

## Research Article

# Social Capital in the Implementation of Food Diversification Policy: A Systematic Review With Bibliometric Analysis

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## Abstract.

This study aims to map and analyze the development of global scientific literature related to the role of social capital in food diversification policy implementation during the period from 2019 to 2025. Using a bibliometric approach based on the Scopus database, this study compiles a quantitative analysis of 163 selected documents through co-word techniques, field distribution, and geographic collaboration mapping. Results show a significant upward trend in the number of annual publications, especially post-COVID-19, as attention to community-based food security increases in response to the global food system crisis. The thematic distribution shows the dominance of contributions from social, agricultural, and environmental sciences, confirming the multidisciplinary character of the study. Indonesia recorded the largest number of contributors geographically, followed by the United States, China, and Australia, with a strong tendency towards contextualized, local community-based approaches. Keyword analysis identified a concentration of themes on community empowerment, sustainable food security, and participatory governance. Theoretically, the findings suggest that social capital functions not just as an enabling variable, but rather as a structural determinant in food policy effectiveness, particularly within the framework of polycentric and transformative governance. The main contribution of this study lies in systematically mapping the position of social capital in the food diversification discourse, as well as filling a void in the literature that has been dominated by technocratic and agronomic approaches. The practical implications of this study include the urgency of integrating social capital strengthening strategies into a more adaptive, participatory, and contextualized food policy design. This study also opens space for a further research agenda to explore the relational and institutional dimensions of social capital more deeply within the framework of equitable and sustainable food security.

**Keywords:** social capital, food diversification, policy, food Security

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## 1. Introduction

The transformation of the global food system is a crucial agenda in facing the challenges of the 21st century characterized by the climate crisis, natural resource degradation, food distribution inequality, and the residual impacts of the COVID-19 pandemic. Overdependence on major food commodities and monoculture production systems has weakened the adaptive capacity of many countries, especially developing countries, in ensuring access to diverse, healthy and sustainable food (HLPE, 2020). In this context, food diversification is promoted as an important strategy in improving food security, broadening people's nutritional base, and strengthening local food sovereignty[1]. Food diversification is also seen as a policy instrument that encourages the utilization of local food potential, reduces import dependence, and encourages agroecology-based innovation .[2]

However, the success of food diversification policies does not solely depend on technological innovations, market incentives or bureaucratic interventions. A growing body of literature highlights the importance of social aspects, in particular social capital, as a key element determining the effectiveness and sustainability of community-based policies [3][4]. Social capital refers to the social networks, norms and trust that facilitate coordination and cooperation to achieve common goals[5]. In the context of rural development and local food systems, social capital plays a role as an informal institutional foundation that promotes the adoption of innovations, program sustainability, and strengthening of community adaptive capacity[6]. Social capital is also associated with increasing household resilience to socio-economic and environmental shocks[7], as well as strengthening the legitimacy of policies implemented through participatory mechanisms.

Conceptually, the relationship between social capital and the success of food diversification shows that both bonding (intra-community) and bridging (inter-community) social relations contribute to expanding access to information, strengthening production solidarity, and fostering trust in existing institutions and policies[8]. Thus, social capital is not only theoretically relevant, but also practically in supporting the design and implementation of food policies that are responsive to the local context. Nevertheless, it needs to be recognized that until now the understanding of how social capital systemically interacts with food diversification policies remains fragmentary.

The research gap arises from the lack of studies that explicitly and systematically examine the intersection between social capital and food diversification policies. Previous studies tend to be limited to local case approaches, descriptive in nature, or do not directly link social capital with policy variables.[9] . On the other hand, the literature on food diversification often focuses more on technical or agronomic dimensions, without considering the social capacity of communities as an institutional prerequisite[10] . In addition, there is no comprehensive bibliometric mapping of the epistemic landscape of this study in terms of publication trends, thematic distribution, as well as geographical and multidisciplinary contributions. This makes it difficult for researchers and policy makers to formulate evidence-based strategies that integrate technical and social aspects.

In response to this void, this study aims to systematically analyze the dynamics of scientific publications related to the role of social capital in the implementation of food diversification policies during the 2019-2025 period, using a bibliometric approach based on the Scopus database. Specifically, this study examines publication growth trends, distribution of scientific fields, and geographical contributions, while identifying how social capital is positioned in academic discourse related to food diversification. Thus, this study aims to confirm whether social capital has become a substantially integrated element in the study and practice of food diversification policies, or is still marginalized as a complementary dimension.

The original contribution of this study lies in its attempt to bridge the gap between technical studies of food diversification and social capital-based literature, through a quantitative-bibliometric approach that enables the analysis of global trends and multidisciplinary linkages. In addition, the study also provides practical implications for the design of more adaptive food policies, emphasizing the importance of social relations, participatory governance and local institutions in promoting the success of food diversification programs, particularly in developing countries. The findings of this study are expected to serve as the basis for the development of policy frameworks that are more responsive to social-ecological complexities in future food systems.

## 2. Methods

This study uses a bibliometric approach to evaluate and map the development of scientific literature related to the relationship between social capital and food diversification policies in the period 2019 to 2025. This approach was chosen because it allows

researchers to identify publication trends, thematic distribution, geographical collaboration, as well as the structure of knowledge formed in a field of study systematically and objectively[11]. The analysis was conducted using data from the Scopus database, which is widely recognized as one of the largest and most credible bibliographic databases in the international academic world.[12]

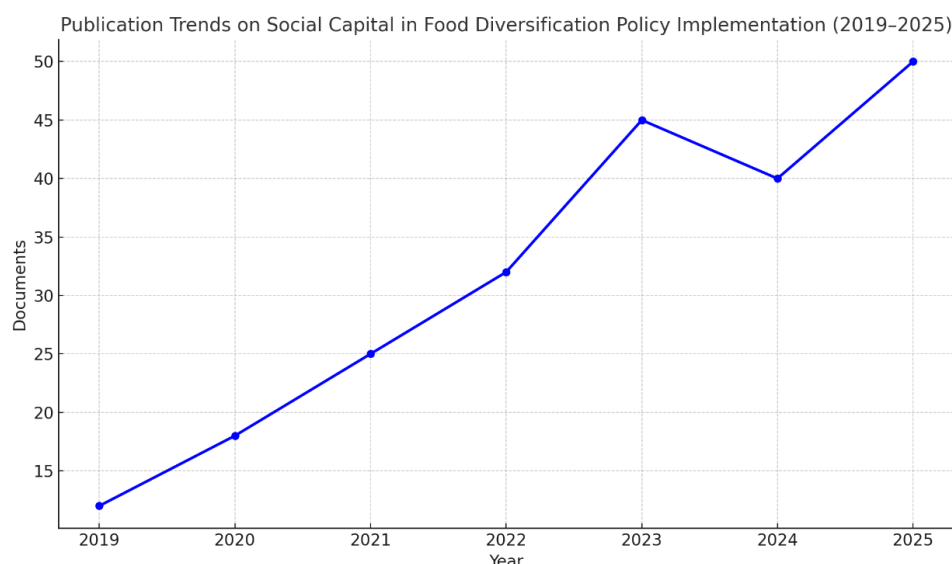
The data collection process was conducted in March 2025 using search strings that had been specifically customized to capture the linkages between the topics of “social capital” and “food diversification”. The main keywords used included: (“social capital”) AND (“food diversification” OR “food policy” OR “diversified diet” OR “food systems”). The search limit was set from 2019 to 2025, while the document limit was restricted to peer-reviewed journal articles and conference papers. Non-scientific documents, editorials, book chapters, and non-English publications were excluded to ensure data quality and consistency.

The initial search results produced 278 documents. The data was then filtered based on inclusion and exclusion criteria. The inclusion criteria included: (1) the document explicitly contains the relationship between social capital and food diversification in the title, abstract or keywords; (2) the document is the result of empirical research or systematic review; and (3) published in an indexed academic journal. After screening for duplication and checking the content, 163 documents were obtained that were eligible for further analysis. Data analysis was conducted using Analyze search results scopus. The results of the data analysis used by researchers to be analyzed more deeply in the results and discussion section are: (1) Document by Years; (2) Document by Country, and; (3) Document by Subject Area.

### 3. Results and Discussion

#### 3.1. Trends in Scientific Publications on Social Capital in Food Diversification Policy Implementation

Analysis of publication trends (Figure 1) shows that the number of scientific documents related to the topic of social capital in food diversification policy implementation has increased significantly during the period 2019 to 2025. At the beginning of the period, in 2019, only 12 publications were recorded. However, the number increased almost fourfold and peaked in 2025 with 50 documents.



**Figure 1:** Document by Year.

The sharpest increase occurred between 2022 and 2023, where the number of publications increased from 32 to 45. This spike can be attributed to the increased attention to local food systems and the role of communities in responding to global crises such as the COVID-19 pandemic[6]. The year 2024 saw a slight decrease, but the overall trend shows that this theme continues to gain scientific relevance.

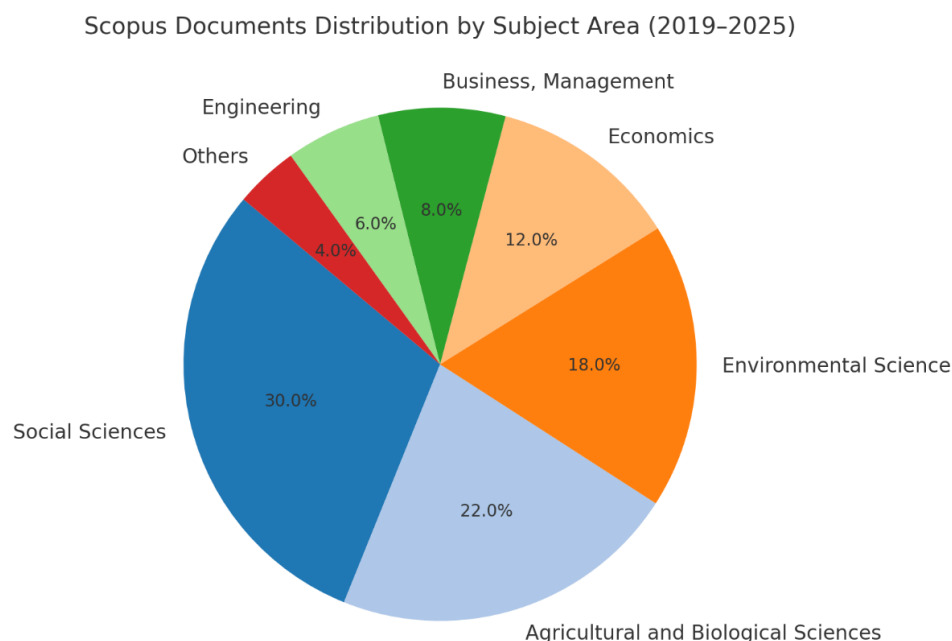
The increase reflects a shift in food policy approach from a technocratic orientation towards a more participatory and community-based one. In this context, social capital, which includes trust, social networks and shared norms, is considered an important prerequisite for the success of inclusive and sustainable food policies.[3][4].

Theoretically, this trend also strengthens the position of integration between social capital theory and food security policy, which places communities not only as objects, but also subjects of the policy formulation and implementation process[7]. This finding shows great potential for the development of interdisciplinary research, especially between social science, agriculture and public policy.

### 3.2. Distribution of Publications by Scientific Field

Figure 2 shows that the majority of publications on social capital in food diversification policy come from the field of Social Sciences (30%), followed by Agricultural and Biological Sciences (22%) and Environmental Science (18%). The dominance of social sciences reflects that community-based approaches and participatory governance are

still the main perspectives in explaining the success of food diversification, especially in developing countries.



**Figure 2:** Document by Subject Area.

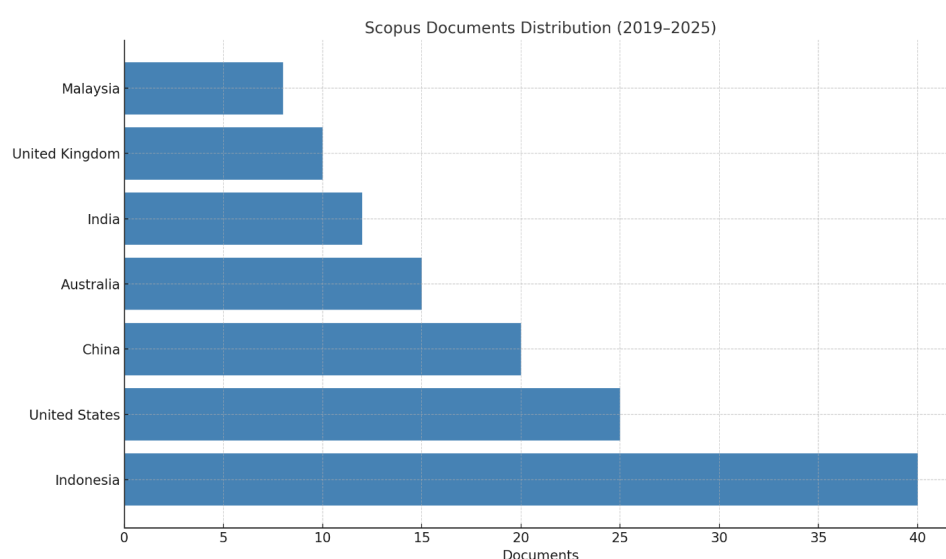
Major contributions from agricultural and biological sciences demonstrate the close linkages between food diversification and agricultural production systems, such as local variety management, agroecological practices and conservation of traditional food resources[13]. Meanwhile, the environmental dimension has received attention through ecosystem and sustainability approaches, suggesting that food diversification is also understood as an adaptive response to ecological stresses and climate change .[1]

Economics and management occupy a smaller share (12% and 8% respectively), but remain significant in highlighting aspects of policy efficiency, market incentives and sustainability of agricultural businesses. This is in line with the literature that underlines the importance of combining economic and social approaches in food system reform (HLPE, 2020).

This finding confirms that the study of food diversification based on social capital is multidisciplinary, but still has strong socio-cultural distinctiveness. The implication is that strengthening interdisciplinary cooperation is key in producing food policies that are holistic and adaptive to local and global dynamics.

### 3.3. Publication Distribution by Country

Figure 3 illustrates the geographical distribution of scientific publications addressing the topic of social capital in food diversification policy implementation on the Scopus database over the period 2019 to 2025. Indonesia recorded the highest contribution with 40 documents, followed by the United States (25 documents), China (20 documents), Australia (15 documents), India (12 documents), the United Kingdom (10 documents) and Malaysia (8 documents).



**Figure 3:** Document by Country.

Indonesia's high contribution reflects the urgency of food security issues in the context of developing countries that rely on the agricultural sector and the involvement of local communities as the main actors in policy implementation. The study by [14] that community-based food diversification programs require social capital support in the form of networks, trust, and collective participation to achieve sustainable success. This is in line with the findings of [15], which states that the success of local food programs in Indonesia is largely determined by the strength of social relations and the strengthening of community institutions.

Significant contributions from developed countries such as the United States and Australia show that this study is not only limited to the development context, but is also a concern in the study of sustainable food governance and social justice in the global food system. As highlighted by [6], developed countries are increasingly emphasizing the importance of social interaction and community capacity in responding to the food crisis, especially post COVID-19.

The distribution of this research shows that the issue of social capital-based food diversification is cross-regional and multidimensional[16] . However, Indonesia's dominance indicates an opportunity for collaborative research from developing countries to lead the global discourse on food policy reform that is not only economic and production-based, but also rooted in local social and cultural dynamics .[17]

This finding strengthens the argument that a technocratic approach alone is insufficient in implementing food policies. On the contrary, the integration of social approaches, especially those based on social capital, is crucial in designing an inclusive and sustainable food system. Therefore, strengthening cross-country and cross-disciplinary research collaboration is a strategic direction in producing food policies that are more responsive to the complexity of local and global challenges.

Overall, the findings of this research show that the study of social capital in the implementation of food diversification policies has significantly increased in the international scientific literature, especially in the period 2019 to 2025. The surge in the number of publications, especially post-2022, empirically shows that this topic is gaining relevance in response to multidimensional crises such as the COVID-19 pandemic and global supply chain disruptions. This dynamic reflects an epistemological paradigm shift in food policy studies from a technocratic approach towards a deliberative approach that emphasizes the importance of social actors, horizontal interactions and collective capabilities. Within the framework of social capital theory [5][4] , reciprocal relationships among social actors, trust networks and participatory norms become key elements in promoting the effectiveness of community-based policies. In the context of food diversification, social capital functions not only as a supporting instrument, but also as a structural determinant that enables systemic transformation at the local level.

An analysis of the distribution of scientific fields reveals that this study has an intrinsically multidisciplinary nature, with contributions from the domains of social science, agriculture and environmental science dominating. This indicates that food diversification policies cannot be narrowly understood as technical interventions in production systems, but rather as complex processes involving social configurations, institutional structures and the ecological context in which they are implemented. The dominance of social sciences (30%) reflects the consolidation of participatory and reflective approaches in policy studies, where the role of communities is no longer positioned as objects of development, but as active subjects in policy formulation and implementation. Meanwhile, contributions from Agricultural and Biological Sciences emphasize the importance of integrating agroecological approaches and preserving



local biodiversity as a technical basis for diversification. The involvement of Environmental Sciences also indicates the strengthening of the discourse on sustainability and adaptation to climate change in food policy formulation. This finding affirms the importance of epistemological integration across disciplines in designing policies that are responsive to the complexity of food systems.

The geographical distribution of publications shows that Indonesia is at the forefront of scientific contributions on this topic, followed by countries such as the United States, China and Australia. Indonesia's dominance reflects the convergence between national research interests and the contextual relevance of community-based food security issues, which are deeply rooted in agrarian social structures and local institutional dynamics. This is reinforced by various empirical studies that emphasize the central role of social capital in bridging the gap between macro policies and micro practices at the community level[14][15]. Within the framework of polycentric governance theory, this situation illustrates the importance of the division of roles and authority between levels of government and non-state actors in the policy co-production process. The participation of developed countries in this publication indicates that the strategic value of social capital also recognized in the context of post-industrial food systems, especially in the agenda of sustainable transformation and global food justice. Thus, the geographical distribution confirms that the issue of social capital-based food diversification is transnational and cross-contextual, and opens space for South-South and South-North research collaboration in formulating food policy models that are more inclusive and resilient to systemic crises.

In the context of theory development, these findings provide reinforcement for the integrative approach in food policy studies, particularly through the adoption of polycentric governance perspectives[4] and transformative governance (HLPE, 2020). Both approaches place interactions between actors, decentralization of authority, and collective learning as key elements in creating an adaptive and sustainable policy system. Through this lens, social capital not only functions as a social lubricant in community relations, but also as an institutional capacity that enables deliberation across actors, scales and disciplines. Amidst the increasing complexity of the global food system due to climate pressures, geopolitical crises and food distribution inequalities, the ability to design policies that are grounded in local social strengths is becoming increasingly essential.

The policy implications of these findings include the urgency to reorient national and local food policy approaches with more emphasis on community social capacity

building. The formulation of food diversification policies should not only be supported by technical calculations and production efficiency, but also by a deep understanding of the social, cultural and institutional dynamics of the community. Strengthening horizontal networks among farmers, cooperatives, customary institutions and women's groups is crucial to ensure the sustainability of diversification programs, especially in areas that are structurally vulnerable to food crises. In addition, collaboration between research institutions, policymakers and local communities needs to be enhanced to produce interventions that are evidence-based yet contextualized. In this framework, social capital functions not only as a mediating variable, but as a conceptual foundation in building a resilient, equitable and participatory food system. For this reason, strengthening transdisciplinary and regional research cooperation is an urgent strategic agenda to be realized in order to support the achievement of SDG 2 and SDG 12 more substantively.

## 4. Conclusion

This study presents strong bibliometric evidence of increasing scholarly attention to the role of social capital in food diversification policy implementation in the past decade, particularly in the 2019-2025 period. The significant increase in publications, especially after the COVID-19 pandemic, shows that community-based approaches are increasingly recognized as an important strategy in dealing with the global food system crisis. This finding indicates a paradigm shift from technocratic food policy towards a deliberative approach that emphasizes social participation, horizontal relations and collective capabilities.

The multidisciplinary analysis shows that social capital sits at an integrative node between social, agricultural and environmental sciences, which together form an epistemological foundation for inclusive and adaptive food policies. Moreover, the dominance of publications from Indonesia and developing countries confirms the importance of contextual studies in producing policy frameworks that are not only globally relevant, but also sensitive to local social and institutional dynamics. In this context, social capital is not just a secondary determinant, but a crucial structural component in realizing sustainable food system transformation.

The main contribution of this study lies in affirming the importance of poly-centric governance and transformative approaches in designing policy interventions based on social capital. As such, it not only strengthens existing theoretical frameworks, but also offers practical implications for policymakers, development actors and the academic

community to encourage cross-sectoral and cross-disciplinary collaboration in food system reform. For future research development, it is important to explore more deeply the causal relationship between dimensions of social capital (such as trust, reciprocity and civic engagement) and food policy outcomes, both through longitudinal quantitative approaches and field-based qualitative case studies. In addition, the development of contextualized and operational social capital evaluation indicators remains a methodological challenge that needs to be addressed in the next research agenda.

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