Food Security In Latin America And Access To Food In The Face Of Global Scarcity

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Summary

A documentary review was carried out on the production and publication of research papers related to the study of the variables Food Security and Food Scarcity. The purpose of the bibliometric analysis proposed in this document was to know the main characteristics of the volume of publications registered in the Scopus database during the period 2017-2022 by Latin American institutions, achieving the identification of 41 publications. The information provided by this platform was

organized through graphs and figures categorizing the information by Year of Publication, Country of Origin, Area of Knowledge and Type of Publication. Once these characteristics have been described, the position of different authors towards the proposed theme is referenced through a qualitative analysis. Among the main findings made through this research, it is found that Brazil with 12 publications was the Latin American country with the highest scientific production registered in the name of authors affiliated with institutions of that nation. The Area of Knowledge that made the greatest contribution to the construction of bibliographic material regarding the study of Food Security in Latin America and the possibility of accessing food in the midst of an undeniable global shortage was Social Sciences with 14 published documents, and the Type of Publication most used during the period indicated above were Conference Articles with 71% of the total scientific production.

Keywords: Food Security, Access to Food, Global Scarcity, Latin America.

1. Introduction

One of the concerns worldwide is the panorama of food security, in Latin America it is at the forefront of this complex issue. As we cross the first decades of this century, today's world presents unparalleled challenges when it comes to ensuring and having access to safe, nutritious and affordable food for the entire population. The evident growth of global demography, the various challenges of agriculture driven by change, socio-economic inequalities and political instability has brought with it a worrying scenario for security and forecasting food supplies. Given this context, Latin America, highlighted by its cultural and culinary diversity and unprecedented agricultural prowess, has presented many opportunities and obstacles in order to guarantee excellent food security for its population.

Latin America, often described as a cornucopia of agricultural abundance, plays a pivotal role in global food production. This extensive region, which has diverse climatic sectors, countries and a vast diversity of ecosystems, has become one of the pioneers in the agricultural sector. From the fertile pampas of Argentina to the high-altitude fields of the Andes and the vast rainforests of the Amazon basin, Latin America is home to a wide range of crops, livestock and shellfish, which serve as the main source of livelihood

for its inhabitants. and contribute significantly to global food markets. However, despite this abundance, food security remains elusive for millions of people across the region.

In concept of food security, as defined by the regulatory body of the Food and Agriculture Organization of the United Nations (FAO), which has the functionality of covering four dimensions: availability, use, stability and access. While Latin America can count on an infinite amount of food resources, the Latino population is not exempt from challenges such as access, utilization and stability.

Faced with global scarcity resulting from factors of climate change, the depletion of bioresources and geopolitical tensions, Latin America faces several challenges. On the one hand, the region's priority is to safeguard its own food production and maintain its pioneering role in global food production. On the other hand, it must deal with the complex web of international trade agreements, market fluctuations, stemming from supply and demand and deal with concerns such as access to external sources of food. The global interconnectedness of food systems means that shocks in one part of the world can have cascading effects on food availability and prices in Latin America, thus affecting their ability to ensure food security for their populations.

This multifaceted challenge demands a nuanced and comprehensive approach to food security in Latin America. Governments, international organizations, civil society and the private sector must collaborate to address the structural inequalities, environmental pressures and geopolitical dynamics that shape food access and availability in the region. In addition, embracing innovation and sustainable agricultural practices will be crucial to increase food production while mitigating the environmental impacts of agriculture. For this reason, this article seeks to describe the main characteristics of the compendium of publications indexed in the Scopus database related to the variables Food Security and Food Scarcity, as well. As the description of the position of certain authors affiliated with Latin American institutions, during the period between 2017 and 2022.

2. General Objective

Analyze from a bibliometric and bibliographic perspective, the elaboration and publication of research works in high-impact journals indexed in the Scopus database on the variables Food

Security and Food Scarcity during the period 2017-2022 by Latin American institutions.

3. Methodology

This article is carried out through a mixed orientation research that combines the quantitative and qualitative method.

On the one hand, a quantitative analysis of the information selected in Scopus is carried out under a bibliometric approach of scientific production corresponding to the study of the variables Food Security and Food Scarcity. On the other hand, examples of some research works published in the area of study indicated above are analyzed from a qualitative perspective, starting from a bibliographic approach that allows describing the position of different authors against the proposed topic. It is important to note that the entire search was performed through Scopus, managing to establish the parameters referenced in Figure 1.

3.1. Methodological design

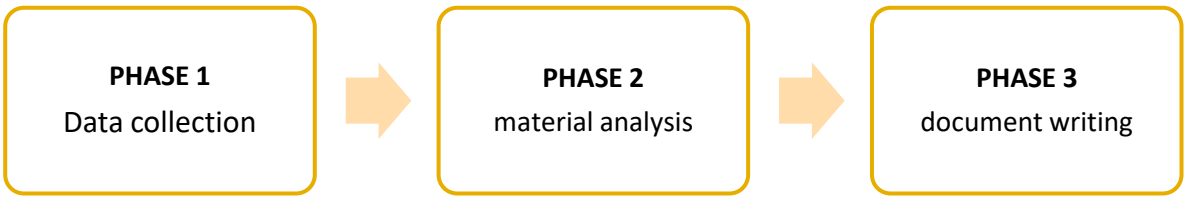

Figure 1. Methodological design
Source: Authors.

3.1.1 Phase 1: Data collection

Data collection was executed from the Search tool on the Scopus website, where 41 publications were obtained from the choice of the following filters:

TITLE-ABS-KEY (food AND security, AND food AND shortage) AND PUBYEAR > 2016 AND PUBYEAR < 2023 AND (LIMIT-TO (AFFILCOUNTRY , "Brazil") OR LIMIT-TO (AFFILCOUNTRY , "Mexico") OR LIMIT-TO (AFFILCOUNTRY , "Colombia") OR

LIMIT-TO (AFFILCOUNTRY , "Peru") OR LIMIT-TO (AFFILCOUNTRY , "Costa Rica") OR LIMIT-TO (AFFILCOUNTRY , "Ecuador") OR LIMIT-TO (AFFILCOUNTRY , "Argentina") OR LIMIT-TO (AFFILCOUNTRY , "Venezuela") OR LIMIT-TO (AFFILCOUNTRY , "Puerto Rico") OR LIMIT-TO (AFFILCOUNTRY , "Bolivia"))

- Published documents whose study variables are related to the study of the variables Food Security and Food Scarcity.
- Limited to the period 2017-2022.
- Limited to Latin American countries.
- Without distinction of area of knowledge.
- Regardless of type of publication.

3.1.2 Phase 2: Construction of analysis material

The information collected in Scopus during the previous phase is organized and subsequently classified by graphs, figures and tables as follows:

- Co-occurrence of words.
- Year of publication
- Country of origin of the publication.
- Area of knowledge.
- Type of publication.

3.1.3 Phase 3: Drafting of conclusions and outcome document

In this phase, we proceed with the analysis of the results previously yielded resulting in the determination of conclusions and, consequently, the obtaining of the final document.

4. Results

4.1 Co-occurrence of words

Figure 2 shows the co-occurrence of keywords found in the publications identified in the Scopus database.

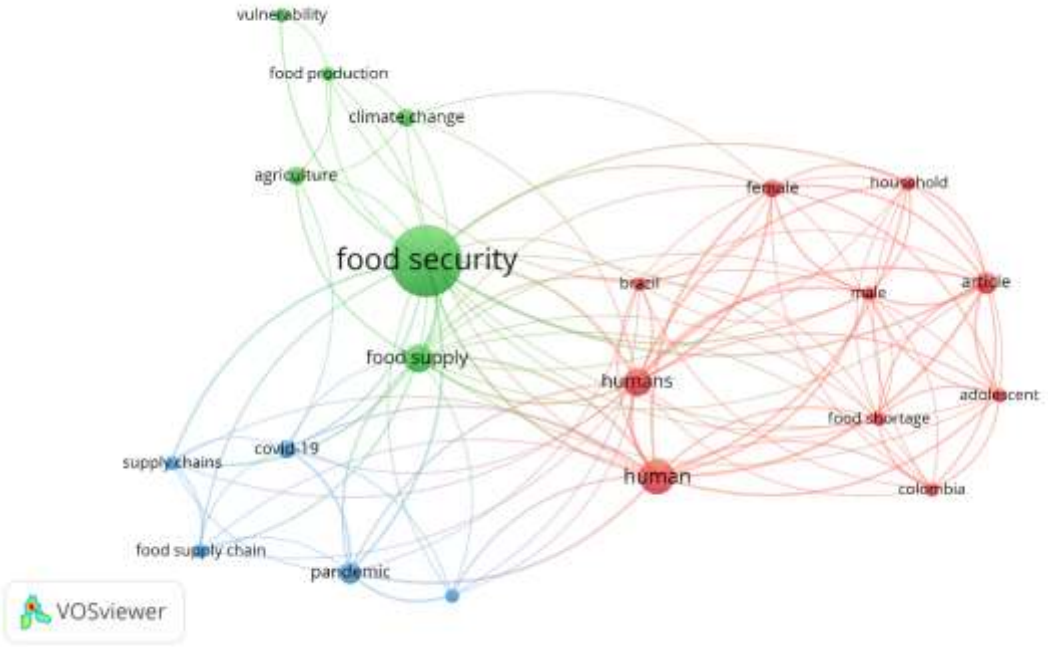

Figure 2. Co-occurrence of words
Source: Own elaboration (2023); based on data exported from Scopus.

Food Safety was the most frequently used keyword within the studies identified through the execution of Phase 1 of the Methodological Design proposed for the development of this article. Food Supply is also among the most frequently used variables, associated with variables such as Agriculture, Climate Change, Food Scarcity, Food Production, Vulnerability. In exploring food security in Latin America, we delve into the unique challenges facing the region, initiatives and innovations aimed at reducing hunger and malnutrition, and the implications of Latin America's food security situation for a world of existential needs. is increasing. By studying the complex web of factors affecting access to food in Latin America, we can gain valuable insights into the broader global problem of food insecurity and work towards sustainable solutions that meet current needs while ensuring the future.

4.2 Distribution of scientific production by year of publication

Figure 3 shows how scientific production is distributed according to the year of publication.

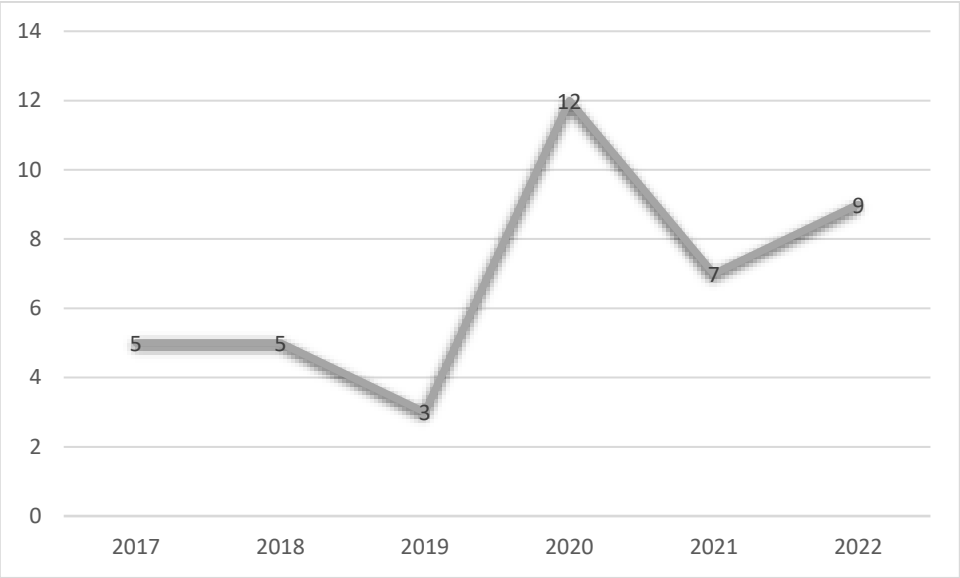

Figure 3. Distribution of scientific production by year of publication.
Source: Own elaboration (2023); based on data exported from Scopus

Among the main characteristics evidenced by the distribution of scientific production by year of publication, a level of number of publications registered in Scopus is notorious in the years 2020, reaching a total of 12 documents published in journals indexed in said platform. This can be explained by articles such as the one titled "Virtual Water Drivers in International Grain Trade: A Study for Belt and Road Countries" this article aims to assess the volume of virtual water from cereal crops traded between China and countries along the Belt and Road (B&R) from 2000 to 2019, and applied a gravity model using panel data to explore the effect of natural and socioeconomic factors on virtual water trade. The virtual water export of the Belt and Road countries to China obviously increased in the twenty years, and the contributions of various crops to virtual water were more balanced. The results of the regression indicate that GDP and exchange rate were positively correlated with virtual water input, while per capita water resources, arable land, geographical distance and population were negative factors hindering virtual water imports. The most powerful driving force for virtual trade in grain water is the water supply. GDP is an important driver of virtual water import for countries without water scarcity, and a large amount of local water resources will

obviously not inhibit the driving force of economic strength. When comparing the contribution of factors to virtual water in the past ten years, it can be found that the contribution rate of distance decreased due to the development of the transportation industry, which reduced the cost of transportation of exported products. The contribution rate of GDP and the exchange rate increased because economic globalization has promoted the effect of economic factors on grain trade. Therefore, the trade structure of agricultural products should be modified depending on the characteristics of the virtual water flow. For countries without a high economic level, but with water scarcity, export crops with high water consumption should be reasonably controlled.(Xia, 2022)

4.3 Distribution of scientific production by country of origin.

Figure 4 shows how scientific production is distributed according to the nationality of the authors.

Figure 4. Distribution of scientific production by country of origin.
Source: Own elaboration (2023); based on data provided by Scopus.

Within the distribution of scientific production by country of origin, records from Latin American institutions were taken into account, establishing Brazil, as the country of that community, with the highest number of publications indexed in Scopus

during the period 2017-2022, with a total of 12 publications in total. In second place, Mexico with 9 scientific documents, and Colombia occupying the third place presenting to the scientific community, with a total of 7 documents among which is the article entitled "GLOBAL FOOD SECURITY AND SOVEREIGNTY IMPACTED BY THE SARS-CoV-2 pandemic" This essay aims to analyze the impacts of the health crisis on food security and sovereignty in the international context, and highlight how governments are acting to reduce the consequences, through the use of an exploratory and analytical methodology. While the United States (US) has successfully overcome this health crisis, the food crisis has been brought forward, as a result of rising unemployment. In Latin America, the pandemic is exacerbating access to food and the economic situation. The health crisis has exacerbated food shortages already in Africa, especially in rural areas. Asia suffered the most significant impact on food security. The European Union's new food safety policy aims to maintain food safety. Food insecurity and malnutrition are not just about agricultural production; They also refer to limitations on access to food. Consequently, this health crisis cannot be allowed to become a food crisis as well.(Mendoza-Sánchez, 2022)

4.4 Distribution of scientific production by area of knowledge

Figure 5 shows the distribution of the elaboration of scientific publications from the area of knowledge through which the different research methodologies are implemented.

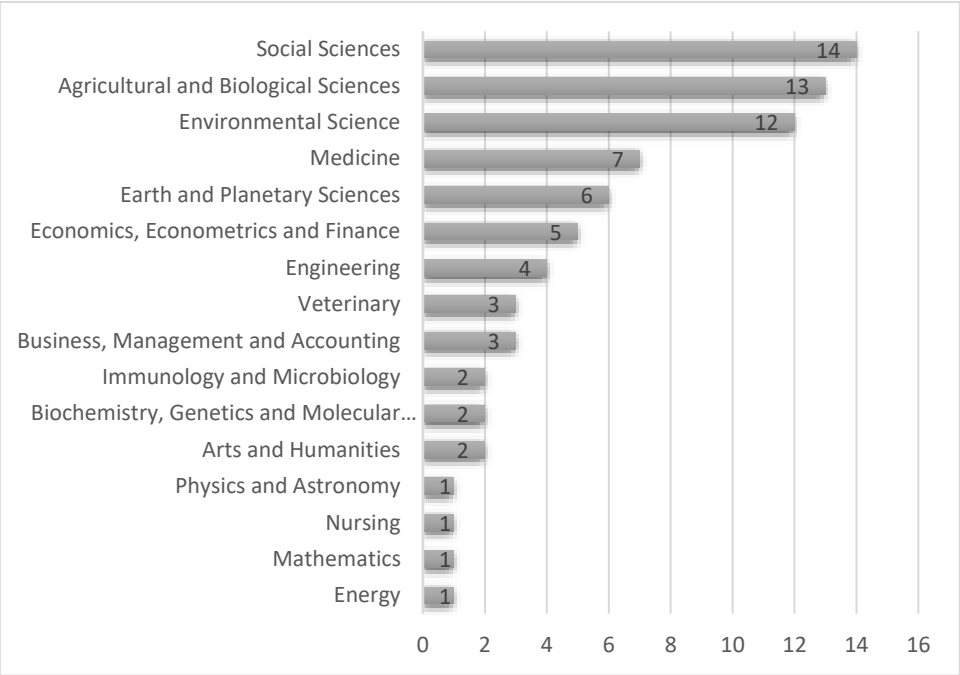

Figure 5. Distribution of scientific production by area of knowledge.
Source: Own elaboration (2023); based on data provided by Scopus.

Social Sciences was the area of knowledge with the highest number of publications registered in Scopus with a total of 14 documents that have based their variable methodologies Food Security and Food Scarcity. In second place, Agricultural and Biological Sciences with 13 articles and Environmental Science in third place with 12. The above can be explained thanks to the contribution and study of different branches, the article with the greatest impact was registered by the area of Social Sciences entitled "Coping strategies to access food in households in the department of Antioquia, Colombia" The article presents the findings of a qualitative study conducted in the department of Antioquia, Colombia, whose objective was to identify the strategies used by households during situations of critical access to food. From the perspective of focused ethnography, information was collected in nine municipalities through individual and group interviews with adolescents, adults and the elderly, men and women, from urban and rural areas, with different social roles, in addition to observations in places related to food. The critical situations for access to food were

related to economic, environmental and social aspects in the municipalities and that affected local availability and accessibility and affordability for families. Food shortages can be temporary or chronic, and strategies to address them may be at the household level, such as limitations on the purchase of certain foods or the substitution of certain meals. They can also occur at the social level, such as the barter of different foods, solidarity between neighbors and relatives or access to institutional programs. Families who can rely on support networks or produce their own food cope better with these difficult times. In conclusion, access to food goes beyond the domestic sphere and reaches the social and political levels, so it requires State actions at several levels to contribute to equity and promote more sustainable food systems.(Rodríguez-Villamil, 2022)

4.5 Type of publication

In the following graph, you will observe the distribution of the bibliographic finding according to the type of publication made by each of the authors found in Scopus.

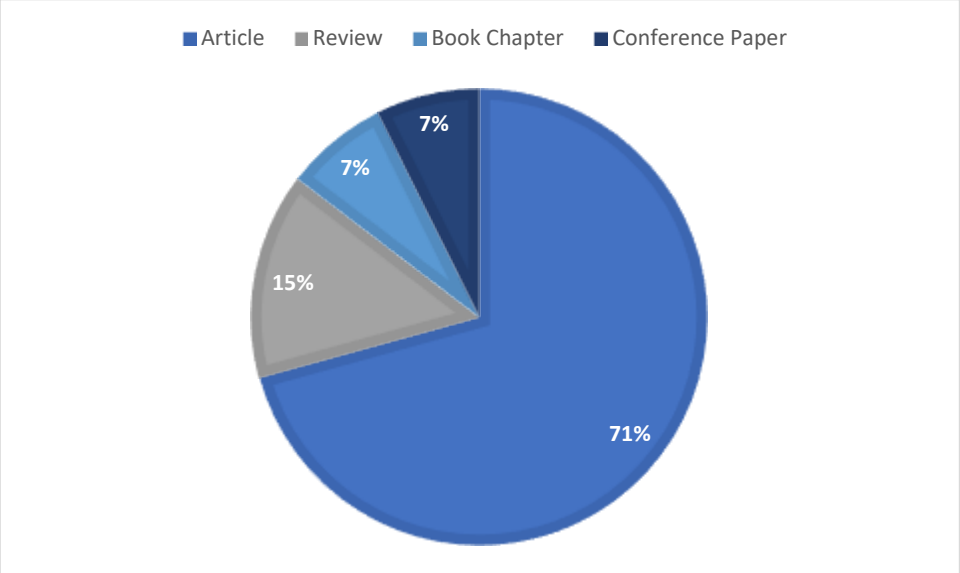

Figure 6. Type of publication.
Fountain: Own elaboration (2023); based on data provided by Scopus.

The type of publication most frequently used by the researchers referenced in the body of this document was entitled Journal Article with 71% of the total production identified for analysis,

followed by Journal with 15%. Chapter of the Book are part of this classification, representing 7% of the research papers published during the period 2017-2022 in journals indexed in Scopus. In this last category, the one entitled "The effects of the COVID-19 pandemic in the Venezuelan agri-food sector and the measures adopted to combat it" stands out. This article aims to discuss the main effects of COVID-19 on the Venezuelan agri-food sector and those derived from the measures adopted to combat it. It is a documentary-descriptive and analytical research, based on primary and secondary sources of information. The main findings reveal that, similar to what happened globally in terms of falls in global GDP, employment rates and tax collection of States, COVID-19 aggravated the structural problems already suffered by the Venezuelan food system-SAV. In the general economy, the production of goods and services declined, with consequent effects on formal and informal employment, particularly during the first months of quarantine and social distancing adopted. These measures also had a negative impact on the agricultural sector, partly due to the delay in the implementation of measures to avoid its paralysis. Fuel supply shortages continue to be the main problem in the sector, affecting the planting and harvesting of the vegetable agricultural subsector, livestock and fishing activities, as well as transport. External dependence on the SAV has also been exacerbated by the progressive fall in revenues from oil exports, which had already been recorded before the pandemic. This has led to a deterioration in the food supply and food purchasing power of the population, in a country that was already suffering from increasing food and nutrition insecurity before the pandemic. (Hernández, 2020)

5. Conclusions

Through the bibliometric analysis carried out in this research work, it was established that Brazil was the country with the highest number of records published regarding the variables Food Security and Food Scarcity. with a total of 12 publications in Scopus database. In the same way, it was established that the application of theories framed in the area of Social Sciences, were used more frequently in safeguarding food security in Latin America since this approach requires integral and multifaceted solutions. This region has a high index of challenges such as the high dependence on exports of

agricultural inputs, the various climate changes and the high socioeconomic inequality gap exacerbated by global scarcity. To improve food security in Latin America, it must diversify its extensive agricultural production and reduce its self-dependence on export products. By promoting the cultivation of a wider range of crops, including traditional and landraces, the region can improve food diversity and reduce vulnerability to global market volatility.

Climate change poses a major threat to agricultural productivity in Latin America. Climate-smart agricultural practices and investment in sustainable land management are imperative to mitigate their impact. These measures help build resilience and ensure access to nutritious food despite changing environmental conditions. Socioeconomic inequality exacerbates food insecurity in Latin America, as marginalized communities often lack access to nutritious food. Addressing these inequalities requires comprehensive policies that promote inclusive growth, rural development and social protection programs. By investing in rural infrastructure, improving smallholder farmers' access to credit and markets, and supporting sustainable land management, the region can close disparities and improve food security for all.

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