

Cui LIJUAN<sup>1</sup>

Sumy National Agrarian University, Sumy, Ukraine  
Henan Institute of Science and Technology, Xinxiang, China

Shen JIALONG<sup>2</sup>

Henan Institute of Science and Technology, Xinxiang, China

## Research on Rural Human Resources in China: Bibliometric Analysis Based on CNKI Database

**Abstract.** Literature, as a carrier of researchers' research results, can objectively reflect the development status of the field. Rural human resource development and management are of great significance and value to China's sustainable development and has received much attention as a research hotspot over the years. This study aims to understand the current situation of rural human resources research in China, help relevant scholars keep abreast of the research dynamics in this field in China, and better engage in rural human resources research. The article selects the China National Knowledge Infrastructure Database (CNKI) as the data source uses "rural human resources" as the keyword to search the relevant literature from 2000 to 2020; a total of 909 documents were searched. On this basis, it uses the bibliometric method to analyze the relevant literature. The results of this study showed the following: 1) There are era differences in the academic circles' attention to rural human resource development. From 2000 to 2020, the relevant literature showed certain volatility. 2) There is insufficient systematic research on the literature. There are many journal articles in the literature resources, but a lack of dissertations. 3) Author units are mostly concentrated in colleges and universities, particularly agricultural universities. 4) The quantity of excellent literature is insufficient, and there is little funded literature. In future research, it is recommended that relevant scholars increase their research efforts on rural revitalization and the cultivation of emerging professional farmers in light of China's national conditions, and at the same time improve the systematic and targeted research.

**Keywords:** rural, human resources, CNKI, bibliometric method, China.

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Цуй ЛІУАН

Сумський національний аграрний університет, м. Суми, Україна  
Хенанський інститут науки і технологій, м. Сінсян, Китай

Шен ЯЛОНГ

Хенанський інститут науки і технологій, м. Сінсян, Китай

## Дослідження сільських людських ресурсів у Китаї: бібліометричний аналіз на основі даних CNKI

**Анотація.** Як носій результатів наукових досліджень література може об'єктивно відображати стан розвитку цієї галузі. Управління сільськими людськими ресурсами має велике значення для сталого розвитку Китаю, а тому проблемам їх розвитку присвячено чимало досліджень. Мета даного дослідження – оцінити поточну ситуацію з дослідженнями сільських людських ресурсів у Китаї, щоб визначити актуальні тенденції досліджень у цій галузі в Китаї та показати прогалини, на які дослідники мають звернути свою увагу. У статті обрано базу даних CNKI як джерело даних, а ключовим словом для пошуку відповідних документів за період з 2000 по 2020 рр. Є термін «сільські кадри». Загалом здійснено пошук у 909 документах. Результати

<sup>1</sup> Cui LIJUAN, Sumy National Agrarian University, Sumy, Ukraine; Henan Institute of Science and Technology, Xinxiang, China.

ORCID 0000-0002-8751-9184

E-mail: 993705019@qq.com (Corresponding author)

<sup>2</sup> Shen JIALONG, Henan Institute of Science and Technology, Xinxiang, China.

ORCID 0000-0001-6703-4887

дослідження показують, що: 1) Увага наукових кіл до питання розвитку сільських людських ресурсів час від часу різна, а кількість відповідних документів за 20 років з 2000 по 2020 рр. демонструє певний ступінь нестабільності. 2) Виявлено недостатню систематичність досліджень, про що свідчить велика кількість журнальних праць у порівнянні з майже відсутністю дисертацій. 3) Авторські підрозділи в основному зосереджені в аграрних коледжах та університетах. 4) Якісних опублікованих досліджень недостатньо, досить малою є частка профінансованих досліджень. Доцільно, щоб відповідні вчені розширили свої дослідження щодо відродження сільської місцевості та формування нових професійних фермерів у світлі національних умов Китаю, і водночас покращили систематичність та актуальність досліджень.

**Ключові слова:** сільський, людські ресурси, CNKI, бібліометрія, Китай.

## INTRODUCTION

China is an agricultural country with a large rural population. The development and management of rural human resources are of great significance and value to the sustainable development of China. Scholars have researched rural human resources in various dimensions, such as management [1], development [2; 3], education [4], models [5; 6], policies [7; 8], and evaluation [9; 10], and have achieved rich results. However, few scholars have systematically sorted out this literature. In addition, in the existing literature, scholars have focused on the research status of particular specific talents, such as health care talents [11], scientific and technological talents [12], service industry talents [13], etc., and have less considered the research status of rural human resources. Therefore, this study uses the China National Knowledge Infrastructure database (CNKI) as a data source to organize and analyze the relevant literature from 2000 to 2020. Authors expect to help relevant scholars to keep abreast of the research dynamics in this field in China and better engage in rural human resources research.

## LITERATURE REVIEW

Rural human resources are the sum of the population in the rural territory that can provide various services to modern agriculture and external industries. There are many achievements in the field of human resource management in China. Still, few scholars have conducted a literature review of these achievements, and in the small amount of literature, scholars have focused on the current research status of particular specific talents. Meng [12] analyzed the hot topics of current research by using bibliometrics and Cite Space II from 1981 to 2015 in the CNKI database on "human resources in science and technology." Xu [14] analyzed 1648 hospital human resources literature searched in the CNKI database to systematically understand the current status of research in the field of hospital human resources in China, including the characteristics of the research population, the number of studies, and the content of research, which provided the theoretical basis and data support for future hospital human resources research. Yang [13] summarized the three characteristics of the theoretical achievements of the human resource service industry in China around the meaning, classification, and development status of the human resource service industry and proposed the future research direction of human resource service industry theory in China.

In addition, some scholars are more concerned with literature combing from the perspective of citation

literature; Wei et al. [15] used bibliometric analysis to analyze the citation literature of the highly cited paper "China's health human resources and its research status" during 2003-2018. They found that there are currently problems of unreasonable research team structure and the non-appearance of core authors.

Current research is more concerned with the current status of research on specific talents and less considering the current situation on rural human resources. Therefore, this study uses the China National Knowledge Infrastructure (CNKI) database as a data source to organize and analyze the relevant literature from 2000 to 2020.

## RESEARCH METHODOLOGY

This study aims to understand the current status of rural human resources research in China, help relevant scholars keep abreast of the research dynamics in this field in China to better engage in rural human resources research.

The research method used in this paper is mainly bibliometric. Bibliometrics is a quantitative method that uses statistical description, evaluation, and trend prediction to examine the external characteristics of the research literature [16]. External characteristics selected for this study include the quantity of literature, type of literature, authorship, funded status, and research topic.

This research uses papers in the field of rural human resources published in Chinese journals as the research object and uses the China National Knowledge Infrastructure (CNKI) database as the primary search source. CNKI database is currently the most prominent academic journal database in China, covering various fields such as natural sciences, engineering technology, agriculture, philosophy, medicine, humanities, and social sciences. It can provide readers with a wealth of domestic and foreign literature. Because this study aims to understand the research status of China's rural human resources, this database is selected as the primary search source.

The search period is set to 2000-2020. The search keywords are: "human resource" and "rural." A total of 909 documents were retrieved, and the statistical analysis of this study was conducted on these 909 documents.

## RESULTS

### *Number and Annual Distribution of Literature*

The number of related research literature showed some fluctuation during 2000-2020. The years 2000-2008 showed a rapid growth trend, while 2008-2011 showed a more substantial decline. Overall, during these 20 years,

the most literature was published in 2007 and 2008, with 183 papers accounting for 20.13% of the total sample. In contrast, the least number of papers was published in 2000, with only five papers. It is worth noting that the number of relevant literature published since 2015 is relatively low, with an average of 31 papers in the latter five years, which is only slightly higher than the average of 26 papers in the previous five years. This data change

is mainly because around 2007, rural areas in China were actively carrying out the project of transferring surplus rural labour, and academic research on rural human resources naturally increased. However, along with the increase in the number of transferring surplus rural labour, the level of urbanization in China increased, and the surplus rural labour decreased. So, the academic attention to rural human resources gradually reduced.

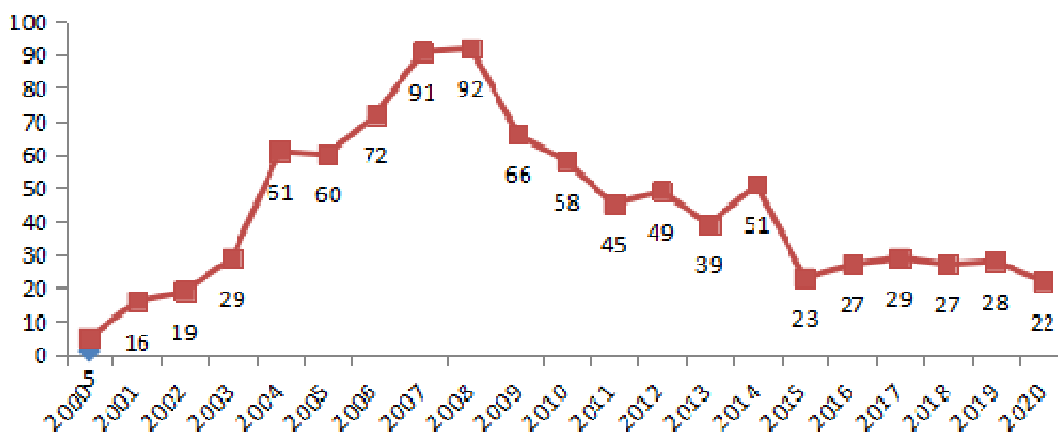


Figure 1. Annual distribution of literature related to rural human resources

Source: China National Knowledge Infrastructure database (CNKI, 2021).

Literature Type Analysis

From 2000 to 2020, there were 909 research papers on rural human resources, including 778 journal papers, 99 master’s theses, 10 doctoral dissertations, 20 conference papers, and 2 newspapers. The proportion of

journal papers was the highest, with a ratio of 85.59%, while the proportion of dissertations was lower, with 12% for master’s degree dissertations and doctoral dissertations.

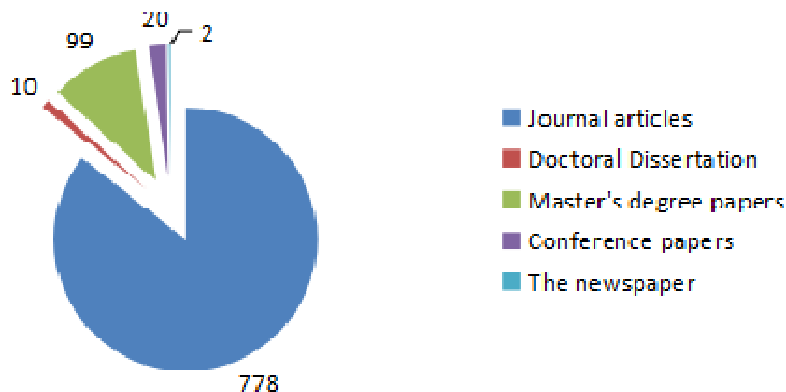


Figure 2. Types and quantities of literature related to rural human resource

Source: China National Knowledge Infrastructure database (CNKI, 2021)

Distribution of Author Units

According to the statistics of the unit of the first author of the article, it is found that the research unit of rural human resources is mainly colleges and universities. The top 10 universities published 127 articles, as shown

in Figure 3. Hunan Agricultural University ranked first with 19 articles, followed by Jilin University with 15 articles. It is worth noting that among the top 10 universities, 7 are agricultural universities, as shown in Figure 3.

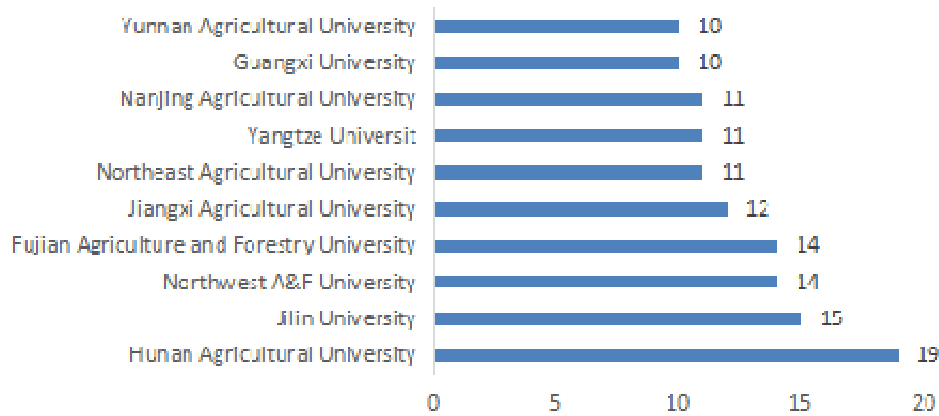


Figure 3. Distribution of author units of literature related to rural human resources  
Source: China National Knowledge Infrastructure database (CNKI, 2021)

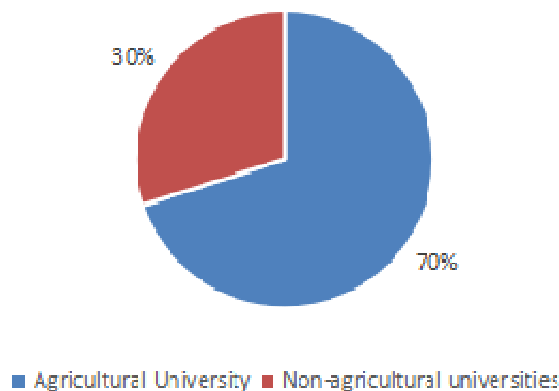


Figure 4. Nature of author units of literature related to rural human resources  
Source: China National Knowledge Infrastructure database (CNKI, 2021)

**Funding Status**

Of the 909 articles, 57 received funding, which is a low number of grants. Analyzing the reasons, on the one hand, it may be because there are fewer high-quality papers, for example, less than 200 papers published in core journals. On the other hand, it may be because most articles are published independently and do not rely on any research projects.

According to the level of funding, national, provincial, and other (including municipal and

departmental) funding accounted for 52.6%, 28.1%, and 19.3% of all funding. Among them, 17 were funded by the National Social Science Foundation, seven were funded by the National Natural Science Foundation, and six were funded by the National Education Science Planning Fund. These three types of funds are national funds. This shows that although the amount of funding for this literature is not large, the level of funding is relatively high.

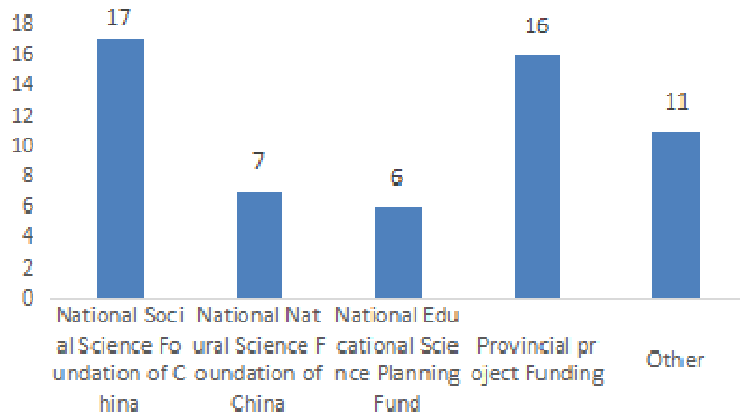


Figure 5. Funding status of literature related to rural human resources  
Source: China National Knowledge Infrastructure database (CNKI, 2021)

*Research Topics*

Among the 909 literary sources, there are many research topics, including the development and utilization of rural human resources, the relationship between rural human resources and economic development, the status quo of rural human resources, the education and training of rural human resources, and the regional study of rural human resources. Among them, 339 literature related to the development of rural human resources, accounting for 37.3%. Yang (2019) discussed the development and evaluation of rural human resources under the background of rural revitalization. She believes that the evaluation of rural human resources development can be divided into single index evaluation and multiple index comprehensive evaluation. Under the background of rural revitalization, the development entity should do an organic combination of the two [17]. Wang put forward countermeasures to promote the development of rural human resources from the aspects of theory, environment, government, industry organizations, and educational institutions [18]. In addition, 108 pieces discuss the relationship between human resources and economic development. For example, Sun (2019) launched a series of discussions on the relationship between rural industrial

structure adjustment and rural human resource development. The author believes that the change of the rural economic development mode should be realized by combining the talent structure and the industrial structure. On this basis, it analyzes the interactive relationship between the rural industrial structure and human resources. Finally, it analyzes how to do an excellent job developing human resources and promoting the continuous optimization and adjustment of the rural industrial structure [19]. Wang's empirical analysis of the relationship between human resource development and economic growth in Liaoning, Jilin, and Heilongjiang provinces from 1997 to 2015 found that there was a positive long-term equilibrium relationship between the education expenditure of Liaoning and Heilongjiang provinces and the gross regional product [20]. Ranked third is research on the status quo of rural human resources, with 75 articles. There is more literature on education and training of rural human resources and regional studies on rural human resources, with 57 and 44 articles, respectively. However, studies on the quality of life of rural human resources and their children's education are still relatively few and could be a direction for future research by scholars.

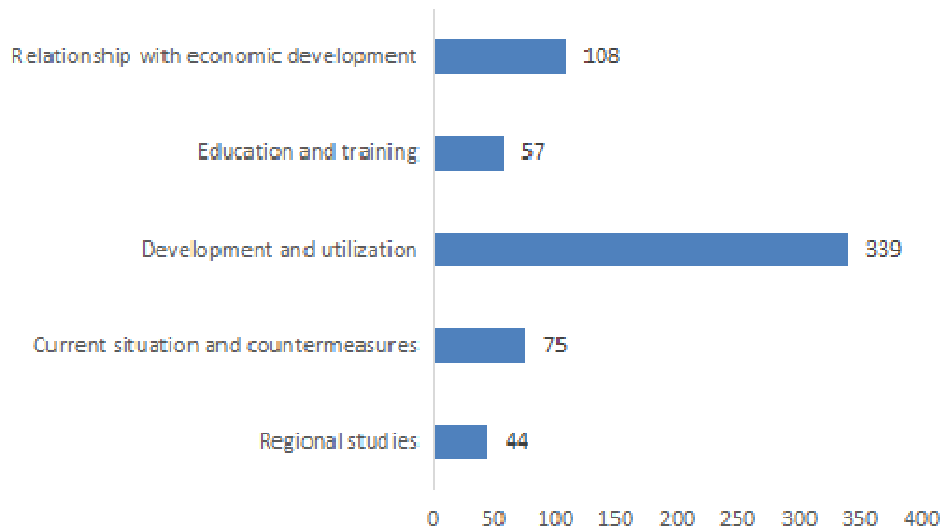


Figure 6. Research topics of literature related to rural human resources

Source: China National Knowledge Infrastructure database (CNKI, 2021)

**CONCLUSIONS**

Through the above analysis, it can be found that:

1. There are era differences in the academic circles' attention to rural human resource literature. Through the study of the number of research literature, we found that the number of relevant literature in the past 20 years has shown a certain degree of volatility, which is mainly related to the national policies implemented by China in different periods.

2. There is insufficient systematic research on the literature. Although there have been many pieces of research on rural human resources in China since 2000, systematic analysis is still very lacking. Most research results are still published in articles, while the number of dissertations emphasizing systematic research is relatively small.

3. Author units are mainly concentrated in agricultural colleges and universities. This shows that the literature is professional.

4. The quantity of excellent literature is insufficient, and there is little funded literature. Among the 909 pieces of literature, only 57 were funded, accounting for only 6.27%.

Therefore, in future studies, scholars can combine China's national conditions and increase the research on rural human resources from building new countryside and cultivating new professional farmers while paying attention to the systematical research results and the quality of research. The shortcoming of this study is that the choice of database is single, which will be tried to make up for in future research.

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