

# Research hotspots and trends of Rural revitalization assisted by Farmers' cooperatives

## —CiteSpace analysis based on 2097 articles

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**Abstract:** In order to clarify the current situation of rural revitalization assisted by farmers' cooperatives, dig out the research hotspot of rural revitalization assisted by farmers' cooperatives, and explore the trend of rural revitalization assisted by farmers' cooperatives, the paper carries out visual analysis of the literature in this field, in order to provide reference for further research. CiteSpace visualization software was used to analyze the literatures collected by CNKI from 2000 to 2022. The results showed that the authors showed the characteristics of "large dispersion and small concentration". The research strength of "cooperatives and rural revitalization" is not evenly distributed, and the overall trend is biased towards the central and southern regions of China. The backbone of research is mainly research institutes and universities, and the degree of cooperation between institutions needs to be improved. Through the keywords co-occurrence network visualization map, four research hotspots are obtained, namely, rural revitalization, farmer cooperatives, rural finance, agricultural and rural modernization. Industrial integration and industrial poverty alleviation have become new emerging directions.

**Keywords—**Rural revitalization; Farmer cooperatives; Hot topics in the field; Research trend; Visual analysis; CiteSpace

### I. INTRODUCTION

China will successfully complete the task of poverty alleviation in 2020. In order to consolidate the achievements of poverty alleviation, realizing the transition from poverty alleviation to rural revitalization strategy is the core task of rural development at present. Farmers' cooperatives can integrate small farmers with modern agriculture. They are the backbone of poverty alleviation and the main force of modern agriculture development and rural revitalization. Since the implementation of the rural revitalization strategy at the 19th National Congress of the Communist Party of China, General Secretary Xi Jinping has made many important instructions: in the 2020 Statement, he pointed out that "we should actively support family farms, farmers' cooperatives and other new agricultural business entities", giving great recognition to farmers' cooperatives for helping rural revitalization. At present, scholars' review studies on farmer cooperatives and rural revitalization can be roughly divided into two categories: The first one focuses on the hot spots and development trends of the implementation of rural revitalization strategy. Zhang Xiaohan

used CiteSpace to sort out relevant literatures and achievements of the implementation of Rural revitalization strategy in China and found that rural life, agricultural and rural modernization, and industrial revitalization are the research hot spots in this field [1]. The other category focuses on the development of farmers' cooperatives. Liang Qiao sorted out the literature on the development of cooperatives from 2014 to 2017 and confirmed the status quo of the upward development of Cooperatives in China. Scholars believe that the current problem of China's cooperatives is mainly the alienation of cooperatives and the role of cooperatives in reducing poverty will attract more and more attention [2]. By summarizing the viewpoints of existing non-review literature, most scholars affirm the role of farmer specialized cooperatives, but most of the researches reflect the theme of rural revitalization or farmer cooperatives, and there are few literatures that comprehensively review the role of farmer cooperation in the implementation of rural revitalization strategy. To make up for this deficiency, This paper uses visual CiteSpace software to process relevant literature from 2000 to 2022, and analyzes the research status, hot spots and trends of rural revitalization assisted by farmers' cooperatives, aiming to grasp the overall situation and basic pattern of the research topic, in order to provide reference for policy making and academic research.

### II. DATA AND METHODS

#### A. Research tools and methods

CiteSpace is a visual analysis software developed by Chen Chaomei's team. It is easy to operate, uses a wide range of data, and creates diverse maps. CiteSpace is now widely used in more than 60 fields such as medicine, information science, and computer science. This method can realize the visualization and panoramic transformation of the textual and fragmented key points of the literature, and improve the exploitable value of the paper. CiteSpace software was used to analyze the cooperative network of research authors and research institutions, to conduct a preliminary analysis of the basic pattern of the overall situation of the research topic, to conduct clustering analysis of key words and literature co-citation analysis, to analyze the research hotspots, and to draw the time zone map of the literature to study the trend of development.

1. The Humanities and Social Science Foundation of The Ministry of Education of China (No. : 19XJC630007);

2. The Philosophy and Social Science Foundation of Guangxi (No. : 19XJC630007);

### B. Data sources and processing

Based on the database of China National Knowledge Network (CNKI), in order to select high-quality literature, core journals and CSSCI journals, the retrieval period is set as 2000-2022, in order to explore the role of farmer cooperatives in the implementation of rural revitalization strategy from the source. Use CiteSpace software, based on the "subject" retrieve objects, retrieval words include "rural revitalization + cooperative" and access to information and paper to draw close to rural revitalization of terminology research combined with cooperative, including agriculture, rural areas and farmers, modernization of agriculture and rural areas, rural, rural governance and new era of agricultural modernization and new rural construction, rural development, 2247 papers were retrieved. In order to improve the accuracy and authority of the papers, non-academic papers such as conference comments, prefixes and interviews were excluded, and the remaining 2124 papers were de-processed by CiteSpace software. Finally, 2097 papers were selected as retrieval samples.

## III. ANALYSIS ON THE NEW PROGRESS OF RURAL TRVITALIZATION ASSISTED BY FARMERS' COOPERATIVES

### A. Quantitative analysis of published literature

The number and chronological distribution of published literature can reflect the amount of knowledge and research trends in this field. Based on the retrieval samples, the number of published papers and the chronological chart of the rural revitalization assisted by specialized farmer cooperatives are drawn (Fig. 1), which shows an overall upward trend and can be roughly divided into three stages: In the embryonic stage (2000-2005), 236 papers were published; in the basic stage (2006-2012), 727 high-level journal papers and master and doctoral papers were published; in the stable development stage (2013-2017), 309 papers were published; During the intensification stage (2018-present), 702 papers have been published. The number of papers published in these four years has increased again, mainly because the rural revitalization strategy proposed by the State in 2017 has become a hot research field again with the goal of promoting agricultural and rural modernization. Although it was found that the number of literatures decreased from 2013 to 2017, based on the implementation of the current rural revitalization strategy and the function of cooperative economic organizations of farmers' cooperatives, the field of rural revitalization will still be a hot issue of scholars' attention.

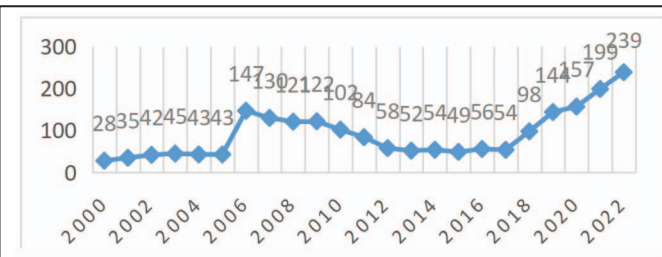


Fig. 1. Change of published literature quantity from 2000 to 2022

### B. Cooperative network analysis of productive authors

CiteSpace was used to explore the research status of authors in this field. NodeTypes = "Author" and TimeSlicing = "2000-2021" were selected at one time, each time slice was set to "1 year", and threshold TopN=30 was used to obtain 84 nodes. The number of links is 16, representing a total of 84 authors. The author cooperation network diagram with 16 links and the network density is 0.0046. According to the visualized map, Kong Xiangzhi's team is the most prominent, followed by Zhang Yifeng, Liu Dong, Li Yueqiang, Han Xudong, Yang Huilian, etc., showing the overall characteristics of "small and scattered", indicating that scholars' research on rural revitalization assisted by farmers' cooperatives has not formed a state of close contact and teamwork. The research fields of the high-yielding authors are mainly agricultural economy, followed by agricultural cooperative economy, agricultural economic theory and policy, agricultural finance, macroeconomic management and sustainable development, which reflects the professional field of the researchers. Agricultural finance research field accounts for 27%, reflecting that agricultural finance is a research focus in this field, which is related to the farmer cooperatives providing financial services such as loans for farmers. In addition, some scholars' research fields involve political parties and mass organizations, biology, plant protection, etc., showing the breadth and diversity of research fields.

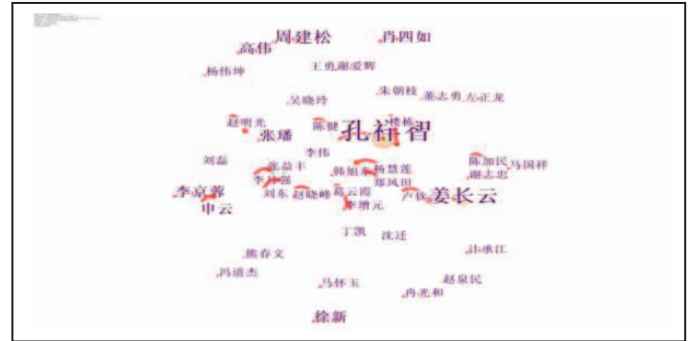


Fig. 2. Visualization of collaboration among prolific authors

### C. Some Common Mistakes

The publication status of major research institutions was analyzed by drawing the visualization map of research institutions. As can be seen from Fig. 3, the map has 91 nodes, 9 links and a network density of 0.0022. Many from the number of research institutions, research institutions, mainly composed of institutes and universities, rural development institute of Chinese Academy of Social Sciences published article 31, the school of agriculture and rural development, renmin university of China published 30, is the study of farmer cooperatives represents power boost rural revitalization of field, residual research strength mainly in colleges and universities, School of Economics of Sichuan University and School of Humanities and Development of China Agricultural University are the backbone in this field. From here reflects the connection, and network density, connection number is less, the network density is far less than high-yield authors network mapping density 0.018, with research institutions have cooperative relations at renmin university of China college of

3. The Philosophy and Social Science Foundation of Guangxi (No. : 18FSH005);

4. The periodical research results of "Governance Mechanism, Degree of cooperation and Improvement of Cooperative members' production situation (No. 2019KY0230)

agriculture and rural development, rural development institute of Chinese Academy of Social Sciences, sichuan university school of economics, etc,that study is relatively independent research institutions,The degree of its cooperation needs to be strengthened;Regional distribution from research institutions, mainly distributed in the central and southern areas in China, such as rural development institute of Chinese Academy of Social Sciences, school of agriculture and rural development, renmin university of China in Beijing, southwest university of finance and business management institute, huazhong agricultural university economic management academy in chengdu, wuhan, reflected less study of the agricultural economy in northern China.If the research force is evenly distributed, it will be more beneficial to China's agricultural development.



Fig. 3. Visualization of cooperation between research institutions

IV. RESEARCH HOTSPOT AND TREND EVOLUTION ANALYSIS

A. Keywords co-occurrence network analysis

Keywords are highly condensed and summarized in the main content of the paper. Keyword generalization based on word frequency can cluster the recurring keywords in the paper data and form the research hot spots and trends reflected in the paper data. Based on this, NodeTypes = "Keyword" is selected, and keywords are combined after running to obtain the Keyword clustering visualization map, which shows the number of nodes 298, the number of connections 1028 and the network density 0.0232. The index value  $Q=0.5604$ , greater than 0.3, indicating that the divided clustering module is effective,  $S=0.3372$ , indicating that the clustering result is reliable, but not greater than 0.5, the reason is that this paper expands the theme of agricultural economy and rural development under the background of rural revitalization, in order to clarify the process of cooperative development. Better integrated analysis with rural revitalization. According to Fig. 4, there are 8 cluster labels, representing hot spots in this research field, namely, rural revitalization, rural credit cooperatives, rural finance, rural financial system, shareholding cooperative system, organizational innovation, less developed areas, professional cooperatives, and inclusive finance. Keywords are listed in order of word frequency, the frequency of occurrence of rural credit cooperative is the highest, up to 450 times, followed by the frequency of new rural construction is 241, indicating that rural revitalization is an important stage of new rural construction. The frequency of rural revitalization is as high as 182, and that of farmer

specialized cooperatives is 179, which are the core keywords of this research topic. In addition, the emergence of keywords such as rural finance, land transfer and industrial integration reflects the function of farmer cooperatives in rural revitalization, which is also the focus of this research field. Combined with the cluster analysis visualization, literature review and analysis were conducted on the keywords under each cluster label, and the obtained keywords were further integrated to obtain the research hot spots of four farmer cooperatives helping rural revitalization: rural revitalization strategy, farmer cooperatives, rural finance, agricultural and rural modernization.

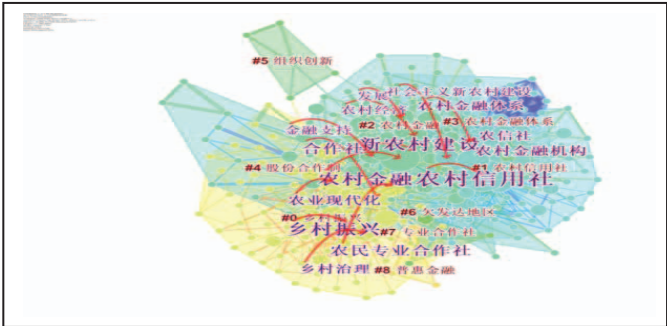


Fig. 4. Knowledge graph of keyword co-occurrence network

B. Research trend evolution analysis

Using Citespace software for keywords knowledge map for further time graph clustering analysis (see Fig. 5), according to the distribution of the key words on the time line, the horizontal axis represents s, high frequency keywords, nodes represent the s of connections between nodes represent different inheritance relationships between keywords, which can determine the clustering of time. After this study from the following four stages: (1) budding stage (2000-2005) : as China's accession to the world trade organization in 2001, "the rural economy development", "rural credit cooperatives to become" hot key words, in order to enhance the international competitiveness of agriculture in our country, the party central committee realized with the help of a farmer cooperatives can promote the upgrade of traditional agriculture. (2) Basic stage (2006-2012): The Law on Farmers' Cooperatives was promulgated in 2007, providing legal compliance for the development of farmers' cooperatives and ushering in a new stage of development for farmers' cooperatives. "Specialized farmer cooperatives" and "capital mutual aid" have become hot keywords. (3) Stable development stage (2013-2017) In 2017, China revised the Law of the People's Republic of China on Specialized Farmer Cooperatives. In 2017, the report of the 19th CPC National Congress for the first time proposed the implementation of rural revitalization strategy and affirmed the importance of farmer cooperatives to rural revitalization. Farmers' cooperatives have ushered in new development opportunities. The continuation of hot keywords such as "cooperatives" and "rural collective economy" indicates the sustainable development of farmers' cooperatives. (4) Strengthening stage (2018-present) : In 2018



on the basis of poverty engines, the precision of poverty in our country put forward the strategy of rejuvenating rural, rise all over the country the country revitalization of the wave, farmers cooperatives are endowed with the meaning of the new type of agricultural management main body, the "new type of agricultural management main body", "rural revitalization" become a hotspot keywords, highlights the state of farmers' cooperatives in rural revitalization of the play the role of importance. Ushered in the farmer cooperatives to help rural revitalization of the strengthening stage.

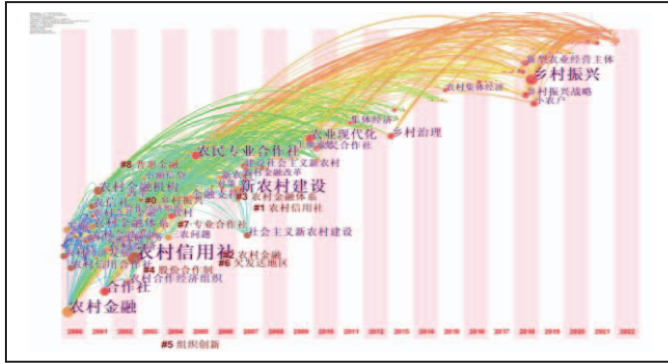


Fig. 5. Time zones of keywords

## V. CONCLUSIONS AND RECOMMENDATIONS

### A. Conclusions

Through overall analysis of farmer cooperatives boost rural revitalization found that: (1) present the growing number of research literature trend, but growth has certain instability, the main reason is that farmers cooperatives has been at the development stage, development to the advanced level, still failed to continuous play a role in the field of rural revitalization. (2) The authors showed the characteristics of "large dispersion and small concentration", and the most prolific authors were Kong Xiangzhi and Jiang Changyun. However, the highest number of papers published by high-yielding authors in this field was 11, which was not very high. The research depth of researchers needs to be improved. (3) Research institutions are mainly distributed in the economically developed regions in the central and southern regions, and their independence is strong. Therefore, the degree of close cooperation should be strengthened.

Through the analysis of the research hotspots and evolution of rural revitalization assisted by farmers' cooperatives, it is found that: (1) In the current research stage, the core keywords are rural revitalization, farmers' cooperatives, agricultural modernization, etc., which is directly related to the rural revitalization proposed by the 19th National Congress of the Communist Party of China and the amendment of farmers' cooperatives Law in 2017. (2) The key words cluster formed four keywords, namely, rural revitalization strategy, farmer cooperatives, rural finance, agricultural and rural modernization. The core hot spots of rural revitalization assisted by farmer cooperatives were determined by coordinating many keywords. (3) According to the national rural revitalization as the overall starting point to solve the problems of agriculture, rural areas and farmers, and promote

the important strategy of agricultural and rural modernization, rural governance, urban-rural integration, integration of primary, secondary and tertiary industries will be new research hotspots in this field in the future.

### B. Recommendations

Based on the above research on the core authors, core institutions, hot spots and trends of the research topic of farmers' cooperatives helping rural revitalization, it is suggested that future research should pay more attention to the following aspects: ① To improve the organization and scale efficiency of farmers' cooperatives: At present, scholars' studies on farmers' cooperatives have found that farmers' cooperatives still have problems such as "hollow society", small organization scale, lagging operation mode and lack of human resources, which need to improve the degree of organization and scale efficiency [12]. (2) the farmer cooperatives to promote rural industrial integration development: 123 central file no. 1 in 2022 to focus on developing agricultural product processing industry, continue to promote rural industrial integration development, 123 farmers cooperatives at present stage in the development of the industrial convergence study is less, the future scholars should be more detailed country revitalization of the content and requirements. (3) Researchers should not only pay attention to theoretical research, but also pay attention to empirical research and testing, so as to put forward feasible suggestions for the development of farmer cooperatives.

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