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Research Trends of Food Security In China: Global Governance Issues

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Abstract: *This study aims to broadcast globally published documents to guide the correct understanding of this context and initiate policies that the Chinese government needs. China, as one of the largest developing countries, faces the challenge of food security issues, which is an important aspect in studying the policies implemented by the Chinese government in dealing with this issue. The method used is a bibliometric analysis approach with data sources from the Scopus database. The analysis tools are CiteSpace and VOSviewer. This study found that global research trends on food security issues have influenced the interests of researchers worldwide. This is evidenced by the high number of recently published documents. Several research themes require further evaluation, including China's land protection and food policy. The implications of these findings also contribute to the formulation of China's future policies. Responsiveness to global change is also an important point to consider.*
Keywords*: Bibliometric Analysis; Food Policy; Food Security; Global Security Issues; Governance Issues*

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Introduction

The global food situation is becoming increasingly precarious, with the world population expected to reach 9 billion by 2050, necessitating a 70% increase in food production (Song et al., 2024). Eliminating hunger and ensuring food security is one of the specific UN sustainable development goals by 2030 (Pickson & Boateng, 2022). Despite the international community's best efforts to address global food insecurity, the number of malnourished people worldwide began to slowly increase in 2015 after experiencing a steady decline for several decades (Q. Lin et al., 2022). Since 1990, international grain production has grown by a rapid 2.6 percent. In 2021, global grain production was about 2.8 billion tons, and per capita disposable grain was about 305 kg. However, at the same time, 193 million people in 53 countries experienced a food crisis, which is an increase of about 26% compared to 2020 (S. Zhao et al., 2023). On the one hand, this is influenced by exogenous factors such as COVID-19, extreme climate disasters, and other agricultural production factors. On the other hand, this is also caused by endogenous economic structural problems, such as increased consumption of grain for biomass energy and increased consumption of grain for meat production (Li et al., 2021). It is estimated that in 2021, it consumed about 198 million tons of grain (Hongxing Yao et al., 2020). Meanwhile, the global need for feed grain is around 10.05 billion tons (Mperejekumana et al., 2023).

Global meat consumption has increased over the past 50 years. Global meat consumption increased from 287 million to 324 million tons in the 2010–2019 decade, or around 12.8 percent. From total consumption in 2019, East Asia, America, and Europe had the highest levels of meat consumption, reaching 100 million tons, 90 million tons, and 55 million tons, respectively. These three regions account for most global meat consumption (Bernard et al., 2022). Since 1960, world population growth and rising living standards have roughly doubled global food demand. Despite significant increases in food production capacity, there are still around 900 million people who do not have access to sufficient protein and energy in their diet; 53 countries are experiencing a severe food crisis (Y. Wang et al., 2023). Coupled with global climate change, which may exacerbate the food crisis, food security is one of the most pressing challenges facing humanity in the 21st century (S. Yang et al., 2023). Feeding a growing population and ensuring food security are two of the biggest problems facing global agriculture today. Food security plays a vital role in ensuring economic development and social stability (Wang et al., 2022).

Food security is described as a multidimensional concept that includes utilization, access, availability, and stability of food, which is usually measured by a series of indicators at the individual, household, and community levels (Morrow et al., 2023). Food security is a global issue that concerns the future of humanity (M. N. Huda et al., 2022). The 2021 global report on food crises, published by the Food and Agriculture Organization of the United Nations (FAO), shows a significant increase in the number of people suffering from hunger worldwide over the past five years (X. Chen et al., 2023). In 2020, the number of people affected by famine increased to 720–811 million. Highly integrated global food supply chains are vulnerable to policy changes, economic pressures, and natural disasters (S. Lin & Cui, 2024). In recent years, the United Nations Development

Program has analyzed the positive impacts of local food security in case studies. It is unclear how much this will improve food security and reduce dependence on foreign trade (Fei et al., 2023).

China's food security has become a global issue, especially since Lester K. Brown's book, "Who Will Feed China?" China is the most populous country, with only 7% of the world's arable land, which can feed about 19% of its population. People around the world are focusing on food security issues in China (A. Chen et al., 2019). Food security is an essential foundation for China's economic development and social stability, as well as the basis for stabilizing global food patterns (Fang et al., 2021). According to the Food and Agriculture Organization of the United Nations (FAO), food security is the availability of material and economic access to sufficient, safe, and nutritious food at all times to meet food needs and food choices for an active and healthy society (R. Yang & Xu, 2023). As the world's most populous country, China has to feed around 21% of the world's population with only 9% of global agricultural land, which has attracted global attention (Ahmed et al., 2023).

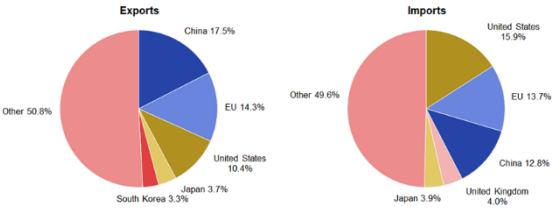

Figure 1. Impact of China's import and export trade in the world
Source: Adaptation by Eurostat (2025)

The biggest goods traders in the world are depicted in Figure 1. The world's top exporters in 2023 were China (€3,125 billion, 17.5%), the EU (€2,557 billion, 14.3%), the US (€1,869 billion, 10.4%), Japan (€663 billion, 3.7%), and South Korea (€585 billion, 3.3%). The United States (€2 934 billion, 15.9%), the EU (€2 523 billion, 13.7%), the United Kingdom (€732 billion, 4.0%), and Japan (€727 billion, 3.9%) were the top two importers in the world, followed by China (€2 364 billion, 12.8%) (Eurostat, 2025). This shows that China is becoming a dominant country in the world trade market.

Over the past few decades, urbanization and population growth have expanded worldwide, placing enormous pressure on global food security. Food security is the foundation of a country's social stability and is an essential component of national security (W. Chen et al., 2023). Recently, agricultural development in China has been characterized by the redistribution of agricultural land to higher altitudes, which may pose a significant threat to food production, food security, and even social stability in China (Ching-Pong Poo et al., 2024). The central government in China has played an essential role in driving urbanization and devising strategies to try and ensure that food insecurity is minimized in China's cities (Han et al., 2024). However, other levels of government, including provincial and municipal governments, were tasked with implementation and given the freedom to design their plans (Zhong et al., 2023). As the world's largest food consumer, China has varying levels of food self-sufficiency (Yao, Zuo, et al., 2020).

This research focuses on research trends regarding food security in the range of 2019 to 2024, considering that this year was a year of fluctuation in world food security due to the Covid-19 outbreak. In this era of globalization and competition, policy steps made by the government are essential to ensure the sustainability of

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food supplies in the long term by making food security more competitive through structural changes (Yan & Alvi, 2022).

This research contributes to the empirical literature on food security research trends in China. Currently, many studies are still examining the issue of food security. However, very few studies have been found that specifically discuss the topic of food security in China, especially in mapping global publication search results and their implications for policy formulation in China and globally. This research is to fill the gaps left by previous research by compiling new information in this article. By mapping global publication search results, this research aims to identify trends, findings, and comparisons with policy conditions regarding food security in China. This research identifies gaps in the literature that can be filled to enrich policy discussions related to food security in China. This study offers readers interested in food policy or the global economy important new information about how China's food security impacts other nations.

Method

The research methods used in the study include an analysis of bibliometrics that focuses on mining literature related to food security in China. The approach of analysis of bibliometrics was chosen because it can comprehensively describe trends related to global research on food security (N. Huda et al., 2025). This method makes it possible to identify patterns, relationships between research, and themes central to dominant literature by objective study.

Figure 2. Research Flow
Source: Created by Author

Figure 2 illustrates how secondary data (bibliometrics) from Scopus, which is used as a data source, is used to confirm the authenticity of the data obtained. The author re-checked the data by comparing it with data from other sources to maintain objectivity and improve the quality of the analysis (Suling et al., 2023).

The researcher used qualitative data processing software, Citespace and VOSviewer, to research this. In this research, the researcher used the device Soft VOSviewer to analyze co-occurrence and then realize the intellectual visualization structure (Redha & Hilman, 2024). Based on understanding the structure of platform research, researchers also analyze evolution based on categorization through the device CiteSpace to explore the development process in the field. Deep data collection techniques study. This is taken from the Scopus database with the keyword.

Based on search queries, a database of 68,437 documents was obtained related to the study trend of food security. Data collection finding strategy results: there are 578 documents related to the trend of food security from the article journals. Data is displayed in documents based on author, documents by country, documents based on document type, documents based on subject area, and documents based on year.

CiteSpace is used to sort literature related to food security in the Web of Science core collection database (W. Wang & Lu, 2020). Additionally, metrology science, data visualization, and methods analysis statistics (including analysis citation, co-citation analysis, cluster analysis, and analysis data visualization) are used to analyze literature related to food security from 2019 to 2024 and an exciting knowledge map summarizes

research and trends in the field (Z. Wang et al., 2020). CiteSpace for analyzing country representatives, keywords, and documents cited from the macro level to the micro level (Cheng et al., 2021; Su et al., 2019). Meanwhile, VOSviewer will identify pattern connections between studies, authors, and topics (Ding & Yang, 2022). VOSviewer is used to calculate and represent keywords in a way that graphics in two types of map bibliometrics: network visualization and overlay visualization (Le & Nguyen, 2023).

Results and discussion

Global Research Trends in the Issue of Food Security

In some years, the number of articles that use bibliometric analysis to study scientific research has increased. Compared to the traditional method of reviewing references, analysis of bibliometrics can process several pieces of literature and analyze them from various perspectives to produce data analysis that can be done with reliable and visualized results. Analysis of bibliometrics has become more influential and is considered an effective method for evaluating the achievement of scientific profit in predicting the trend development of discipline knowledge (Le & Nguyen, 2023).

Studies on the theme of food security have already been conducted, and this has become a trend in the last five years. This is often discussed because China is one of the countries with the densest population in the world. Food security becomes an interesting global issue, too, considering that China is a country where the ongoing origins of Covid-19 for several years later started in 2020. Of course, China experienced conditions that fluctuated in overcoming matters. The Chinese government sought to apply the right policy with consideration of the country's adequacy and security. From the corner look, that is the theme I use to write and get it made, as viewed in the study. The image below shows the trend publication on food security in China, which will occur from 2019 to 2024.

Under this is a document data trend study related to total publications and total citations based on the year.

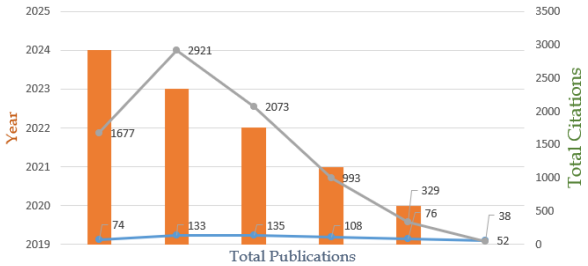

Figure 3. Total Publications and Total Citations by Year
Source: Adapted by Scopus

Figure 3 shows the trend of increased growth in the whole from the year 2019 to 2023 on the Scopus database. In 2019, a total of 52 documents were published. In the year 2020, experience enhancement compared to previously, a total of 76 documents were published. This trend keeps increasing along with the enhancement of published documents from the previous year. In 2021, there were 108 documents published; in 2022, there were 135 documents published; in 2022, there was a decline in published documents; that is, there were 133 documents published. Finally, in 2024, there will be 74 document publications. Analysis This reflects the dynamic development of knowledge in the issue of food security and shows a trend of growth in the effort to understand and develop concepts and strategies in the field.

Figure 3 shows the number of publications related to food security according to total quotes (gray colored line graph) and total publications (blue colored line graph) throughout the year of publication. It is appropriate to note that fluctuation appeared from 2019 to 2024. The total number of publications occurred in 2022, with 135 documents (23%), whereas the highest citation occurred in 2023, with 2921 total citations, with an average of 21.96 per publication.

Table 1. Average Citation by Years

Year	TP	%	TC	C/P
2024	74	13%	1677	22.66
2023	133	23%	2921	21.96
2022	135	23%	2073	15.36
2021	108	19%	993	9.19
2020	76	13%	329	4.33
2019	52	9%	38	0.73

[a] Notes: TP = total number of publications; TC = total citations; C/P = average citations per publication.

Source: Data Processed by the Author

Table 1, distribution quotes experienced fluctuation throughout the five years. This matter interprets that several periods use quotes adapted to the number of publications in the year. Based on the average citation results, it is visible that the best were in 2022, 2023, and 2024 (C/P = 15.36, 21.96, and 22.66), with average citations being higher. There are ten average citations per publication. It said that the impact and relevance of scientific research still exist because more than a dozen still accept its publication to hundreds of quotations per year.

During several years, an increased number of publications about food security in China has given rise to several significant implications. First, trend enhancement reflects increasing awareness and interest of researchers in global governance issues regarding food security in China and its impacts on policy. The implication is that studying more carry-on can deepen understanding of the dynamics of complex food security and provide a foundation for the development of relevant and effective policies at the global level (Rifqi et al., 2025). Second, fluctuation in publications over the years shows that external factors, like global events or changes in national policy, and the occurrence of certain incidents can influence interest in issuing food security. This matter has important implications for developing a responsive research agenda to change the context of social, economic, and political possibilities and influence the development policy of food security in China.

Besides, in some years, contribution studies can give an outlook on the knowledge gap or aspects that have not gotten enough attention. The implication is that future research can focus on the field. This will fill in the gap in existing knowledge, provide a more comprehensive understanding of food security, and support more effective policies. Thus, analysis of its own implications is essential in forming direction and priorities for future research and developing relevant policies in food security.

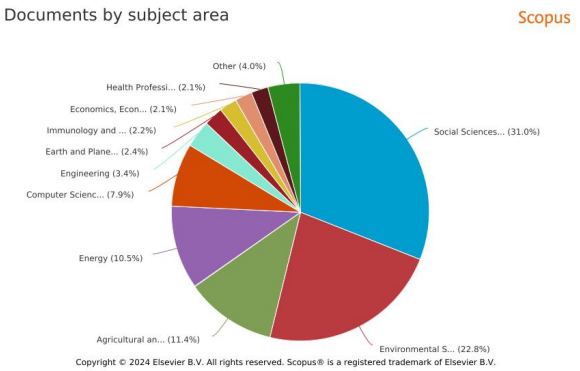

Figure 4. Document by Subject Area
Source: Adapted from Scopus

The data trend and related research documents are also based on the subject area. Findings published about the

trend of food security in China, the existing scope of the trend can be noticed in Figure 4 and Table 2. According to the Scopus database, the trends discussed the most in the field of social sciences were 31.0%, with 578 documents. Other fields: Environmental sciences at 22.8% with 424 documents, agricultural and biological sciences at 11.4% with 213 documents, energy at 10.5% with 195 documents, computer science at 7.9% with 148 documents, engineering at 3.4% with 64 documents, earth and planetary sciences at 2.4% with 45 documents, immunology and microbiology at 2.2% with 41 documents, economics, econometrics, and finance at 2.1% with 40 documents, health professions at 2.1% with 40 documents, and other at 4.0% with 75 documents.

Several documents based on field studies give a rich and varied picture of diverse disciplines of science involved in studying food security in China. The table shows that the field is the most dominant study in the literature. This is "Social Sciences," with 578 documents highlighting its importance in developing policy-related food security in the social and political contexts. Apart from that, "Environmental Sciences" and "Agricultural and Biological Sciences, Energy, and Computer Science" also have significant contributions, with 424, 213, 195, and 148 documents showing that aspects of environmental and agricultural and biological sciences, energy, and computer science play an important role in understanding and formulating food security in China.

Table 2. Subject Area of Document

Subject Area	Number of Articles	% Articles
Social Sciences	578	31.0%
Environmental Science	424	22.8%
Agricultural and Biological Sciences	213	11.4%
Energy	195	10.5%
Computer Science	148	7.9%
Engineering	64	3.4%
Earth and Planetary Sciences	45	2.4%
Immunology and Microbiology	41	2.2%
Economics, Econometrics and Finance	40	2.1%
Health Professions	40	2.1%
Others	75	4.0%

* Source: Prepared by Subject Area on Scopus data.

Source: Data Processed by the Author

Table 2 show, the findings reflect that the study of food security in China is not only related to the social sciences aspect but also related tightly to elements of Environmental Sciences, Agricultural and Biological Sciences, energy, computer science, and health professions to create a perspective for supporting the development of more policies effective and sustainable. With various disciplines, science, and research, this can give more comprehensive views and integrate them in supporting the government in making policies and implementing them regarding the issue of food security. The implications are collaboration, cross-disciplines, and integration of various perspectives from energy, knowledge, social, and scientific environments, which are very important in developing effective policies in tourist sports. Findings give a base for understanding complex related food security issues and encourage more future research to support the development of policy sustainability in utilizing potency-positive food security issues.

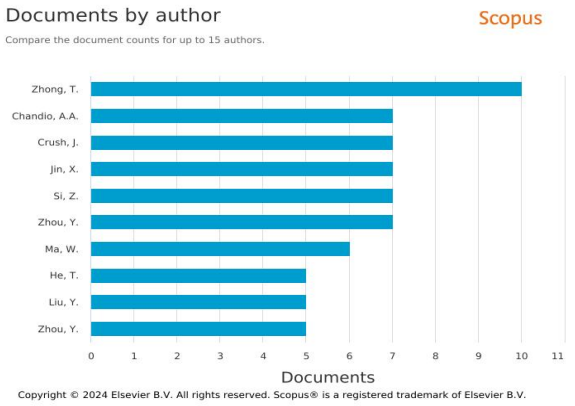

Figure 5. Document by Author
Source: Adapted by Scopus

This document presents data trends from other related research authors. Figure 5 and Table 3 show the ten authors about trend resilience's most productive food from 2019 to 2024, with 578 documents analyzed, for which data was obtained from the Scopus database in the previous period. Based on Figure 5 and Table 3, the number of published documents, Taiyang Zhong occupied the top ranking with ten documents, followed by Abbas Ali Chandio, Jonathan Crush, Xiaobin Jin, Zhenzhong Si, and Yinkang Zhou with seven documents. Wanglin Ma with six documents. Then, Tingting He and Jing Liu had five documents, as well as the position of Yu Cao with four documents.

Table 3. Authors of the Document

Authors	Freq	TC
Zhong, Taiyang	10	120
Chandio, Abbas Ali	7	51
Crush, Jonathan	7	77
Jin, Xiaobin	7	253
Si, Zhenzhong	7	101
Zhou, Yinkang	7	253
Ma, Wanglin	6	45
He, Tingting	5	39
Liu, Jing	5	206
Cao, Yu	4	61

[a]Notes: Freq = frequency; TC = total citations

Source: Processed by Author

Table 3 shows detailed data about productivity in those several years. Taiyang Zhong became a writer with productivity publications for five years with ten publications with total citations (TC= 120), then Abbas Ali Chandio with total citations (TC= 51), Jonathan Crush with total citations (TC= 77), Xiaobin Jin with total citations (TC= 253), Zhenzhong Si with total citations (TC= 101), and Yinkang Zhou with total citations (TC= 253). Furthermore, Wanglin Ma has a total citations (TC= 45), Tingting He has a total citations (TC= 39), Jing Liu has a total citations (TC= 206), and Yu Cao has a total citations (TC= 61). Xiaobin Jin and Yinkang Zhou became writers with the highest number of citations, 253.

Global Research Trends in Issue Food Security: An Analysis based on Clusters.

This mapping use results in the smallest amount carried out across the board by publishers, whose data obtained from Scopus is the smallest. This includes keywords, references, and authors, which are later used for CiteSpace. The image below shows keyword results, references, and keywords with 11 clusters.

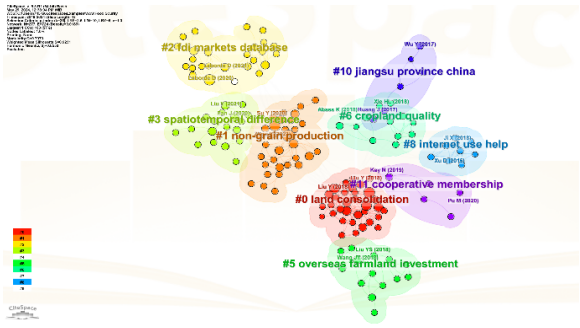

Figure 6. Clusters of Knowledge Domains Within Food Security in China
Source: Created by Author

On the visualization network figure 6 with appearance density, analysis of DAS keyword analysis Cluster view analyzes indexed keywords and terms related to

each journal (keyword plus) and aims to uncover hotspots in the field. Mobility keyword analysis is used to get more perspective on something in the field and to ensure potency in the study. At this moment, the direction has the potential to be at the front. Defining "cluster" as a collection of separate nodes in groups, denoting specific domains or concentration themes, will be beneficial in merging more nodes further. The cluster level is chosen based on phrase nouns in each cluster after filtering the title, keywords, and abstract article. Phrase nouns with the highest ranking were chosen as a cluster label. CiteSpace provides marking automatically on the network grouping so that noun phrases may be extracted from titles, keywords, or abstracts through three algorithms (LSI, LLR, and MI). Ratios such as log (LLR) tests tend to reflect aspects unique to a cluster, which is more suitable for producing quality tall groupings with intra-class similarity and similarity between classes. Researchers grouped keyword maps according to the LLR algorithm in CiteSpace software to get a timeline view of eleven clusters, as shown in Figure 6. Keywords from the same cluster are on the same horizontal line, and each node represents a keyword set in the year when it first appeared, connected by lines. Through the timeline, we can observe a range of keyword time incidents and up-and-down content studies specific to clusters. Table 4 shows more details about this cluster.

Cluster (#0) Land Consolidation is a cluster with 33 documents; this cluster also has a silhouette mark of 0.941. Most of the documents mentioned in this cluster are about land use, nine are about rural sustainability, and eight are about land consolidation. Document, most importantly, in this cluster Zhou et al. (2020). This explains the consolidation of land and revitalization in rural China, that is, the policy to make land food in frame guard resilience food with the revitalization of land agriculture in rural areas, which can be used for land production.

Cluster (#1) Non-Grain Production is a cluster with 32 documents with a silhouette of 0.804. The most documents mentioned in this cluster are three about mercy about cultivated land protection, eleven about production expansion, and seven about agricultural eco-efficiency. The most important document in this cluster is Zhang et al. (2023), about spatial-temporal characteristics and policy implications for non-grain production on land agriculture in the Guanzhong Region.

Cluster (#2) The FDI Markets Database is a cluster with 25 documents and a silhouette of 0.981. Most of the documents mentioned in this cluster are about ten risks to global food security, four about poverty, food security, and diets, and four about openness contributing to food security. The most important document in this cluster is Y. Zhao & Chen, (2023), About global patterns of investment in agriculture and food security.

Cluster (#3) Spatiotemporal Difference is a cluster with 18 documents, with a silhouette of 0.87. The documents mentioned in this cluster are four about reflections on food safety, four about the temporal dynamics of grain, and four about the impact of urbanization. The most important document in this cluster is (2022), which discusses the difference between spatiotemporal, evolutionary dynamic, and trending connection coordination pairs between urbanization and resilient food in China.

Cluster (#4) Overseas Farmland Investment, a cluster with 14 documents that have a silhouette of 0.961. The documents mentioned in this cluster are four about implications for food security, three about land use policy under the economic transformation, and three about investors globally. The most important document in this cluster is Lu et al. (2020), About Pattern Distribution, Spatial and Optimization Strategies, Investment in Land Agriculture Overseas, Chinese.

Cluster (#5) Cropland Quality is a cluster with 12 documents, with a silhouette of 0.944. Most of the documents mentioned in this cluster are about urbanization, cultivated land, and the effects of cultivated land. The most important document in this cluster is Wang M. (2019), About the investigation, future land use change, and its implications for quality land agriculture.

Cluster (#6) Internet Use Help is a cluster with eight documents, with a silhouette of 1. Most documents mentioned in this cluster are two about dependence on agriculture, two about rural labor migration, and two about land arrangements. The most important document in this cluster is Deng et al. (2019). Does Internet use help reduce neglect of land agriculture in the countryside?

Cluster (#7) Jiangsu Province, China, is a cluster with six documents with silhouette 1. Most documents mentioned in this cluster are three about protecting land, three about the new food policy, and two about food energy. The most important document in this cluster is Yi et al., (2020), About the evaluation of the continuity of the water-energy-food nexus in Jiangsu Province, China.

Cluster (#8) Cooperative Membership comprises five documents with silhouette 1. Most documents mentioned in this cluster are three about farm size, two about agricultural production, and two about food policy. The most important document in this cluster is B. Lin et al. (2022), about the impact of membership cooperatives on rice productivity.

Cluster (#9) Characteristic Analysis: cluster with four documents that have a silhouette of 0.99. Most of the documents in this cluster are about climate and human interaction, sustainability, emergency nature, and climate change. The most important document in this cluster is Guo et al. (2023), "About estimating the efficiency of production agriculture and analyzing the characteristics of convergence in spatiotemporal convergence in the Yangtze River Economic Belt."

Cluster (#10) Pearl River Delta, China, is a cluster with three documents with a silhouette of 0.991. Most of the documents mentioned in this cluster are about security patterns, cultivated land patterns, and ecological security. The most important document in this cluster is Huang et al., (2023), "About construction pattern security adaptive ecology with changing uses for the future of land in the Pearl River Delta, China."

Discussion and Implications of The Research

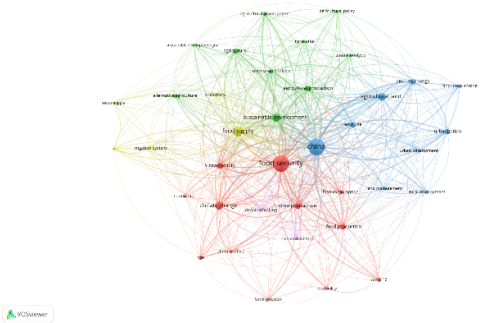

Figure 7. Network visualization of keyword co-occurrence analysis
Source: Created by Author

Figure 7 shows the clusters in each topic area studied. The research keyword is most closely related to other terms. There are 5 clusters with 38 items. In cluster 1, marked in red, there are 12 items representing (climate change, climate effect, COVID-19, crop production, farming system, food consumption, food policy, food production, food security, food waste, rice, sustainability), cluster 2, which is marked in green has ten items representing (agricultural development, agricultural policy, agricultural production, agriculture, alternative agriculture, regression analysis, rural area, spatial analysis, sustainable development, sustainable development goal), cluster 3 is marked in color blue contains nine items representing (agricultural land, China, land management, land use, land use change, land use planning, rural development, urban development, urbanization), cluster 4 marked in yellow contains five items representing (food supply, irrigation system, productivity, water management, water supply), cluster 5 marked in purple contains two items representing (decision making and risk assessment). The most giant circles in the cluster are 'Food Security' and 'China'; these two circles are related to each other by influencing each other. A coupling bibliography document (see Figure 7) is used to take the cluster so a clear picture of the theme study can identify and search for future direction (Maan & Malhotra, 2024).

Food security means owning sufficient food in a regular way, not only for the day or tomorrow but also for the next month and the next year, and influencing global issues in daily life for every human, both in developing countries and in developed countries (Sun & Zhang, 2021). As a developing country, for several decades, the development of agriculture in China has reached extraordinary results, accompanied by a constant evolution in food consumption (Redha et al., 2024). Specifically, consumption of grain has decreased. Meanwhile, other foods experience significant growth, such as fruits, vegetables, meat, eggs, milk, and aquatic produce (Ahmed et al., 2023). Challenge resilience food in a way that gradually shifts from ensuring subsistence to fulfilling nutritional needs. It is important to note that food, nutrition, and health are related to eating what you do not. Health causes a significant part of chronic diseases in China (J. Zhang et al., 2023). Therefore, the tight relationship between food security and China is significant in designing internal state policies to address the issue of food security in China.

In China, the system cannot answer the contract house ladder moment. This cannot adapt to commercializing and marketing land agriculture in the countryside. Redirection of land to rural areas permitted by the government as a complement system is not quite enough to answer the contract house ladder (J. Li et al., 2024). However, in 2016, the widespread land in rural areas in China only reached 35% of the total land area in rural areas, and there are problems with the circulation process of land (X. Zhao et al., 2024). Therefore, a revitalization strategy in rural areas in China must focus on how to push circulation land with efficiency to ensure food security in China and quality to realize the development of sustainable sources of power in rural areas (Haizi Wang et al., 2019). Agriculture in China cannot reach a mechanization scale, which results in a beneficial economy for farming farmers' plants. Several large numbers of workers, young and middle-aged people in rural areas,

migrate to the city, causing a lack of skilled workers and strengthening the workforce in rural areas. Fragmentation of land agriculture has become a general phenomenon (Cai et al., 2024). Based on this matter, China made an error in making a policy about switching from agricultural land to non-agricultural land, which has implications for food security in China.

China, with a population of about 20% of the world's population, only owns about 6% and 8% of the sources of water and land resources in world agriculture (YS Wang, 2019). Food security has always become a strategic issue in connection with security and livelihood, and it also constitutes a basis for stability (Y. Deng & Zeng, 2023). Food security sustainability in China cannot separate the transformation process and a friendly environment because a development-friendly environment is the goal, concept, and initiative for the development of agriculture (Affoh et al., 2022). High input, consumption, and pollution levels are characteristic of central production agriculture early in China (Liang et al., 2024). Therefore, food security got widespread attention in China long ago because of the challenge of a large and limited population and inland agriculture. In the rapid urbanization scenario, food has changed, which creates a challenge for the population in China.

Temporarily, as a country with big farm production, China faces a situation in which agriculture is still the sector that uses the most significant amount of water. Therefore, water conservation in the sector of agriculture has become a method essential for reducing water scarcity in China and guaranteeing food security (Alotaibi et al., 2023). In 1998, the government of China proposed to formulate a policy to promote water conservation and, with full spirit, develop agriculture, save water, and promote irrigation of economic water as a revolutionary step, which has become the central guaranteed policy for water conservation. Reducing water use without sacrificing food security is an important thing to face in China (J. Yang et al., 2020). However, the pattern of agglomeration industry and urbanization in China is marked by the consumption of high energy and low environmental impact, which results in China's environmental ecology facing heavy (Zhu et al., 2021). Therefore, China faces the challenge of security in global food, which necessitates noticing various aspects in its country, such as food security and land. With this, China can face issues of food security.

Based on the explanation above, China is one of the world's biggest producers, importers, and consumers of food; hence, its food security has a significant global impact (Eurostat, 2025). With more than 1.4 billion people, China has very high domestic food needs, and any changes to its food laws or production methods could have an impact on international markets (Wilson, 2025). However, if China is successful in boosting food self-sufficiency through foreign investment or technology, it may reduce pressures on global demand, but it may also lead to new reliance on resources and territory in other nations (Jingyi & Jingjing, 2025). China's food security in the geopolitical context forces the nation to invest strategically in Africa and Asia and use diplomacy to obtain supplies, which frequently conflict with the influence of Western nations, such as the United States (Affoh et al., 2022).

As of now, trade tensions between the US and China are escalating once more in 2025, which will have a big effect on the world's food security (Wilson, 2025). China has retaliated with 125% tariffs and

limitations on rare earth material shipments after the current US president placed tariffs of up to 145% on Chinese imports (Jingyi & Jingjing, 2025).

In April 2025, the worldwide food price index increased by 1% over the previous month and was 7.6% higher than in April 2024, according to the Food and Agriculture Organization of the United Nations (FAO) (Angel et al., 2025). Price increases for meat, dairy, and grains were the primary cause of this increase, and they were mostly brought on by supply interruptions and trade disputes (Q. Zhou & Huld, 2025). Food insecurity becomes more likely as a result of this condition, which makes matters worse for developing nations that rely on food imports (Xinhua & Huaxia, 2025).

This study significantly advances our knowledge of the connection between the dynamics of international trade tariffs and national food security. The results demonstrate that China has a significant impact on the stability of the world food market. Food security challenges are cross-border and extremely susceptible to geopolitical dynamics, as demonstrated by the rise in global food prices, supply chain interruptions, and uncertainty in international trade. The implication of the research is that the government must improve cross-sector cooperation and the early warning system when making strategic decisions about food security, such as trade regulations, agricultural subsidies, and food logistics management. These results also highlight the necessity of cooperation between the national and local governments to maintain consistent food distribution in the face of external pressure.

Conclusion

This writing shows that 2022 is one of the years it published with a sufficient amount of lots with the theme of food security; naturally, the publication is already by the policy on the machine Scopus search year 2019-2024. Then, from the subject area angle, social science is the subject with many documents in Scopus data on food security. The most frequent authors also proposed a study, "Zhong, T." Writer. This gives his research from 2019-2024, which the machine Scopus searcher recognized. Meanwhile, data processing results using CiteSpace 11 clusters were found, summarized by the CiteSpace taken from 2019 to 2024.

Global research trends have changed the view that food security issues can become synergistic. Lots of published documents prove the matter. The study found that themes still need more discussion regarding coping strategies and issues of food security and land agriculture. This matter can become the basis of future research in building perspective and revealing the complexity. Implications from trends. This global research has also contributed to formulating future policies. China focuses on integrating adequate food security, with a focus on findings in the global literature available now. However, this article assessed the success of describing food security in China from 2019 to 2024. However, this article is also less about data collection or visualization because, using Scopus, CiteSpace, and VOSViewer, the writer advises against using a machine to search for visualization from existing data.

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