

Mapping the Nexus Between Social Sustainability and Sustainable Food Consumption: Research Trends and Insights from a Bibliometric Study[†]

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Abstract

This study examines the relationship between social sustainability and sustainable food consumption through bibliometric analysis and an empirical approach. A bibliometric study of 211 scientific publications was conducted in accordance with the PRISMA 2020 framework, alongside concept mapping using the Biblioshiny tool. The results indicate a lack of theoretical coherence, low integration of social parameters such as gender, labor, and migration, as well as a geographical imbalance in the literature, with an overrepresentation of high-income countries. Overall, the study highlights the need for a theoretically grounded framework of social sustainability, based on local socio-cultural contexts, fostering participation and the active engagement of local stakeholders. Additionally, the findings underscore the importance of utilizing Artificial Intelligence tools and social innovation for a just transition towards sustainable food systems. The contribution of this research lies in formulating a framework for social sustainability grounded in locality and empirical evidence, enhancing the integration of the social dimension into sustainable food systems. Finally, an interdisciplinary approach is proposed, centered on participation and providing evidence-based directions for policy and educational strategies.

Keywords: social sustainability; sustainable food consumption; PRISMA 2020; Biblioshiny; bibliometric analysis; participatory research

1. Introduction

Sustainable food systems constitute a scientific and political field of growing interest, as they integrate environmental, economic, and social dimensions of sustainability. Unlike the environmental and economic pillars, the social dimension remains theoretically fragmented and empirically under-documented, particularly regarding consumer behaviors and local practices [1,2]. Existing literature highlights the significance of concepts such as community resilience, ethics of consumption, and food justice, yet without the formulation of a unified theoretical framework that integrates them [3–5]. Furthermore, the majority of empirical studies focus on high-income countries, leaving socially and geographically vulnerable regions underexplored [6,7].

The objectives of this research are to: (a) conduct a systematic bibliometric analysis based on PRISMA 2020 of 211 articles from the Scopus database, (b) perform concept



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mapping through Biblioshiny, and (c) provide a critical synthesis of thematic clusters, focusing on the relationship between social equity and consumer behavior [8,9]. This study aims to explore the nexus between social sustainability and sustainable food consumption, revealing research trends and providing proposals for policy and educational actions that promote sustainable practices.

2. Methodology

The research process was developed in two stages: (a) bibliometric mapping and (b) a structured literature selection process. The initial search was conducted in the Scopus database using the keywords “social sustainability”, “sustainable food consumption”, and “policy governance” in titles, abstracts, and keywords, without any time restriction, in order to capture the historical evolution of the field [1]. A total of 1,245 records were retrieved and exported in CSV format.

The selection of articles followed the PRISMA 2020 protocol for systematic reviews, ensuring transparency, methodological rigor, and scientific validity [6]. The PRISMA process consisted of four stages:

1. Identification: Gathering all relevant records from the database.
2. Screening: Removing duplicates and irrelevant records (final total: 1103 records).
3. Eligibility: Thematic screening and exclusion of 690 studies not directly related to the research scope.
4. Inclusion: In-depth review of 413 studies and final selection of 211 publications for analysis.

The analysis of the selected articles was conducted using the Biblioshiny tool, applying techniques such as co-word analysis, co-citation analysis, and thematic clustering [1]. The PRISMA flow diagram (Figure 1) visually represents the full selection process, reinforcing methodological completeness and documentation of the filtering stages.



Figure 1. PRISMA 2020 flow diagram showing the identification, screening, eligibility, and inclusion of articles for the bibliometric analysis.

3. Results

The bibliometric mapping revealed a scientific field that is fragmented and unevenly distributed in terms of thematic and geographical dimensions. The main conceptual clusters identified revolve primarily around concepts such as food security, consumer behavior, and policy governance. However, the analysis showed that important social parameters—such as labor rights, gender, ethnic identity, and migration—remain underrepresented in existing studies [10]. Table 1 presents the thematic clusters and key terms identified in the sustainable food consumption research, along with their betweenness, centrality, and PageRank values indicating the importance of each term in the bibliometric network.

Table 1. Thematic Clusters and Key Terms in Sustainable Food Consumption Research.

Thematic Cluster	Key Terms/Concepts	Betweenness Centrality/PageRank
Fair and Ethical Supply Chains	sustainability, resilience, agriculture, urban agriculture, climate change, food systems, food safety, social capital	sustainability = 235.943
Social Sustainability and Access to Sustainable Foods	social sustainability, sustainable development, environmental sustainability, circular economy, economic sustainability, education	social sustainability = 106.857; economic sustainability (PageRank) = 0.046
Community Resilience	community resilience, food security, COVID-19, food sovereignty, pandemic	food security = 110
Climate Change and Fundamental Concepts	animal welfare, ecology, economic, environment, social	closeness centrality = 0.25

These themes, although directly connected to social sustainability, have not yet become a central focus of analysis. Furthermore, the mapping revealed differences in the development of specific thematic areas; for example, education for sustainability shows high research activity and an increased number of publications, whereas other critical areas such as food sovereignty, just transition, and intersectionality appear to be underdeveloped in research terms. On a geographical level, most studies originate from countries in the Global North, with a marked underrepresentation of regions in the Global South and socially vulnerable populations. This imbalance limits the generalizability of findings and highlights the need for targeted studies in diverse socio-economic and cultural contexts. Finally, there is a growing interest in technological innovations in sustainable food consumption; however, most approaches remain technocentric, with limited integration of social variables and participatory methods [8].

In addition, the co-occurrence analysis of keywords revealed the thematic structure of the field. The nodes and edges form distinct clusters, reflecting the main research themes, such as social sustainability and sustainable food consumption. Some clusters display high density and strong linkages, while others, more sparse, represent emerging approaches [1]. Figure 2 presents the co-word network showing thematic clusters and research gaps in sustainable food consumption.

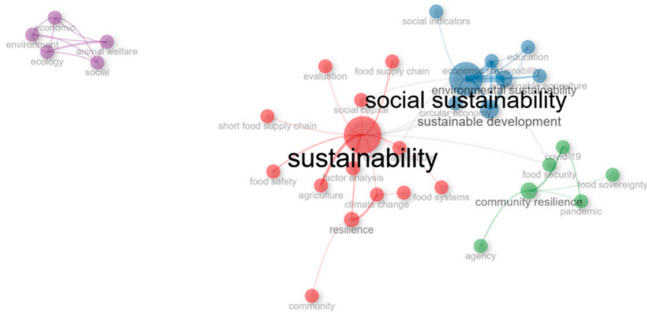


Figure 2. Co-word network showing thematic clusters and research gaps in sustainable food consumption.

Moreover, the visual representation of the thematic structure is produced through the thematic map, which is based on the axes of density (Callon Density) and centrality (Callon Centrality). Each cluster represents a group of terms that co-occur in scientific publications. Specifically, the position and size of the clusters highlight the significance and maturity of each thematic area, enabling the identification of both well-established and emerging topics in the field of social sustainability and sustainable food consumption. Figure 3 shows the thematic map with clusters based on Callon Density and Callon Centrality.

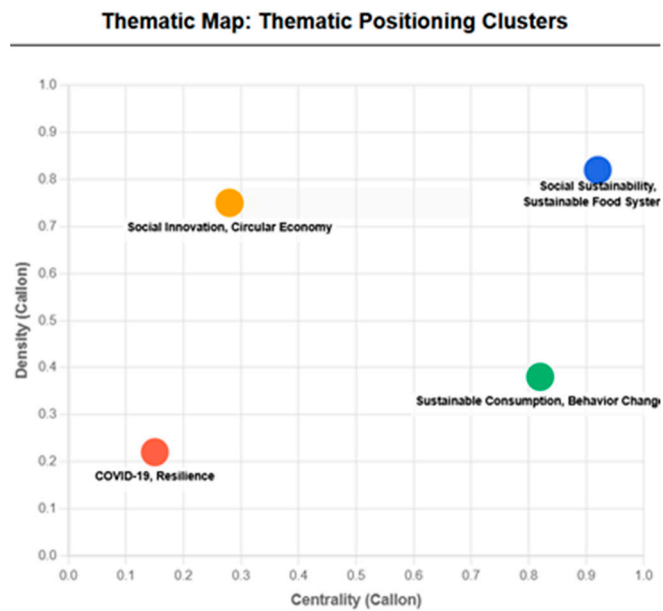


Figure 3. Thematic map showing clusters based on Callon Density and Callon Centrality.

Subsequently, the analysis of publication frequency per year reveals an upward trend, with a notable increase after 2020 due to the COVID-19 pandemic, which reinforced the importance of sustainable food management and social cohesion [4]. Figure 4 illustrates the annual publication frequency in the field of social sustainability and sustainable food.

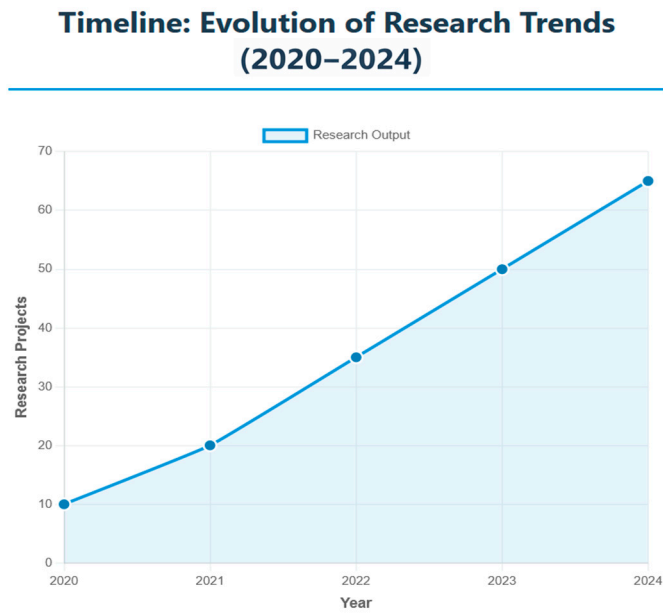


Figure 4. Annual publication frequency in the field of social sustainability and sustainable food consumption.

In conclusion, the combined presentation of tables, networks, and thematic maps provides a comprehensive overview of the field, highlighting the main thematic areas, core research questions, trends, and thematic gaps, thereby offering a solid foundation for future research.

4. Discussion

The findings of this bibliometric analysis indicate that the field of sustainable food consumption and social sustainability exhibits a high degree of theoretical fragmentation and limited integration of social parameters. While the primary focus on consumer behavior and policymaking is important, it does not adequately address critical issues such as labor rights, cultural identity, and socioeconomic inequalities [5,9,11].

Additionally, the geographic distribution of studies shows clear imbalance, with an overrepresentation of high-income countries and limited research in socially and geographically vulnerable regions [2]. This imbalance restricts the generalizability of the results and highlights the need for targeted comparative and cross-cultural studies.

At the same time, there is growing interest in the application of technological solutions and social innovation in sustainable food consumption. However, these interventions are not accompanied by participatory and socially embedded approaches. Therefore, the need for interdisciplinary research frameworks that incorporate sociocultural dimensions and empower local community participation is confirmed.

Furthermore, the co-word network and thematic map analysis revealed significant research gaps, such as food sovereignty, just transition, and cross-thematic issues, which remain limited or unexplored. These gaps indicate areas for future research, focusing on interdisciplinary approaches, socially embedded strategies, and the integration of local sociocultural parameters. Figure 5 illustrates the identified research gaps and areas with limited scientific coverage in the field.



Figure 5. Identified Research Gaps and Areas with Limited Scientific Coverage.

Overall, the findings emphasize the need for research strategies that combine technological innovation with social participation in order to promote a just and sustainable transition of food systems, enhancing resilience, cohesion, and sustainability at all levels.

5. Conclusions

In summary, the present study highlighted the fragmented theoretical foundation and the limited social orientation of the existing literature on sustainable food consumption and social sustainability. The prevailing focus on consumer behavior and policymaking, although important, often overlooks critical structural variables such as labor rights, cultural identity, and socioeconomic inequalities.

The bibliometric mapping, through co-word analysis and thematic mapping, revealed key thematic clusters while also identifying research gaps that require further investigation. However, these research gaps present an opportunity for the development of interdisciplinary research frameworks and the integration of social variables and participatory approaches, supporting just and sustainable transitions in food systems.

At a practical level, the findings provide guidance for the development of policies, educational programs, and innovative strategies that respond to real social needs. In the future, the integration of digital tools, the implementation of participatory methods, and the examination of comparative cross-cultural cases can strengthen sustainability and social cohesion, shaping a more comprehensive and resilient framework for social sustainability in sustainable food consumption.

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