providing useful insights for the construction of intergovernmental cooperation in environmental governance. The further deterioration of the natural environment and the inspiration from cross-regional economic cooperation led local governments to explore new methods for regional environmental cooperative governance.

Entering the 21st century, China's economy transitioned to a high-speed development phase, establishing a relatively complete and modern production system. Economic development no longer relied on the exploitation and sacrifice of the ecological environment. Ecological issues became a priority for the central government, gradually elevating to a national strategic level.

The central government proposed the initiative of "building a resource-saving and environmentally friendly society," which increased the importance of intergovernmental cooperation in environmental governance. During this period, policies promoting regional ecological environment collaborative governance proliferated. In 2012, the 18th National Congress of the Communist Party of China proposed the strategic goal of "building a beautiful China," aiming for coordinated development between economic growth and ecological environmental protection. Subsequent strategies such as "promoting the legal construction of ecological civilization" and "building a new pattern of harmonious coexistence between humans and nature" were introduced. Action plans like the "Clean Water Action," "Blue Sky Defense Battle," and "Clean Land Action" were proposed during the 2015 National People's Congress, making sustainable development and ecological civilization construction strategic goals for China's economic and social development in the new era. During this period, the unique model of intergovernmental cooperation in environmental governance with Chinese characteristics was ultimately formed.

By sorting out the evolution of the intergovernmental cooperation environmental governance model, it is clear that changes in the institutional environment under historical circumstances have provided significant impetus for the transformation and development of China's intergovernmental cooperation environmental governance model. External pressures from ecological environmental damage have forced stronger cross-regional ecological governance efforts and improved governance methods. Internally, the stable driving force of national institutions has further extended and expanded the differentiated structure of intergovernmental cooperation in environmental governance. Correspondingly, the transformation of the intergovernmental cooperation environmental governance model reflects changes in the institutional environment and shifts in national strategic priorities, promoting sustainable development and ecological civilization construction as strategic goals for China's economic and social development in the new era.

4.2. Actors

According to the theory of institutional change in historical institutionalism, the formation and evolution of institutions result from the participation and promotion of multiple actors. Stakeholders use political resources to influence policy-making, promoting ideas that maximize their interests, thereby achieving their own goals and driving institutional change. Throughout the evolution of China's intergovernmental cooperation environmental governance model, multiple actors, including the central government, local governments, the public, and enterprises, have played different roles in constructing the model from various positions.

4.2.1. Stakeholders in intergovernmental cooperation in environmental governance

The driving force behind the transformation of intergovernmental cooperation in environmental governance models mainly comes from the conflicting interests of major actors. In the pattern of interest game, the central government holds a controlling position, leading the political direction and determining the allocation of political values and social resources. It has authority in the formulation of intergovernmental cooperation environmental governance policies and plays an important role in determining whether policies are implemented and planning the direction of policy changes. The State Council, the Ministry of Environmental Protection, the Ministry of Agriculture, the National Development and Reform Commission, the Ministry of Land and Resources, and others are all included in the policy community of the central government, and are key entities in the survival and evolution of the intergovernmental cooperative environmental governance model. These entities have a direct impact on the effectiveness of environmental governance and the sustainable development of the social economy in the formulation, implementation, and supervision of policies. Local governments are the main implementers of the intergovernmental cooperative environmental governance

model and have a special status. Local governments are not only implementers of notifications from central departments such as the State Council, but also makers of intergovernmental cooperation networks and governance policies. The signing of intergovernmental cooperation agreements is not only a response from local governments to the central policy call, but also a way for local governments to safeguard local economic interests while protecting the ecology. Enterprises are largely constrained by the policy guidance of local government management departments, lacking discourse power, but they are also direct influencers of intergovernmental cooperation environmental governance policies. As an important entity, enterprises not only contribute to the local economic interests, but also have a dual impact of seizing and damaging the ecological environment. In this situation, the public's attention to environmental protection issues has become a catalyst for promoting further improvement of intergovernmental cooperation in environmental governance models. Although it is difficult for the public to directly realize their demands for improving the local ecological environment through interest expression mechanisms, they can attract the attention of the central government and the whole society through proposals from National People's Congress deputies, petitioning, and public opinion exposure, thereby promoting the development of environmental governance work.

4.2.2. Game relationships among stakeholders

The construction and evolution of China's intergovernmental cooperative environmental governance model is the result of the interest game among multiple actors. The evolution of the intergovernmental cooperation environmental governance model involves multiple stakeholders and has complex and conflicting characteristics. This article selects three pairs of game relationships with significant features for analysis.

Firstly, there is a vertical interest game between the central and local governments. In the intergovernmental cooperation and environmental governance pattern in China, there exists a principal-agent relationship between the central and local governments. The central government plans the macro direction and overall goals of policies to achieve ecological benefits of harmonious development between humans and nature, and entrusts local governments to implement environmental governance policies in their respective regions; And local governments act as agents for the central government to fulfill relevant environmental governance responsibilities, responsible for specific policy implementation and execution strategies, in order to promote the coordinated development of local environmental protection and economic benefits. In the hierarchical principal-agent relationship, information asymmetry is a common problem. Due to the existence of information asymmetry, local governments may face issues of adverse selection and moral hazard. For example, by reducing policy recognition or selectively implementing policies, they can act as a protective umbrella for local enterprises' ecological damage behavior. In order to strengthen the supervision and restraint of local governments, the central government may adopt measures such as strengthening assessment and accountability mechanisms, enhancing information disclosure and social supervision, thus promoting the establishment of a closer and more collaborative intergovernmental cooperative environmental governance model.

Secondly, there is the horizontal interest game between local governments. If vertical central local cooperation governance relies on the authoritative promotion of the bureaucratic system, then local government cooperation in cross domain ecological environment governance is a two-way interactive game based on power openness and power equality. With the gradual inclusion of ecological civilization construction in the performance evaluation of local government officials, the "GDP only theory" has been self defeating, and local governments have gradually realized the vicious circle of "zero sum game" brought about by the "political tournament." In the new round of intergovernmental games, they have also begun to construct cross regional environmental governance goals through negotiation and cooperation. This

competitive game process can promote information exchange and interaction between governments, while objectively reflecting the needs and advantages of all parties, which helps to promote the construction of intergovernmental cooperative environmental governance models.

Finally, there is a multi-party interest game within the region. There is a conflict between the priority of economic development and green development in the region, with the public generally concerned about the quality of their living environment, while enterprises are more focused on increasing profits and development scale. This cognitive difference and conflict of interest forces local governments to balance the demands of various stakeholders when formulating and implementing cross regional environmental policies. They need to meet the expectations of the public for environmental and social responsibility, as well as consider the economic interests and competitiveness of enterprises, in order to prevent cross regional environmental governance from falling into the "prisoner's dilemma" game. Therefore, in order to achieve long-term win-win goals for economic and green development, local governments have to establish a more effective coordination mechanism, through cross regional cooperation and resource integration, to achieve a positive interaction between regional economy and green development.

Through the analysis of the driving mechanisms of China's intergovernmental cooperation environmental governance model, it is found that the institutional environment and stakeholders are two interrelated yet independently effective driving factors. The intertwined influence of historical contextual changes in the institutional environment acts on stakeholders. Among the stakeholders, the central government's vertical intervention with local governments, the horizontal games among local governments, and the conflicts and responses among various actors within regions form a complex game network. These factors collectively drive the institutional changes in the intergovernmental cooperation environmental governance model.

5. Future prospects of intergovernmental cooperation in environmental governance

With the changes in the institutional environment and the updating of relevant subject concepts, China has further improved the intergovernmental cooperation environmental governance model, strengthened the coordination mechanism between governments, and promoted exchanges and cooperation among various regions. However, the new era presents new challenges to intergovernmental cooperation in environmental governance models, such as global climate change and ecological degradation. These environmental issues require us to think more deeply and explore solutions. In addition, there are still areas where the intergovernmental cooperation environmental governance model can be further improved in terms of rules and concepts, such as how to better balance the relationships between various stakeholders and how to better leverage the role of market mechanisms. Therefore, continuously strengthening intergovernmental cooperation and jointly addressing various challenges in environmental governance is an undeniable issue of the times.

5.1. Establish incentive and constraint mechanisms for cross regional ecological environment cooperation governance

It is necessary to establish corresponding incentive and constraint mechanisms to effectively regulate the "free riding" behavior in cross regional ecological environment cooperation governance, ensure active participation of all parties in cooperation. On the one hand, it is necessary to continuously improve the incentive mechanism in local government management. While improving the efficiency of administrative agencies, it is also necessary to take into account their characteristics as stakeholders, improve the lack of coordination among local

equal rights governments, and seek a balance point among diverse stakeholders. Zhao Fengyi, Xiong Minghui, "The Challenges and Response Strategies of Cross Regional Water Pollution Control in China," Nanjing Social Sciences, 2017, Issue 5, pp. 74-80. Incentive mechanisms can be established through the establishment of special environmental protection funds to reward local governments that have achieved remarkable results in cross regional environmental pollution control. At the same time, national environmental protection subsidies, tax incentives, and other methods can also be adopted to reduce the cost of pollution control for enterprises and encourage them to regulate their own behavior. On the other hand, an effective constraint mechanism is also an important guarantee for the operation of the intergovernmental cooperative environmental governance model. These constraint mechanisms include legal, institutional, and regulatory restrictions, which can regulate the participation of local governments in cross regional pollution control while safeguarding their basic rights. In addition, social supervision, media supervision, and public participation are also part of the constraint mechanism, which can promote local governments to fulfill their responsibilities more transparently and efficiently, and improve their administrative efficiency and governance level.

5.2. Improve the legal and market-oriented institutional guarantee system for intergovernmental cooperation governance

The promotion of intergovernmental cooperation in environmental governance model relies on the optimal allocation of ecological resources by relevant entities such as the government, enterprises, and the market. On the one hand, it is necessary to improve and perfect the laws and regulations on cross regional environmental governance, and promote the progress of intergovernmental environmental legislation. From the perspective of the country as a whole, it is necessary to take the constitution as the core and further improve the comprehensive laws on intergovernmental cooperation and environmental governance; At the local level, local governments should fully integrate the local environmental protection legal system, and relevant regional level laws and regulations should also be formulated within the region for joint prevention and control. On the other hand, market economy measures can be combined to fully leverage the regulatory role of price mechanisms in negative externalities of the ecological environment, and to reasonably promote institutional guarantee systems such as cross regional ecological compensation mechanisms, emissions trading, and green finance systems. Taking the cross basin ecological compensation pilot project of Zhejiang and Anhui for the water source of the Xin'an River as an example, relevant practice has proved that the ecological compensation mechanism is fully applicable to the practice of the "ecological community" structure, and the performance of each unit in the community in ecological governance and ecological protection is clearly rewarded and punished, which is conducive to the realization of the goal of common governance and sharing .

5.3. Deepen regional recognition of the concepts of green development and ecological co governance

Therefore, promoting the development of intergovernmental cooperation in environmental governance models requires continuous deepening of regional recognition of the concepts of green development and ecological co governance. On the one hand, local governments need to revise the one-sided development concept of "GDP first" and the promotion game concept of "performance championship", and cultivate the concept of green development. For example, increasing the weight of regional green development indicators and cross regional ecological environment governance effectiveness in the performance evaluation of local officials, and promoting local governments to establish environmental awareness and cooperation consciousness. On the other hand, some local governments need to abandon the previously entrenched local centric thinking, strengthen the ecological cooperation awareness among

regional local governments, and establish the concept of "win-win cooperation" in ecological co governance. Only when governments at all levels establish a cooperative awareness that their own interests are based on the interests of others, and that their own environmental conditions are interdependent with theirs, can the overall interests of the region be achieved.

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