ISSN: 2414-1895 DOI: 10.6919/ICJE.202208\_8(8).0066

# Knowledge Graph Analysis of Domestic Rural Environmental Remediation Research based on CiteSpace

Hao Liu, Lili Wu\*

College of Horticulture and Gardening, Yangtze University, China

## **Abstract**

Rural environment improvement is an essential part of rural revitalization and the construction of a well-off society in an all-around way. Rural environment improvement is the key to improving the living environment of rural residents and promoting the construction of the ecological environment. In order to objectively and accurately grasp the current hotspots and trends of domestic rural environmental remediation research, this paper takes 3327 related documents collected by CNKI in the past ten years as the research object. Analysis of hotspots, cutting-edge trends, etc. The analysis results show that the research on rural environmental governance mainly focuses on four aspects: national policy, fundamental difficulties, ecological environment, and management system. Through the analysis and summary of the above content, this paper hopes to draw lessons from future research on rural environmental governance in our country.

## **Keywords**

Countryside; Environmental Improvement; Urban Space; Bibliometrics.

## 1. Introduction

In order to speed up the improvement of the rural environment in our country, our country has further improved the quality of the rural environment. In February 2018, the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council issued the "Three-Year Action Plan for Rural Living Environment Improvement." Our country strengthens the comprehensive improvement of the rural environment, and our country builds beautiful and livable villages. These are one of the core contents of the construction of new socialist countryside, and these are essential means to promote the construction of beautiful villages.

A rural living environment refers to the combination of the natural and artificial environments in which farmers live and work. The rural living environment includes the natural environment, such as houses, roads, farmland, etc., as well as the manufactured environment, such as production, way of life, interpersonal relationship, social conditions, etc. [1] As an essential part of revitalizing rural construction, environmental improvement is worthy of an in-depth study by scholars. This paper uses the literature and journal materials about rural environmental remediation in the CNKI database. This paper uses CiteSpace visualization software to analyze the knowledge map of rural environmental remediation[2]. This paper analyzes the research status and hot trends of rural environmental remediation. Research provides ideas.

## 2. Data Sources and Research Methods

#### 2.1 Data Sources

This article takes the "General Database of Chinese Academic Periodicals" (CNKI) as the source of literature and data, and the retrieval "themes" is "Rural Environmental Improvement," "Village Improvement," "Rural Environment Improvement," and the

ISSN: 2414-1895 DOI: 10.6919/ICJE.202208\_8(8).0066

retrieval time is 2001. - 2021. Excluding academic interviews, newspapers, book introductions, conferences, and other non-academic literature, 3327 articles[3].

### 2.2 Research Methods

Bibliometrics is a quantitative analysis method based on mathematics and statistics to analyze a literature system's distribution structure, quantitative relationship, and changing laws[4]. This paper uses CiteSpace software to draw literature data into various knowledge maps such as authors, institutions, and keywords. This paper dynamically analyzes literature information through node size, connection mode, and mutation factors[5]. This article uses the CiteSpace5.8 software version.

## 3. Analysis of Research Hotspots

Keywords are a high degree of generalization and refinement of the article's content, and the keywords reflect the core content of the research to a certain extent. In CreateSpace, this paper analyzes the "keywords" selected by the network node type and finds that the keyword co-occurrence map consists of 695 nodes and 2275 links[6], among which "environmental remediation," "rural environment," "comprehensive remediation," "village improvement," "rural areas" and other commonly used words were eliminated. Keywords such as "rural revitalization," "human settlements," "continuous improvement," "toilet revolution," "beautiful villages," and "sewage treatment" were removed[7]. The keywords that are eliminated and eliminated are the hotspots of rural environmental remediation research.

## 3.1 Policy Orientation

Since the 21st century, China's rural social and economic development and infrastructure construction have achieved remarkable results. However, problems such as unbalanced urban and rural development and insufficient rural development are still prominent.

The Action Outline for Building "Beautiful Villages in China" issued in 2008 mentioned measures to improve the rural living environment and rural environment at the specific policy level; in 2013, the Central No. 1 document first proposed the goal of building "beautiful villages." In 2018, the "Three-Year Action Plan for Rural Living Environment Improvement" proposed that our country should coordinate the production and living ecology of urban and rural areas, and our country will build beautiful and livable villages[8]. A civilized country adapts measures to local conditions, and a civilized country protects and preserves the rustic style.

Yu Fawen et al. proposed to improve relevant policies continuously, Yu Fawen et al. proposed to formulate plans, Yu Fawen et al. proposed to clarify the content and priority of environmental remediation, Yu Fawen et al. proposed to strengthen national policy supervision, Yu Fawen et al. proposed To promote rectification and sustainable development [9]. Rural environmental remediation must follow the direction of national policies, rural environmental remediation must ensure the overall effect of environmental remediation, and rural environmental remediation must promote the legalization, institutionalization, and standardization of rural living environment construction.

## 3.2 Difficulty Analysis

The improvement of the rural environment can promote the livability of the countryside, the improvement of the rural environment can promote ecological revitalization, and the improvement of the rural environment can accelerate the realization of the goal of ecological livability. The critical tasks of rural environmental improvement are rural sewage treatment, village appearance improvement, rural landscape construction, toilet manure treatment, and institutional supervision. In terms of corresponding countermeasures, Zhao Li and others proposed measures such as speeding up the construction of rural sewage treatment facilities, strengthening the control of agricultural nonpoint source pollution, and strengthening the supervision and management of livestock and poultry breeding pollution according to local conditions and constantly improve the living environment [10]. Li Yunting and others proposed the integrated treatment technology of rural domestic sewage. Li Jiangnan put forward the focus and sequence of rural environmental pollution control; Li Jiangnan

ISSN: 2414-1895 DOI: 10.6919/ICJE.202208\_8(8).0066

proposed the classification and treatment of rural garbage, which can realize garbage resource treatment. To form scientific management.

## 3.3 Research on Ecologically Livable Villages

"Ecological livability" reflects the construction of lucid waters and lush mountains and creating a livable environment in the rural revitalization strategy. In terms of promoting the construction of an ecological and livable environment in rural areas, Jia Yuanyuan and others proposed to do overall planning for mountains, rivers, forests, fields, and lakes, protect and restore them in a unified way, and add parks, green corridors, landscape sketches, etc. based on greening renovation; in the construction of beautiful countryside, environmental improvement not only It is necessary to pay attention to the construction of village appearance and village appearance, enrich the landscape effect and ecological effect. Its environment should enrich its cultural connotation and strengthen its ecological effect to highlight local cultural characteristics and promote good ecological construction. The PPP model and the traditional government governance model in the remediation show that the two governance models of rural environmental remediation should show their management advantages at different stages. The PPP model promotes the realization of multiple coordinated supplies of the government, the market, and society. The upper government has improved due to public goods and services [11]. Long-term stability is a powerful source of power for rural environmental remediation work.

## 4. Conclusion and Outlook

- 1) The research in this area in our country shows a trend of twists and turns. The domestic policy orientation greatly influences the research enthusiasm; However, the current research on rural environmental remediation has shown a trend of diversification. The previous research on rural environmental remediation still needs to combine economics, ecology, Knowledge of landscape science, and other related disciplines.
- 2) The core authors of rural environmental remediation have a high concentration and contribution rate. The core authors of rural environmental remediation are generally scattered; each scientific research institution should strengthen interdisciplinary and cross-field academic exchanges and cooperation to promote the domestic development of Rural Environmental Remediation Research.
- 3) Scholars should research rural environmental remediation, vital and complex research on rural environmental remediation, ecological livable environment research, and normalization of environmental remediation; scholars should continue to explore and expand the research field of rural human settlements environment remediation in our country, and scholars should attach importance to multiple subjects and jointly promote research. Scholars have gradually perfected the supervision system and institutional system of rural living environment improvement research through research.

# Acknowledgments

Innovation and Entrepreneurship Training Programme for Students in Higher Education Institutions in Hubei Province.

Project No.: Yz2021372s.

Project Name: R&D and operation of cultural and creative products based on Jingchu culture.

## References

- [1] Wang Songpei. Nanchang: Jiangxi Science and Technology Press, 2013. Page 1628.
- [2] Qiu Junping. The definition and research object of bibliometrics-Journal of Library Science, 1996 (02): 71.
- [3] Gao Jie. In the past three decades, our country's controlled detailed planning research includes hotspots and progress: Visual analysis based on CiteSpace software. Urban Development Research, 2020, 27 (01): 34-43.

ISSN: 2414-1895

DOI: 10.6919/ICJE.202208\_8(8).0066

- [4] Li Yurui, Cao Lizhe, Wang Pengyan, Chang Guijiang. Rural living environment improvement and rural revitalization.
- [5] Yao Yao, Shen Shiguang. Visual Analysis of Chinese Rural Landscape Research Progress and Hot Issues Based on Knowledge Graph. Landscape Architecture, 2020 (11): 82-88.
- [6] Wang Bin, Yu Fawen. The strategic task of improving the rural living environment during the "14th Five-Year Plan".
- [7] Zhao Li, Zhang Zhenwen, Sheng Yun. Research on problems and countermeasures in preventing and controlling rural water pollution. People's Yellow River, 2020, 42 (1): 40-41.
- [8] Li Yunting, Shi Yumin, Wang Jian. Research progress in the integrated treatment of rural sewage. Chinese Journal of Environmental Engineering, 2021, 11 (03): 499-506.
- [9] Li Jiangnan. The start of the improvement of the rural living environment in our country. Ecological Economy, 2018, 34 (04): 1-13.
- [10] Jia Yuanyuan, Jin Xin, Qin Xusheng. Research on the comprehensive improvement strategy of the human settlements in small towns from the perspective of rural revitalization. Research on the comprehensive improvement planning of Maoji Township. Journal of Changchun Institute of Technology (Social Science Edition), 2018,19 (03): 51-54+58.
- [11] Du Yanqiang, Liu Hanbin, Chen Ligen. What are the advantages and disadvantages of the PPP and the traditional models in improving the rural living environment? Journal of Nanjing Institute of Technology (Social Science Edition), 2020, 19 (01): 59-68+11.