



FOOD SECURITY POLICIES IN GUAYAQUIL AND THEIR RELATION TO THE SUSTAINABLE DEVELOPMENT GOALS OF THE UNITED NATIONS 2030 AGENDA

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Abstract

A documentary review was conducted on producing and publishing research papers studying the variable Food Security and Sustainable Development Goals (SDGs). The bibliometric analysis proposed in this document was to know the main characteristics of the volume of publications registered in the Scopus database during 2017-2021, identifying 361 publications. The information provided by the said platform was organized employing tables and figures categorizing the information by Year of Publication, Country of Origin, Area of Knowledge and Type of Publication. Once these characteristics were described, a qualitative analysis was used to refer to the position of different authors on the proposed topic. Among the main findings of this research, it is found that the United States, with 75 publications, was the country with the highest scientific production registered in the name of authors affiliated with institutions of that country. The area of knowledge that made the greatest contribution to the construction of bibliographic material related to the study of food security policies aligned with the SDGs was Environmental Sciences, with 184 published documents, and the type of publication that was most used during the period mentioned above was the journal article, which represents 62% of the total scientific production.

Keywords: Food Security, SDGs, United Nations, Ecuador.

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1. Introduction

The 2030 agenda of the united nations seeks to eradicate hunger and reduce poverty, so one of the main objectives of sustainable development is to ensure that all people have access to healthy, nutritious and sufficient food. At the same time, it seeks to bring about a change in the world's agri-food and agro-industrial models to seek an increase in agricultural production and sustainable food production and thus alleviate

the rates of increase in the risk of hunger. Since 2008, Ecuador has integrated the right to food as a law, hence the legislation as the Organic Law of the Food Sovereignty Regime (LORSA). Despite having the legal protection of the state, the climate crisis and the political and economic crisis affecting the country have landed 38% of the population in poverty and hunger.

Therefore, the knowledge about food sovereignty in Guayaquil's population and food consumption



habits should be analyzed in depth. Subsequently, estimate food insecurity in peri-urban and rural communities and various provinces. The result was a notable lack of knowledge of what food sovereignty represents and the rights of the Guayaquil population to mitigate hunger in this area.

In urban and rural communities, consumption habits and food sovereignty are due to socioeconomic factors, and the recent crisis of the HIV/AIDS pandemic has further exacerbated the levels of poverty and hunger. As a result, food rights are not guaranteed and that state socio-political strategies in food sovereignty are not enough. For this reason, this article describes the main characteristics of the compendium of publications indexed in the Scopus database related to the variables Food Security and Sustainable Development Goals (SDGs), as well as the description of the position of certain authors affiliated to institutions, during the period between 2017 and 2021.

2. General Objective

To analyze from a bibliometric and bibliographic perspective, the production of research papers on the variables Food Security and SDGs registered in Scopus during the period 2017-2021.

3. Methodology

Quantitative analysis of the information provided by Scopus under a bibliometric approach on the scientific production related to the study of Trends in Architecture in Latin America is carried out. Also, from a qualitative perspective, examples of some research papers published in the area of the study mentioned above are analyzed from a bibliographic approach to describe the position of different authors on the proposed topic.

The search is performed through the tool provided by Scopus, and the parameters referenced in Figure 1 are established.

3.1 Methodological design

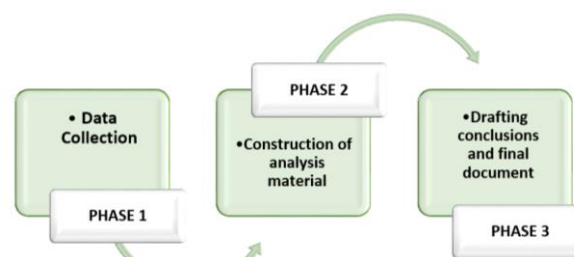


Figure 1. Methodological design
 Source: Own elaboration

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Source: Own elaboration

3.1.1 Phase 1: Data Collection

The data collection was carried out using the Scopus web page search tool, through which a total of 361 publications were identified. For this purpose, search filters were established consisting of:

TITLE-ABS-KEY (food AND security, AND sdgs) AND (LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017)) OR LIMIT-TO (PUBYEAR , 2017))

- ✓ Published documents whose study variables are related to the study of Food Security and the SDGs.
- ✓ Without distinction of area of knowledge.
- ✓ Without distinction of type of publication.

3.1.2 Phase 2: Construction of analysis material

The information identified in the previous phase is organized. The classification will be made employing graphs, figures and tables based on data provided by Scopus.

- ✓ Year of publication
- ✓ Country of origin of the publication.
- ✓ Knowledge area.
- ✓ Type of Publication
- ✓

3.1.3 Phase 3: Drafting conclusions and final document

After the analysis carried out in the previous phase, the study proceeded to draft the conclusions and results.

4.1 Co-occurrence of words

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

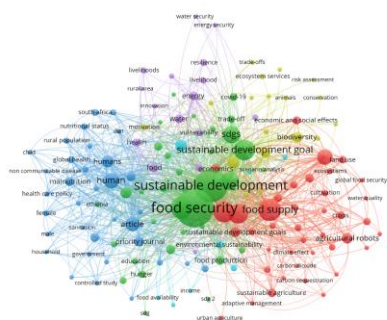


Figure 2. Co-occurrence of words

Source: Own elaboration (2022); based on data exported from Scopus.

Within the study of the researches produced by the Scopus platform, referring to the variables Food Security and Sustainable Development Goals (SDGs), the purpose of this scientific debt is to expose the 2030 agenda of the United Nations on consumption habits and food sovereignty with the food security policy in Guayaquil, involves multiple interpretations, due to the misinformation about the rights of citizens for the proper reduction of poverty and hunger rates. It is for this reason that through the interpretation of Figure 2, it is possible to determine how keywords of the publications reported in Scopus, Food Security, Sustainable Agriculture, Sustainable Development, in attention to the marked inequality, famine and misinformation about food security in Guayaquil, it is concluded that food rights are not guaranteed, that the state must mobilize its efforts to end poverty, reduce inequalities and address climate change in 2030.

4.2 Distribution of scientific production by year of publication

Figure 3 shows the distribution of scientific production according to the year of publication.

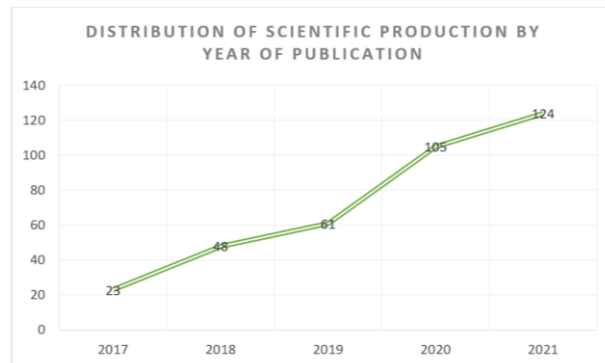


Figure 3. Distribution of scientific production by year of publication.

Source: Own elaboration (2022); based on data exported from Scopus.

Figure 3 shows the scientific production around the variables Food Security and Sustainable Development Goals (SDGs) in the period between 2017 and 2022, where the increase in production volume in the year 2021 is evidenced, with a total of 124 publications related to the keywords, within which is the article entitled “Does the approach of the water-energy-food nexus exist in the constitutional mandate of Ecuador?” (Bernal, 2021), whose scope of the study is the fulfillment of the Sustainable Development Goals and the interactions that may occur between water-energy-food. Which are the interactions of water resources with sectors such as food and energy. This requires the mandatory application of the constitutional mandate, which allows the projection of its requirements to the entire Ecuadorian legal system, in order to realize the Constitution in its aspect of guaranteeing fundamental rights linked to the environment, as well as sustainable economic development aligned with the fulfillment of the SDGs.



4.3 Distribution of scientific production by country of origin.

Figure 4 shows the distribution of scientific production according to the nationality of the authors.

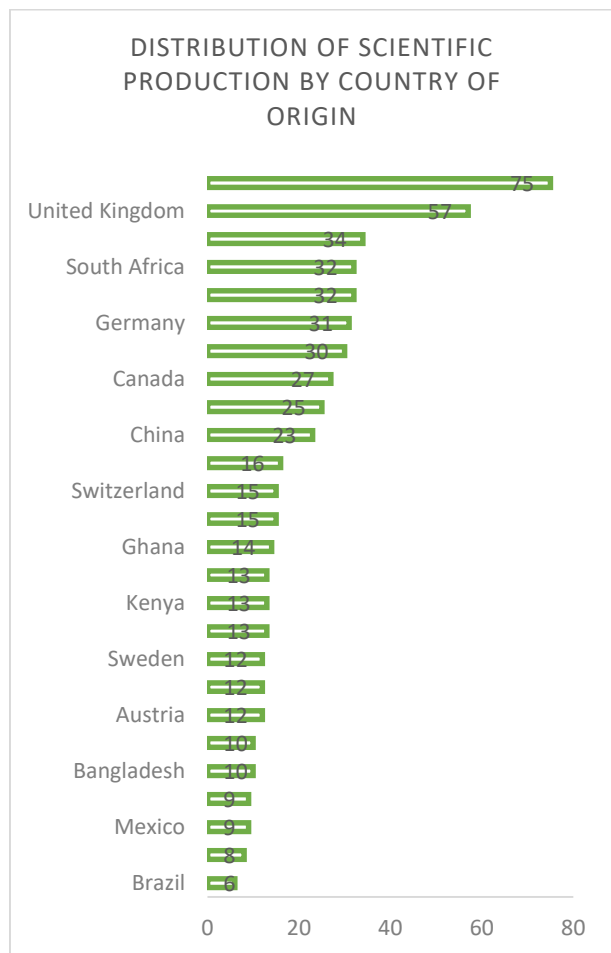


Figure 4. Distribution of scientific production by country of origin.

Source: Own elaboration (2022); based on data provided by Scopus.

The United States was the country with the highest number of publications registered in Scopus referring to the study of the variable Food Security and Sustainable Development Goals (SDGs), during 2017-2021 with a total of 75 publications, followed by the United Kingdom with 57 registrations and India with 34. The latter include the article “Organic interventions conferring stress tolerance and crop quality in agroecosystems during the United Nations Decade for Ecosystem Restoration” (Sarkar et al., 2021), which aims to Promote the spirit of organic agriculture in the framework of the

United Nations Decade for Ecosystem Restoration (2021-2030) is very imperative for agro-ecosystem restoration and its sustainable management. Moreover, organic agriculture’s multidimensional benefits help achieve important global goals and targets, such as the Bonn Challenge and the United Nations Sustainable Development Goals (UN-SDGs) by 2030. Therefore, strengthening the scaling up of organic agriculture as a concurrent strategy of soil, land and ecosystem restoration is the need of the hour.

At this point, it is important to note that the elaboration of scientific publications, in many cases, is based on collaborations that may involve private and public institutions from one or several countries. Therefore, the same publication may be linked to one or more authors with different nationalities and thus to more than one country simultaneously, making part of each of the total number of articles or publications in the final sum.

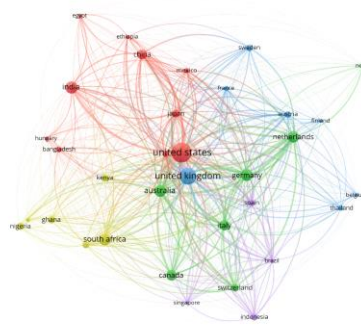


Figure 5. Co-citations between countries.

Source: Own elaboration (2022); based on data provided by Scopus.

Figure 5 shows how research is grouped according to international participation among authors affiliated with different institutions. There is outstanding participation among authors affiliated with institutions in the United States, the United Kingdom and Australia, as well as South Africa and with authors from Canada and collaboration with researchers from the United States and the United Kingdom.

4.4 Distribution of scientific production by area of knowledge

Figure 6 shows the distribution of the production of scientific publications according to the area of knowledge through which the different research methodologies are implemented.

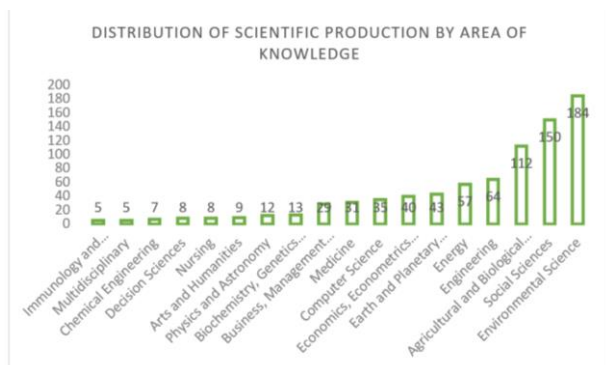


Figure 6. Distribution of scientific production by area of knowledge.

Source: Own elaboration (2022); based on data provided by Scopus.

Environmental Science was the area of knowledge with the highest number of publications registered in Scopus, with a total of 184 papers that have based their methodologies on the variable Food Security and Sustainable Development Goals (SDGs). In the second place, Social Sciences with 150 documents. The article with the highest impact was registered in Environmental Science, entitled “Agroeconomic and socio-environmental evaluations of food and virtual water trade in Iran” (Karandish et al., 2021). This article aims to end hunger and ensure food security are among the goals of 2030SDS. While integrated (virtual) food and water (VW) trade can improve food availability and accessibility for more people throughout the year, the sustainability and efficiency of food and VW trade need to be reviewed. This research evaluates the sustainability and efficiency of food and VW trading under two food security scenarios for Iran, a country suffering from a growing water crisis. These scenarios are (1) Individual Crop Food Safety (ICFS), which restricts calorie compliance of individual crops and (2) Crop Category Food Safety (CCFS), which promotes “eating local” by suggesting food substitution within the crop category. To this end, the study simulated the water footprint and VW

trade-offs of 27 major crops, within 8 crop categories, in 30 provinces of Iran (2005-2015).

4.5 Type of publication

Figure 7 shows the distribution of the bibliographic findings according to the type of publication made by each of the authors found in Scopus.

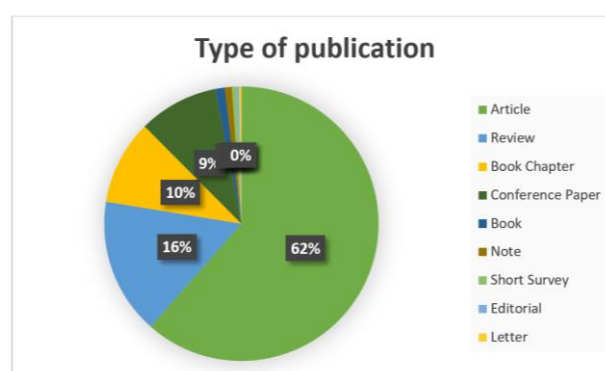


Figure 7. Type of publication

Source: Own elaboration (2022); based on data provided by Scopus.

The type of publication most frequently used by researchers was the Article; 62% of the total scientific production corresponds to this document. In the second place, Reviews with 16% and Book Chapters with 10%. In this last category, the book entitled “Expectations for household food security in the coming decades: A global scenario” (Bahadur et al., 2021), whose central focus on global food security is threatened by the confluence of increasing demand for food due to a growing population and the inability of the food production system to meet growing demand due to climate change, worsening soil fertility and challenges to water availability. These factors jeopardize the achievement of Sustainable Development Goals such as Zero Hunger, food and nutrition security and climate action, particularly in developing countries. Transform agricultural and socioeconomic policies, such as targeting susceptible communities, promoting climate-smart agricultural practices, improving the



resilience of poor households, establishing a strong social safety net program, reducing food losses and waste, and ensuring an efficient food distribution mechanism.

5. Conclusions

Through the bibliometric analysis carried out in this research work, it was possible to establish that the United States was the country with the largest number of published records on the variable Food Security and Sustainable Development Goals (SDGs). Gender with a total of 75 publications in the Scopus database during 2017-2021. It is important to highlight the 2030 agenda of the united nations that aims at sustainable development to end poverty and hunger. Food problems affect various parts of the world, and the most vulnerable population is affected. This situation is increasingly aggravated due to the various economic and food crises; the post-pandemic effects of COVID-19 are taken into account since it directly affects the world economy and agricultural production. In developing countries such as Ecuador, despite having a surplus in food availability, most of the population does not have the socioeconomic resources to access a minimum amount of food. From this approach, food problems should focus on economic rights, the state's duty to address this problem, the proper information on the food rights of citizens, the identification of households in a situation of food insecurity, and thus determining why this population suffers from such deprivation. Finally, the information presented for decision-makers, from which the implementation and design of active, comprehensive food policies that ensure access to adequate food for the entire population, should be carried out.

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