

Pathways to Improving Rural Living Environment Governance in China: A Collaborative Governance Approach

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Abstract: The governance of rural living environments is directly related to the sense of gain, happiness, and security of farmers, and is of great significance for comprehensively promoting the rural revitalization strategy, facilitating urban-rural integration, and improving the rural governance system. This project explores the governance measures, effects, and challenges faced by S County in Guangxi based on the practice of the "Thousand Villages and Ten Thousand Towns Project," using specific research methods such as literature analysis, field research, and in-depth interviews. And then summarizes the paths for optimizing rural living environment governance under the collaborative governance model from the shortcomings, extracts replicable and promotable practical experiences, and aids in the modernization of rural governance.

Keywords: Collaborative governance; Rural living environment; Environmental governance

1. Introduction

In recent years, China has placed significant emphasis on the issue of rural living environment governance, comprehensively deploying work related to "agriculture, rural areas, and farmers," and repeatedly emphasizing the improvement of rural industrial quality and the enhancement of rural planning and construction levels. These deployments are highly aligned with the concepts and goals of the "Thousand Villages and Ten Thousand Towns Project," providing strong support for the in-depth governance of rural living environments. The "Opinions of the Central Committee of the Communist Party of China and the State Council on Learning and Applying the Experience of the '1,000 Villages as Models, 10,000 Villages under Remediation' Project to Effectively Promote Comprehensive Rural Revitalization" emphasizes learning with the experience of the "Thousand Villages and Ten Thousand Towns Project" to accelerate agricultural and rural modernization and better promote the construction of Chinese-style modernization. In December 2023, rural areas across Guangxi comprehensively learned from the experience of Zhejiang's "Thousand Villages and Ten Thousand Towns Project," striving to improve the rural living environment in Guangxi, achieving beautiful and prosperous villages, and support rural revitalization in Guangxi.

Currently, phenomena such as "garbage surrounding cities," "direct sewage discharge," and "unplanned construction of houses" are prevalent in rural China, rendering the status quo of the rural living environment is not optimistic. The mainstream trend in social governance is shifting from a single government-led approach to multi-stakeholder collaborative governance model for rural living environments in China. The causes of the dilemmas facing rural living environments are largely attributed to seven factors: insufficient funding and land, imperfect institutions, the NIMBY (Not In My Backyard) effect, government decision-making errors, rent-seeking behavior, insufficient publicity and education, and low public quality. These factors create significant resistance to the governance of living environments, and the root cause lies in the long-standing government control model for managing living environments. As the single government control model becomes fatigued and gradually ineffective, diverse participation from society is the breakthrough to resolve this dilemma.

Although there have been some beneficial explorations in the academic community regarding collaborative governance, there is a lack of exploration into the optimization paths of collaborative governance in the context of China. This paper explores the optimization paths for governance of the

living environment using a collaborative model in rural China, based on case analyses of the effects of collaborative governance and the challenges faced, thereby summarizing the realization of a collaborative good governance model and revealing the optimization paths for coordinated gains in the governance of rural living environments in the Chinese context.

2. Theoretical Explanation and Analysis Framework

2.1. Application of Collaborative Governance Theory

In the 1970s, German physicist Hermann Haken conducted systematic research on synergy issues and proposed the theory of "Synergetics." Entering the 1990s, the discipline of public management integrated the ideas of synergetics with governance theory, giving rise to the theory of collaborative governance^[1]. The theory of collaborative governance emphasizes the joint participation and cooperation of multiple entities such as government, market, and society in governance. Public affairs are managed through the equal participation, competitive coordination, and cooperative complementarity of government, market, and social organizations, effectively overcoming the failures or dysfunctions caused by a single entity governance model, thus achieving more efficient and high-quality public affairs management^[2]. Collaborative theory, tailored to China's national conditions, can meet the needs of China's development and the demands of various social interest groups, reducing contradictions and conflicts. The governance of the living environment involves a broad and intricate range of issues, necessitating the introduction of collaborative governance theory to construct a governance system involving multiple entities such as government, enterprises, and residents, forming a pattern of collaborative governance co-built by the whole society.

Based on China's national conditions, the application of collaborative theory in China remains dominated by the Communist Party of China and the government, integrating multiple elements such as enterprise innovation, social organization participation, and villagers' autonomy to build a complex and highly effective collaborative theoretical system suitable for China^[3]. The main characteristics are reflected in: Firstly, the transformation of the government's role. The government is no longer the sole governing entity but has transformed into a leader and coordinator, collaborating with other social forces to promote governance together. Secondly, the introduction of market mechanisms. The role of market mechanisms in rural governance is becoming increasingly prominent, effectively mobilizing social resources and enhancing governance efficiency. Thirdly, the deepening of social participation. The participation of social forces is a key link in collaborative governance. By encouraging and stimulating the enthusiasm of social organizations and individual citizens to engage in governance, enhancing the self-management, self-service, and self-construction capabilities of social entities, and improving the overall governance effectiveness of society.

2.2. Analytical Framework

The quality or health status of rural ecosystems, agricultural production systems, and rural human settlement systems directly impacts the physical health of rural residents. Among them, rural human settlement environments have a greater influence on health, with a notable positive correlation observed between good human settlement environments and longevity^[4]. Collaborative governance is an important means of grassroots governance; the decentralization and dispersion of power help prevent the abuse of power and corruption issues. Cooperation and competition stimulate the vitality of diverse social entities and promote social innovation. Moreover, resource integration and information sharing enhance information transparency, thereby facilitating scientific and democratic decision-making.

Different entities play important roles in the governance process based on their distinct characteristics and functions. As shown in figure 1, the government plays a leading role in governance through policy formulation and planning guidance, resource integration and allocation, regulation and evaluation, among other means. Concurrently, the decentralization of power, and resource sharing promote the participation of other entities in governance. Enterprises play a significant role in technological innovation and market operations, providing advanced technological solutions for governance through innovation. Social organizations serve as a bridge connecting the government, enterprises, and villagers, integrating social resources and providing support in terms of manpower, material resources, and financial resources for governance. Villagers, as beneficiaries of rural living environment governance, play a fundamental and intrinsic role. Encouraging villagers to participate in

governance is not only a necessity for the process of social democratization but also an important force in the governance of rural living environments.

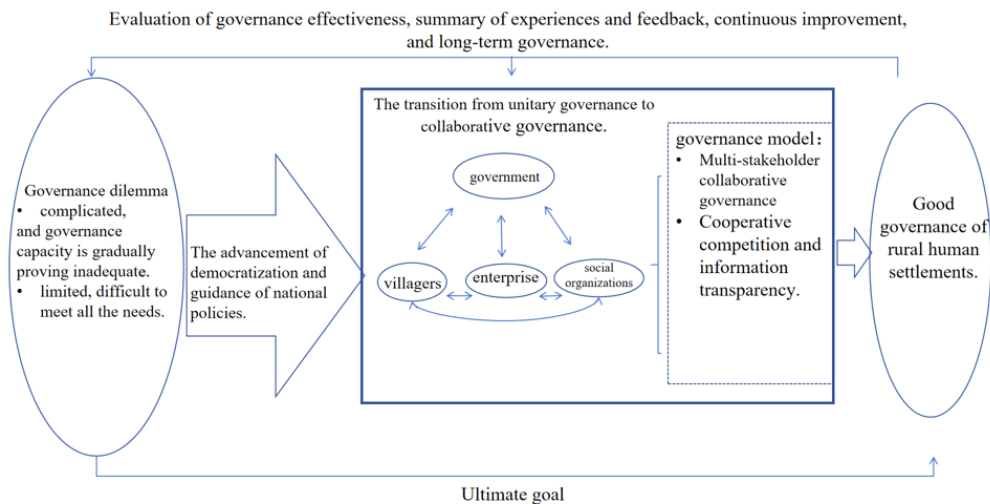


Figure 1 Collaborative Governance Living Environment Framework

Each entity plays a key role in the governance process, and all entities enhance competitiveness and information transparency through measures such as communication and collaboration, resource integration, interest connection, and goal coupling, thereby forming a social synergy. At the same time, governance of living environments is a continuous and long-term process that requires the establishment of effective supervision and feedback mechanisms. These mechanisms help provide a basis for innovative governance methods, promote the combination of autonomy and innovation, and ultimately achieve good governance of rural living environments.

3. Study Design

3.1. Research Methods

3.1.1. Case Analysis Method

Comparative analysis of villages that have achieved results in living environment governance using collaborative governance models, and selection of typical cases. Guangxi Zhuang Autonomous Region's Fangchenggang City's County S is selected as a typical case, and relevant data on the typical case is collected, analyzed, and investigated in depth. Based on the results of the case analysis, an analysis of the implementation effects and challenges encountered in rural living environments is conducted, from which optimization paths are proposed.

3.1.2. In-depth Interview Method

Based on literature analysis, clarify the effectiveness of the current localized practices of collaborative governance and the challenges encountered, and design interview outlines according to the diverse participating entities involved in the cooperative governance among multiple stakeholders. By setting interview qualifications, select interviewees, and progressively develop the interview content. Organize interview materials, review the interview content, analyze and evaluate the interview data, and construct the framework for writing the paper.

3.2. Case Overview

In order to ensure the typicality, adaptability, and inspiration of the case study, S County was selected as the case study object for the following two reasons:

Firstly, under the background of the "Thousand Villages and Ten Thousand Towns Project" empowering rural development in Guangxi, S County places great importance on the governance of the living environment and has made a lot of beneficial explorations, which have certain demonstration

effects and promotional value. County S has gradually achieved standardized operation of village-level governance by improving various governance systems, and its subordinate villages have been successively selected as the third batch of national rural governance demonstration villages, the fifth batch of autonomous region ethnic unity and progress demonstration villages, the second batch of autonomous region rural civilization construction demonstration villages, and national forest villages.

Secondly, the governance practice in S County features a diversification of participating subjects, with a clear characteristic of multi-party co-governance, involving government, enterprises and villagers in governance, which aligns with the research theme of this project. For a long time, S County has operated a villager autonomy mechanism under the leadership of the village party organization, where villagers collectively discuss and formulate village rules and agreements. Additionally, the environmental protection group collaborates with the county government to establish a county-level environmental protection industry platform company, starting from three aspects: "ecological governance, value transformation, and regional development."

3.3. Data Collection

This study adopts a diversified approach to data acquisition, collecting materials through fieldwork and organizing materials via online channels. Through in-depth field research and using semi-structured interviews, we gain a detailed understanding of the key participants in rural living environment governance: government departments, enterprises, social organizations, and villagers, as well as the operational mechanisms in governance practices. At the same time, we extensively collected news reports and official materials closely related to the research cases, conducting a comprehensive analysis of the effects of collaborative governance on the living environment in S County and exploring pathways to optimize rural living environment governance. This process not only reveals the applicability of the collaborative governance model to the public issue of rural living environment governance but also provides empirical verification.

4. Case Analysis and Discussion

4.1. Impact of Coordinated Governance on Living Environment

The operational mechanism of coordinated governance of the living environment mainly includes: firstly, encouraging the participation of multiple stakeholders; S County employs villagers' autonomy to motivate villagers' enthusiasm for governance. Secondly, interest connection; through the leadership of modern local worthies, villagers' subjective initiative is stimulated, thereby constructing an interest connection mechanism. Thirdly, resource integration among multiple stakeholders; rural land resources include public and private spaces, effectively integrating and transforming private and public land resources is an important measure for rural living environment governance. Fourth, building a communication and collaboration platform; village committee secretaries regularly attend county meetings to ensure timely updates on new policies and facilitate the flow of information within the county, thereby better implementing grassroots governance. These measures promoting collaborative governance have had beneficial effects on the living environment governance in S County:

4.1.1. Promoting the endogenous motivation for governance, reducing government governance pressure

Collaborative governance has shifted non-official entities from passive governance to active governance, promoting endogenous motivation. In the governance process, villagers exercise autonomy, enterprises innovate and develop environmental protection industries, social organizations promote environmental protection content, thereby alleviating government governance pressure, effectively advancing governance planning, and significantly developing rural construction. The S County government coordinates the planning and construction of urban and rural areas, orderly advancing the practical village planning of "integrating multiple plans into one." Grassroots autonomous organizations assist the government in rural construction management and housing control, collaboratively compiling regionally characteristic housing construction atlases for villagers to choose from for free, while villagers build their residences according to the plans. The layout of residences has shifted from dispersed construction to concentration in central villages and hubs, improving the tidiness of rural housing construction.

As of 2024, S County has successfully established 3 national "Hundred Counties, Thousand Towns, Ten Thousand Villages" rural revitalization demonstration villages, created 11 county-level rural living environment improvement demonstration points, achieving the goal of having a county-level demonstration point in every township. At the same time, each township has strengthened the improvement of rural living environments based on local conditions, following the work idea of "step-by-step implementation, mobilizing the whole area, leading by example, and creating models," gradually expanding the coverage of rural living environment improvement demonstration points.

4.1.2. Project funding steadily increases, promoting the construction of living environments

With the increasing awareness of governance and environmental protection among enterprises and social organizations, they actively respond to Chinese policies and participate in the governance of living environments. Enterprises reduce the government's workload by investing in environmental protection projects. The enterprises in S County leverage the advantages of local agriculture and collaborate with local farmers to develop agriculture. Enterprises first negotiate with farmers, and after reaching an agreement, farmers are required to plant specific crops, which they sell to the enterprises during the harvest season. The fertilizers used by farmers are uniformly provided by the enterprises to ensure quality. This not only provides employment opportunities for farmers but also addresses the issue of land abandonment. Social organizations promote the hardening of rural roads and the resolution of garbage disposal issues through publicity and fundraising measures among villagers.

In 2023 and 2024, S County's finance for rural living environment improvement approached 70 million yuan, successfully constructing 26 projects covering 18 villages, with 10 rural waste transfer stations, and clearing over 2,500 tons of village waste, achieving a 100% coverage rate in townships. The county allocated over 400,000 yuan for the rural toilet revolution construction, implementing one comprehensive rural toilet revolution project, with nearly 300 household toilet renovations. At the same time, S County also implemented a public lighting project in villages, installing 120 solar streetlights, benefiting 15 villages.

4.1.3. Rapid Development of Green Industries and Significant Improvement of Living Environment

S County has explored an innovative path of "eco-environmental industry + comprehensive cooperation between government and enterprises," achieving dual development of environmental protection and enterprises through the establishment of high-quality government-enterprise platforms and integrated development models. The government and state-owned enterprises have cooperated deeply to jointly establish a joint venture company. This government-enterprise cooperation model packages and acquires local ecological and environmental industry facilities through asset mergers and acquisitions, franchising, etc., achieving unified planning, investment, construction, operation, and management. Driven by government-enterprise cooperation, S County's ecological and environmental enterprises have developed rapidly. The joint venture company has taken over and operated key environmental protection facilities, and through the implementation of a series of demonstration projects, has promoted the improvement of environmental quality and governance capacity in the county.

At the same time, S County has increased investment in afforestation and environmental beautification measures, expanding green coverage through artificial afforestation and forest protection, with a forest coverage rate reaching 64.18% by 2021 and increasing year by year. The county has the only large forest-type nature reserve in Guangxi, which is one of the highest-ranked important protected areas in the country.

4.2. The Real Dilemmas and Logical Causes of Collaborative Governance of Rural Living Environment

The governance issues of rural living environments are characterized by fragmentation and large-scale projects. Currently, although S County has made certain progress in building livable and business-friendly beautiful villages, there are still problems such as relatively weak rural infrastructure, heavy workload in rural living environment improvement; shortage of project construction funds, lack of project maintenance funds; insufficient roles of multiple stakeholders, and a prevalent mindset of "waiting, relying, and demanding". The logical causes mainly include the following reasons:

4.2.1. Unbalanced Regional Economic Development and Significant Historical Debts

Due to the geographical location and historical reasons of S County, economic development has been slow and planning started late. The level of village construction is low, with some villages lacking

paved roads, and the coverage of garbage collection and treatment facilities and domestic sewage treatment facilities is low. The work of improving the rural living environment is heavy and under great pressure. As of 2024, S County has built 100 domestic sewage treatment facilities and 14 toilet revolution projects covering entire villages, with a coverage rate of only 11.3%; the sanitary toilets built by the residents only collect and treat feces, while other sewage is still discharged openly; some projects are not operating normally. Preliminary statistics indicate that 20-30 projects implemented by the environmental protection department are damaged to varying degrees and cannot function properly.

4.2.2. The prevalence of free-riding, NIMBYism, and broken windows mentality

The mentality of "waiting, relying, and demanding" is still prevalent among social groups. The improvement of the living environment has positive externalities, and the spillover benefits of improving the living environment can be enjoyed unconditionally by every local resident, leading to a free-riding mentality among some residents. For infrastructure construction such as garbage treatment plants and sewage treatment plants, which have odors or affect the living environment, residents are often unwilling to have them built near their living areas, exhibiting NIMBYism.

The main beneficiaries of rural living environment improvement are villagers and enterprises and social organizations that rely on rural resources for development. However, due to reasons such as living standards and overall quality, most members of the social entities still have a weak awareness of participating in the improvement of the living environment in villages, showing indifference and lack of concern, and phenomena such as not contributing money or effort. Some villagers have become accustomed to the previous "dirty, chaotic, and poor" environment, and with the government's inaction, a "broken windows" mentality has gradually formed.

4.2.3. Rural aging and hollowing phenomenon affect economic development

Due to the unbalanced development between urban and rural areas, there are significant gaps in economic development, education levels, and living environments. Young labor forces in rural areas either go out to work or move their entire families away from the countryside, leading to increasingly serious rural aging and hollowing phenomena. The villagers who remain in the countryside are mostly children, the elderly, or disabled individuals with limited mobility. In this situation, there is a severe shortage of labor for rural construction, economic development is slow or even stagnant, severely restricting infrastructure construction, job opportunities cannot be provided, and young people go out to work, forming a closed loop that hinders economic development and rural construction.

5. Countermeasures and Suggestions

5.1. Innovative Collaborative Governance Model to Promote Regional Development

5.1.1. Digital Governance Provides New Pathways for Collaborative Governance Models

In the digital age, utilizing scientific and technological innovations to build digital governance and establish a collaborative governance platform. The collaborative governance cooperation platform provides a venue for sharing experiences and mutual learning, facilitating communication between the government, enterprises, social organizations, and villagers. The collaborative governance platform needs to establish an information-sharing mechanism to ensure timely and accurate information exchange among diverse stakeholders, thereby enhancing the accuracy, democracy, and efficiency of governance decisions. At the same time, the platform should regularly hold exchange activities to gain deeper insights into different stakeholders through interactive events, promoting mutual learning and reference. To adapt to social development, the platform needs to establish an effective feedback mechanism to continuously update and optimize its functions and services.

5.1.2. New Model of Government-Enterprise Cooperation Promotes Sustainable Development of the Human Settlements Environment

As a new collaborative governance model, government-enterprise cooperation involves the joint management and supervision of projects by the government and enterprises, optimizing resource allocation through resource sharing and integration, and rational distribution of resources to improve the quality and efficiency of human settlement governance. At the same time, both parties share risks and benefits, increasing the risk-bearing capacity of enterprises and attracting them to invest and develop in rural areas. Government-enterprise cooperation can provide employment opportunities in rural areas, better integrate local characteristic resources, develop local specialty industries, and extend

the industrial chain to enhance economic development levels and improve the quality of rural life. Additionally, joint ventures attract young people to return to their hometowns for entrepreneurship and employment, addressing the issue of talent shortages in rural areas. Furthermore, it is necessary to establish a rural talent training system to select and cultivate a group of culturally knowledgeable, technically skilled, and business-savvy rural governance leaders, enhancing governance capabilities, management levels, and innovative awareness, thereby playing a leading and exemplary role.

5.2. Strengthening the Role of Non-official Governance Entities to Mobilize Governance Enthusiasm

Based on China's national conditions, the Communist Party of China and the government play a leading role at the core of governance. Strengthening the role of non-official governance entities and alleviating the pressure on government governance is key. Non-official governance entities, such as enterprises, social organizations, and residents, can supplement government governance resources, improve governance efficiency, and enhance social participation and sense of identity, thereby reducing the pressure on government governance.

5.2.1. A good cooperation mechanism is an important prerequisite for strengthening the role of non-official governance entities

Good interaction between the government and non-official governance entities is the foundation for promoting good governance, an important prerequisite for strengthening the role of non-official governance entities, and key to establishing a good cooperation mechanism. The government should strengthen overall planning, formulate a detailed list of collaborative governance responsibilities, improve relevant policies and systems, clarify the division of responsibilities, and coordinate the connections among the government, enterprises, the public, and social organizations, fully leveraging the synergy of multiple entities.

Strengthen the government's inspection and supervision work to promote the implementation of measures. A supervisory team composed of the county party committee's agricultural office, the county agricultural and rural bureau, the housing and urban-rural development bureau, and the supervision and examination office will conduct inspections based on actual work conditions to ensure that various tasks for improving the rural living environment are implemented. The government needs to establish and improve the inspection mechanism for environmental remediation, conduct regular special inspections, and ensure that all policies and measures are put into practice. Additionally, strengthen cooperation with grassroots rural organizations to closely integrate environmental remediation work with the daily management of village committees, ensuring accountability. By establishing a performance assessment and accountability system, clarify the responsibility targets for each village, conduct regular performance evaluations, and promptly urge rectification for underperforming villages. A third-party supervision mechanism can also be introduced to ensure the transparency and fairness of governance work, promote the effective implementation of remediation measures, and ensure the continuous improvement of the rural environment. At the same time, in-depth research on existing methods for handling conflicts and disputes in the region and traditional governance experiences should be conducted, reasonably integrating them into the new collaborative governance system to achieve an organic combination of new and old governance models, reducing issues of unclear responsibilities and powers caused by system conflicts.

5.2.2. Villager autonomy is an important measure to enhance the governance role of non-official entities

Villager autonomy is an important guarantee for the sustainable development of rural living environment governance and a crucial aspect of democratizing governance. Stimulating villagers' awareness of governance and enhancing their governance capabilities are key elements of villager autonomy. It is necessary to innovate publicity methods, break through the traditional comfort zone of promotion, and strengthen the rural population's understanding of responsibilities and obligations. Through various channels, such as village broadcasts, bulletin boards, WeChat groups, etc., environmental protection knowledge should be disseminated to enhance villagers' awareness of environmental protection. Secondly, attention should be paid to stimulating the main body role of the masses by establishing volunteer teams for environmental remediation, encouraging villagers to actively participate in cleaning activities, waste sorting, and other daily governance tasks. At the same time, by organizing various environmental governance activities, competitions, and establishing corresponding reward mechanisms, more villagers can be motivated to actively participate in

environmental remediation, enhancing the sense of collective responsibility. This allows the masses to truly become the leaders, participants, and beneficiaries of rural living environment governance.

6. Conclusions

With the continuous improvement of the level of economic and social development, the first and most important step in achieving China's rural revitalization strategy is to accelerate the governance of rural living environments. Collaborative governance is the trend in living environment governance, which is conducive to leveraging the complementary roles of formal and informal systems, achieving mutual penetration and mutual reinforcement between the government and non-official governance entities, and jointly shaping the governance order of rural living environments. At the same time, based on the market principle of "who pollutes, who profits," the government and other entities should coordinate and distribute interests to stimulate the development of environmental protection initiatives^[5]. However, during the operational process, the uncoordinated development of ideological education and economic development has resulted in some regions still transitioning from government-centric governance to collaborative governance. Therefore, in the current context where the central government emphasizes learning from the "Thousand Villages and Ten Thousand Towns Project" experience, various regions should learn from each other, co-govern living environments, and promote good governance of living environments.

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