ISSN: 1526-4726 Vol 4 Issue 3 (2024)

# A Bibliometric Analysis of the Interplay between Social Entrepreneurship and Agricultural Development

# <sup>1</sup>Nagaraju L G, <sup>2</sup>Dr. Shubha A, <sup>3</sup>Dr. Prashanth. V

<sup>1</sup>Research Scholar and Assistant Professor School of Commerce REVA University Bengaluru E-mail: nagarajulg@reva.edu.in

<sup>2</sup>Pro Vice-Chancellor and Dean, REVA Business School, REVA University Bengaluru E-mail: dean.rbs@reva.edu.in

<sup>3</sup>Head, Department of Journalism and Mass Communications, and IQAC Secretary, St Pauls College, Bengaluru. E-mail: prashanth@stpaulscollege.edu.in

#### **Abstract:**

The development of social enterprises is enhanced by creativity, knowledge, experience, skills, social welfare, and social values. Agricultural social enterprises play an important role in modern agriculture, providing innovative and sustainable solutions to help farmers improve productivity. The role of social enterprise is growing rapidly globally, as many economies recognize the enormous value of the sustainable solutions provided by these organizations to solve social problems. Social enterprises are also known as a catalyst for agricultural development. Agricultural development is essential for economies with growing populations, and many social enterprises are working to address farmer challenges with their innovative solutions. Therefore, research on social enterprises in the context of agricultural development is very important. Despite extensive research, we do not have any bibliometric analysis on this topic. This analysis is important for understanding how social enterprises support farmers across the agricultural value chain. This study aims to fill this gap, consolidate research, and establish the state of the art in the field. In total, 225 publications from the Scopus database, covering the period 2013-2023, were selected. Scopus paper is used for changed types of analysis including documents by year, source, country, etc. Other analysis tools such as VOS viewer version 1.6.15 are also used. The study revealed influential journals, productive and cited authors, top countries and universities, influential articles, and collaborative networks. This study contributes to the theoretical base by presenting the structure, characteristics, and research agenda of social entrepreneurship and agricultural development.

**Keywords:** Social Entrepreneurship, Agriculture Development, Co-citation network, Co-assurance, social network analysis, Sematic analysis, VOS viewer.

# 1. INTRODUCTION

Social enterprise continues to be defined as the process of identifying and solving social problems through entrepreneurial principles, combining the mission of creating social value with business strategy and effectiveness (Bacq and Janssen, 2015). Researchers have refined the definition to include a variety of models and approaches, emphasizing the dual goals of financial sustainability and social impact (Mair & Marti, 2006; Smith et al., 2015). A significant body of research has focused on the measurement and evaluation of social impact, with metrics and frameworks such as social return on investment (SROI) and impact assessment being developed to evaluate effectiveness. results of social enterprise (Nicholls, 2018). Recent studies highlight challenges and innovations in impact measurement, emphasizing the importance of context-specific metrics (Rawuser et al., 2019). Innovation society has become a central theme in the social enterprise literature, emphasizing the role of creative solutions in solving complex social problems (Phills et al., 2008). Sustainable practices in social enterprises are also widely researched, focusing on the integration of environmental, social, and economic goals (Muñoz & Cohen, 2018). The financial viability of social enterprises remains an important area of research, exploring various financing models, including hybrid structures, impact investing, and crowdfunding (Grimes et al., 2013). Recent literature highlights the changing landscape of social finance and

# Journal of Informatics Education and Research ISSN: 1526-4726 Vol 4 Issue 3 (2024)

the growing interest of traditional investors (Wilson & Post, 2013). The role of policy and ecosystem support in fostering social enterprise is well documented, with governments and incubators and accelerators recognized as key enablers of social enterprise (Kerlin, 2017). Research highlights the need for enabling regulatory frameworks and capacity-building initiatives to enhance social impact (Lyon and Fernandez, 2012). Numerous case studies illustrate the diverse applications of social enterprises in sectors such as health, education, and agriculture, providing insights into the operating models, challenges, and successes of social enterprises (Dees & Anderson, 2006). Sectoral research highlights the unique contributions and impacts of social enterprises in different contexts (Yunus et al., 2010). Social enterprises (SEs) are organizations that apply commercial strategies to maximize improvements in financial, social, and environmental well-being. In the context of agricultural development, social enterprises (SE) combine social missions and economic models to solve social challenges, especially those in the agricultural sector. Social Entrepreneurship plays a key role in addressing market inefficiencies, promoting sustainable practices, and supporting smallholder farmers.

#### 1.1 Social Entrepreneurship and Agriculture Development

Social enterprises facilitate market access for smallholder farmers by effectively integrating them into value chains. They provide essential services such as collection, processing, and marketing, delivering better prices and reducing post-harvest losses. For example, the One Acre Fund plays a key role in providing financing, training, and market support to smallholder farmers in Africa, helping to significantly increase their productivity and income (One Acre Fund, 2023). Economic enterprises encourage the application of sustainable agricultural measures, including organic farming, agriculture, agroforestry, and conservation agriculture. These activities help mitigate the impact of climate change and preserve biodiversity. Navdanya, an Indian social enterprise, supports organic farming and seed saving, thereby contributing to food security and environmental sustainability (Navdanya, 2022). Access to finance is a significant barrier for smallholder farmers. SE solves this problem by providing microfinance services tailored to the agricultural sector, such as loans, savings products and insurance products. Organizations such as Kiva and Grameen Bank have pioneered microfinance initiatives that allow farmers to invest in their operations and manage risks effectively (Kiva, 2021). Social enterprises contribute to the economic empowerment of smallholder farmers by increasing their income and improving their livelihoods. Studies have shown that farmers involved in ES obtain higher yields and better market prices than those not involved in such enterprises (FAO, 2021). ES promotes social and community development by providing education, health care and other essential services. They often operate in rural and underserved areas, where they fill critical gaps left by the public and private sectors. For example, Barefoot College trains rural women in solar energy technology, allowing them to electrify their communities and improve their quality of life (Barefoot College, 2023). By promoting sustainable agricultural practices, social enterprises contribute to environmental sustainability. They help reduce chemical use, conserve natural resources and improve biodiversity. The impact of these measures is significant in the long term, contributing to increasing the resilience of agricultural systems to climate change (IPCC, 2022).

#### 1. Material and Methods

This study titled "Bibliometric Analysis of Social Enterprise and Agricultural Development" uses the Scopus database for comprehensive analysis. Scopus, one of the largest and most popular databases in the world, includes many research articles. Using the keywords "Social Entrepreneurship" and "Agricultural Development," the search yielded a whole of 225 publications. These keywords were chosen to cover an extensive range of searches without restrictions on country, language, or other parameters. Each publication included in the analysis provides detailed information such as author, country, citation, document, and source. To analyze this data, VOSviewer 1.6.15 was used. VOSviewer is a powerful bibliographic analysis tool, allows effective examination of citations, occurrences, bibliographic coupling, etc. Statistical analysis of the database includes several aspects: documents by basis, documents by year, documents by field, documents by type, documents by country wise, documents by author wise, documents by Links, and documents by major sponsors. These analyses provide a better understanding of the distribution and characteristics of publications.

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

#### **Results And Discussions**

# 3.1 Descriptive Analysis

Table 1. Most influential articles on social entrepreneurship and agricultural development

Title	Authors	Years	Journal	Citations
	Lammerts van Bueren			
Resilience through systems-based plant	E.T.; Struik P.C.; van		Springer-Verlag	
breeding. A review	Eekeren N.; Nuijten E.	2018	France	80
Effect of human and social capital on	Chitsaz E.; Tajpour M.;		Entrepreneurship	
entrepreneurial activities: A case study of	Hosseini E.; Khorram		and Sustainability	
Iran and implications	H.; Zorrieh S.	2019	Center	53
Sustainable entrepreneurship in the				
agriculture sector: The nexus of the triple	Sargani G.R.; Zhou D.;			
bottom line measurement approach	Raza M.H.; Wei Y.	2020	MDPI	53
Bridging technology adoption gaps in				
livestock sector in Ethiopia: An innovation				
system perspective	Kebebe E.	2019	Elsevier Ltd	51
Farmers and Social Innovations in Rural				
Development: Collaborative Arrangements	Futemma C.; De Castro			
in Eastern Brazilian.	F.; Brondizio E.S.	2020	Elsevier Ltd	41
Crisis and post-crisis urban gardening				
initiatives from a Southern European	Calvet-Mir L.; March		SAGE Publications	
perspective: The case of Barcelona	H.	2019	Ltd	38
The significance of social relations in rural				
development: A case study of a beef-cattle				
farmer group in Indonesia	Rustinsyah R.	2019	Elsevier Ltd	37
Business models in urban farming: A	Pölling B.; Prados M			
comparative analysis of case studies from	J.; Torquati B.M.;		Czech Academy of	
Spain, Italy and Germany	Giacch G.; Recasens .	2017	Sciences	37
Creating space for the business family:				
Networks, social capital & family			Emerald Group	
businesses in rural development	Seaman C.	2015	Publishing Ltd.	37
Building sustainable circular agriculture in				
China: economic viability and			Emerald Group	
entrepreneurship	Zhu Q.; Jia R.; Lin X.	2019	Holdings Ltd.	36
Sustainable agricultural entrepreneurship in	Mupfasoni B.; Kessler		Emerald Group	
Burundi: drivers and outcomes	A.; Lans T.	2018	Holdings Ltd.	30

Source: own elaboration

The table lists influential articles on social entrepreneurship and agricultural development. The most cited paper, "Towards Resilience through Systems-based Plant Breeding" by Lammerts van Bueren et al. (2018), contains 80 citations and discusses resilience in agriculture through plant breeding. The study of Chitsaz et al. (2019) on the impact of human and social capital on entrepreneurship in Iran and the work of Sargini et al. (2020) on sustainable entrepreneurship in agriculture Development all have 53 citations. Kebebe's (2019) analysis of technology adoption in Ethiopia's livestock sector has 51 citations. Futemma et al. (2020) and Calvet-Mir and March (2019) explore rural and urban development, receiving 41 and 38 citations, respectively. Rustinsyah's (2019) study on social relationships in Indonesian rural development and Pölling et al.'s comparative analysis of urban agriculture models. (2017) each has 37 citations. Seaman's (2015) study on family business, circular agriculture by Zhu et al. (2019) in China, and agri-entrepreneurship by Mupfasoni et al. (2018) in Burundi

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

Source: own elaboration

complete the list with 30 to 37 citations. These articles highlight the standing of social capital, sustainability and innovation in agriculture.

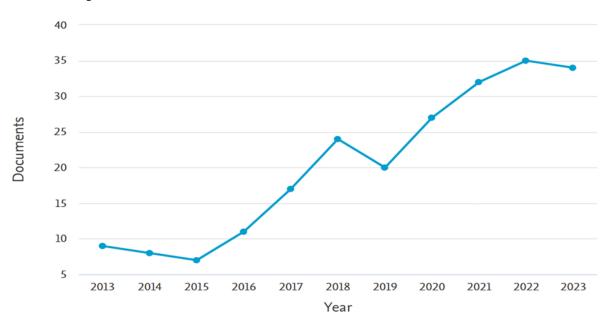


Figure 1. shows the number of publications for each year.

4 Documents 2 0 2015 2016 2017 2018 2019 2014 2020 2021 2022 2023 Year ◆ European Countryside ◆ Bylye Gody ◆ Sustainability Switzerland 

Figure 2 shows the number of publications for each year based on Different Journals

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

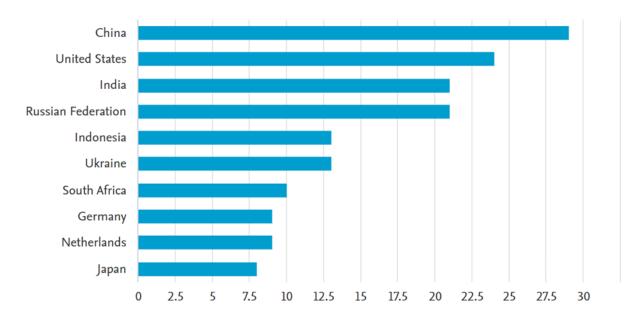


Figure 3. The top 11 countries with the highest number of publications on social entrepreneurship and the entrepreneurial ecosystem.

China leads the world in the number of publications on social entrepreneurship and ecosystems startup, reflecting his important research results in this field. The United States followed suit, highlighting its significant contributions and interest in social enterprise research. India ranked third, showing growing attention in this area. The remaining top 11 countries are likely to include European and Asian countries, highlighting global interest and research activities in social enterprise and startup ecosystems.

Source: own elaboration

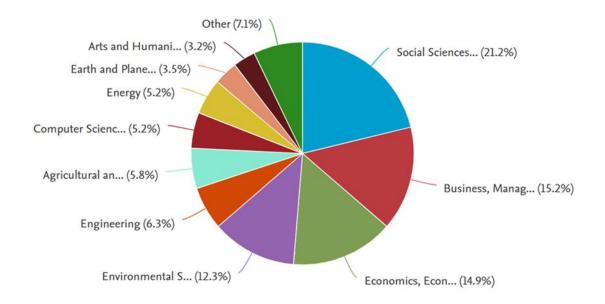


Figure 4. Documents by Subject Zone.

Analysis of Documents by area shows that social sciences dominate with 21.2% of publications, indicating that social entrepreneurship is predominantly studied from a social science perspective. Economics and other related fields also contributed significantly, 15.2% and 14.9% respectively. This distribution highlights the

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

interdisciplinary nature of social entrepreneurship research, incorporating insights from social sciences, economics, business, and potentially other areas such as environmental science and public policy.

Source: <a href="http://www.scopus.com">http://www.scopus.com</a>( Assessed on 6<sup>th</sup> June 2024)

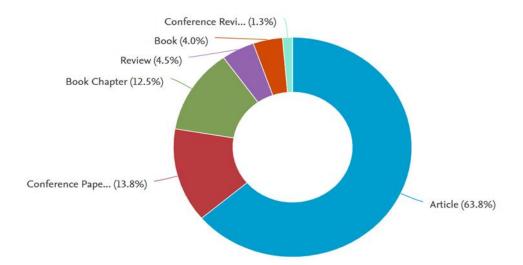


Figure 5. Documents By Type

Most publications on social entrepreneurship are journal articles, suggesting that peer-reviewed journals are the primary medium for disseminating research in this field. Conference papers are the second most common type of publication, indicating active participation and presentation of research findings at academic and professional conferences. This distribution underscores the importance of both rigorous peer-reviewed publications and dynamic academic discussions in advancing the field of social entrepreneurship.

Source: <a href="http://www.scopus.com">http://www.scopus.com</a>( Assessed on 6<sup>th</sup> June 2024)

#### 3.4 Network Analysis

# 3.4.1 Co-authorship Analysis

# Co-authorship in terms of Authors

The Co-authorship network analysis reveals that key authors such as Furuzawa, Shinichi, Kiminami, Akira, and Kiminami, Lily are highly productive, each with 5 documents. Authors like Desa, Geoffrey Jia, and Xiangping stand out for their high citation counts, indicating significant impact despite fewer publications. The total link strength metric indicates strong collaborative ties among these authors, reflecting a robust network of research collaboration in social entrepreneurship, enhancing the quality and reach of their research.

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

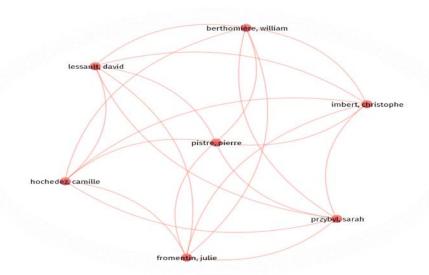


Figure 6. Co-Authorship Network Analysis in Terms of Authors Source: <a href="http://www.scopus.com">http://www.scopus.com</a> (Assessed on 6<sup>th</sup> June 2024)

#### CO- Authorship in terms of Organizations

The co-authorship network analysis at the organizational level shows that Niigata University and The University of Tokyo lead in terms of document count, each with 3 documents. These organizations demonstrate active participation in research collaboration. The Institute of Agricultural Information of the Chinese Academy of Agricultural Sciences in Beijing and San Francisco State University in the United States have the highest number of citations, with 15 citations each, reflecting significant impact and recognition. in their respective fields of study. This analysis highlights the close collaboration between these institutions, improving the quality and scope of their research.

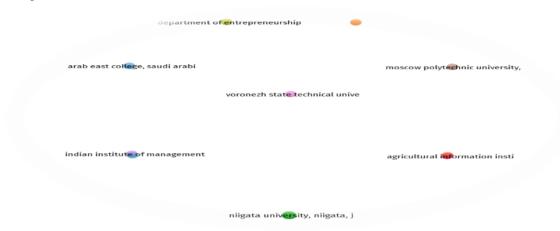


Figure 7. Co-authorship Network Analysis in Terms of Authors Source: authors based on VOSviewer software

# Co-authorship in terms of Countries

China leads in co-authorship at the national level with 29 documents and 226 citations, showing extensive research and collaboration. Next is the United States with 24 documents and 222 citations, demonstrating its significant influence and strong cooperative relationship. India and the Russian Federation also made notable contributions, each with 21 documents. India has 105 citations and a total link strength of 3, while the Russian Federation has 75 citations and a total link strength of 2. These figures highlight the leading role of these countries in the network research network worldwide, highlighting their contributions to social entrepreneurship research.

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

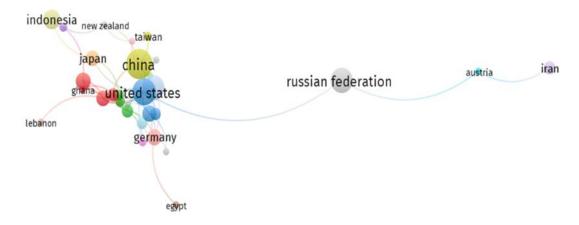


Figure 8. Co-Authorship in terms of Countries Source: authors based on VOS viewer software

#### 3.4.2 Network Analysis of Co-occurrences

# Co-occurrence analysis in terms of all keywords

In Analysing the occurrence of all keywords, "Explainable Agriculture" emerged as the most frequent keyword with the highest association intensity, denoting a key area of interest in entrepreneurship research society. The co-occurrence of keywords provides insight into common topics and themes in the field, helping to identify key research areas and emerging trends. This analysis emphasizes the interdependence of different research objects and the centrality of certain topics in the field of social entrepreneurship.

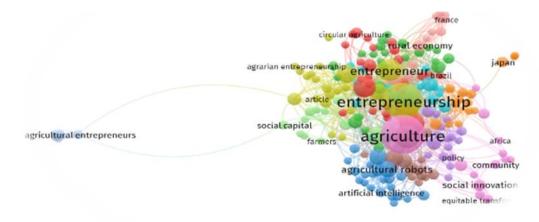


Figure 9.Co-occurrence analysis in terms of all keywords Source: authors based on VOS viewer software

# Co-occurrence analysis in terms of Author keywords

The co-occurrence of author keywords is analysed with the minimum threshold of 2 per author. Out of 775 keywords by the authors, 98 keywords met the threshold. Author keywords "Entrepreneurship" is with highest co-occurrences followed by "agriculture and social entrepreneurship" keyword.

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

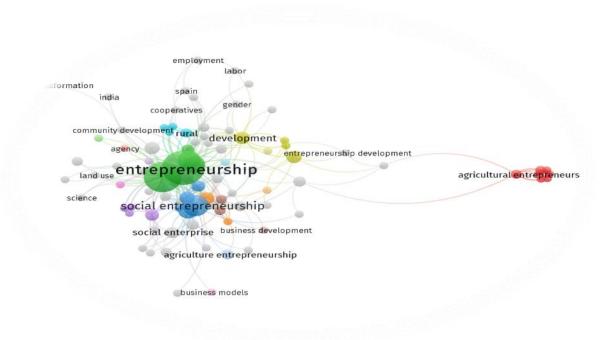


Figure 10. Analysis of emergence appears simultaneously by author's keywords Source: authors based on VOS viewer software

#### Co-occurrence in terms of Index Keywords

Co-competition is also taken into account because the index keywords are 671, only 103 meet the threshold with the 3-keyword threshold. The keyword agriculture has the highest appearance value of 25 with a higher link strength of 129, followed by the keyword "Entrepreneur" with a value of 18. And rural development 13

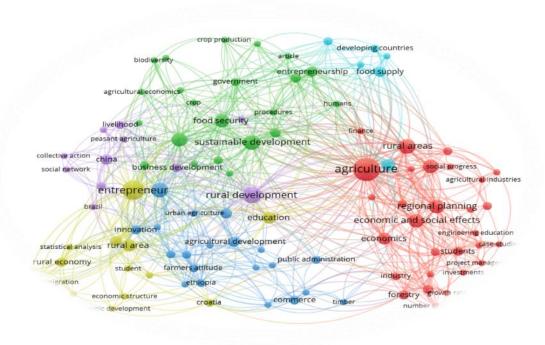


Figure 11. Co-occurrence analysis in terms of all keywords Source: authors based on VOS viewer software

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

#### 3.4.3Network Analysis of Citations

This analysis is done with the units of analysis including documents, sources, authors, country, and organization.

#### Citation Analysis of Documents

In a total 224 documents, a minimum of 2 citations is considered a threshold per document. Therefore, a total of 115 documents meet this threshold. Lammerts van Bueren (2018) has a higher number of citations at 80, followed by Sargani. (2020) and Chitsaz (2019) have 53 citations.

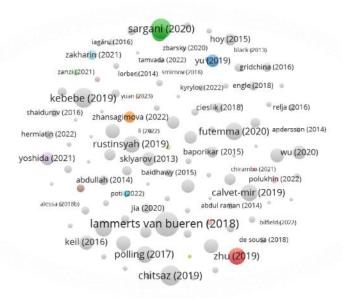


Figure 12. Citation Analysis of Documents Source: authors based on VOS viewer software

# Citation Analysis of Sources

Citation analysis of sources is obtained by considering the threshold of 2 citations per source.

Out of the 173 sources, only 28 met the threshold. Sustainability (Switzerland) has got maximum number of documents of 11 with citations of 130.

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

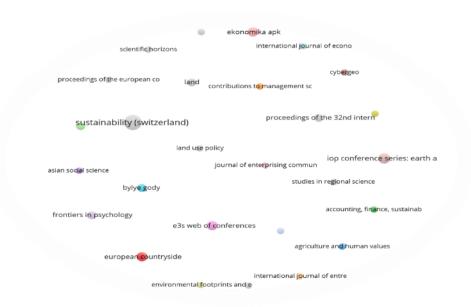


Figure 13. Citation Analysis of Sources Source: authors based on VOS viewer software

# Citation Analysis by Authors

The threshold considered here is 2 citations per author. A total of 614 authors met the threshold amongst the total of 21 authors. Desa, Geoffrey, and Jia, Xiangping. has maximum citations of 15 with the highest number of documents of 2.

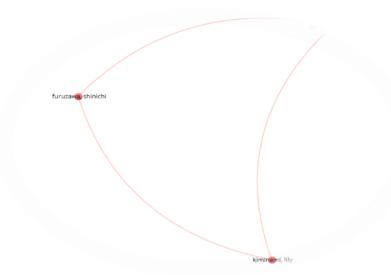


Figure 14: Citation Analysis of Sources Source: authors based on VOS viewer software

# Citation analysis by the organization

Considering minimum documents of 2 per organization as a threshold, 11 organizations met the threshold out of 440 organizations. Agricultural Information Institute and San Francisco State University have a Maximum citation of 15.

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

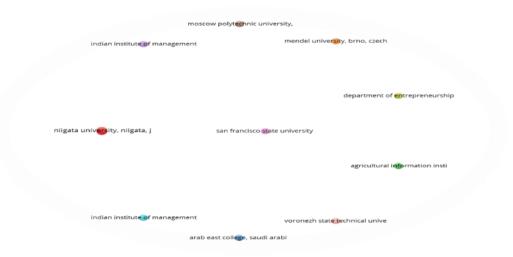


Figure 15: Citation by the organization Source: authors based on VOS viewer software

# Citation analysis by country

A total of 72 countries have databases on social enterprise and agricultural development. Among them, 40 countries meet the citation criteria considering the minimum threshold of 2 citations per country and 2 documents per country, China has 226 citations with 29 documents, followed by the United States with 222 citations. with 24 documents, and India 105 citations with 21 documents.

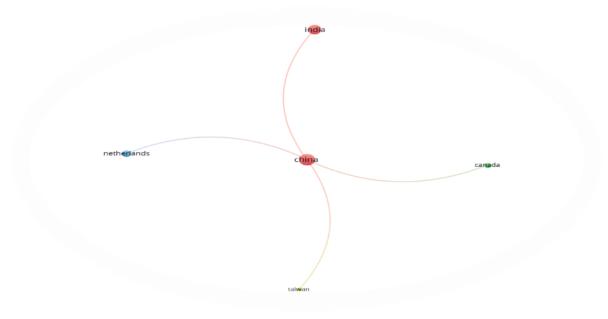


Figure 16. Citation by the organization Source: authors based on VOS viewer software

# 3.4.4Network Analysis of Bibliographic Coupling

# **Bibliographic Coupling of Documents**

A total of 224 documents were considered for bibliographic coupling with a threshold of a minimum of 115. Jija (2022) has the highest link strength of 162.

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

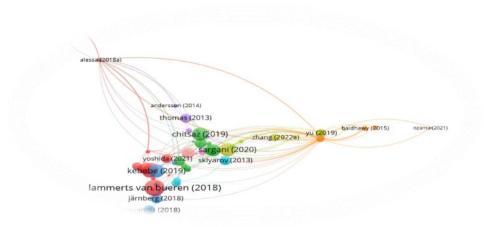


Figure 17. Bibliographic Coupling of Documents Source: authors based on VOS viewer software

# **Bibliographic Coupling of Sources**

In total, 173 sources were considered for bibliographic matching with a minimum threshold of 28. Sustainability (Switzerland) and the humanistic value of agriculture achieved the highest link strength of 14.

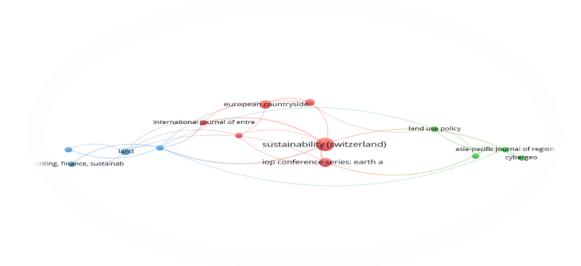


Figure 18. Bibliographic Coupling of Documents Source: authors based on VOS viewer software

# **Bibliographic coupling of Authors**

Considering, 2 documents per author as a minimum threshold value. Out of total 614 authors,

21 authors met the threshold criteria.

Figure 19. Bibliographic coupling of Authors

ISSN: 1526-4726 Vol 4 Issue 3 (2024)



Source: authors based on VOS viewer software

# **Bibliographic coupling of Organizations**

Out of 440 organizations, 11 met the thresholds, the bibliographic coupling is as shown below.



Figure 20. Bibliographic Coupling of Organizations

Source: authors based on VOS viewer software

# **Bibliographic Coupling of Countries**

A total of 72 countries have a database of the mentioned work on social entrepreneurship and agriculture development. Considering the threshold of a minimum of 2 documents per country, a total of 43 countries found the bibliographic coupling relations.

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

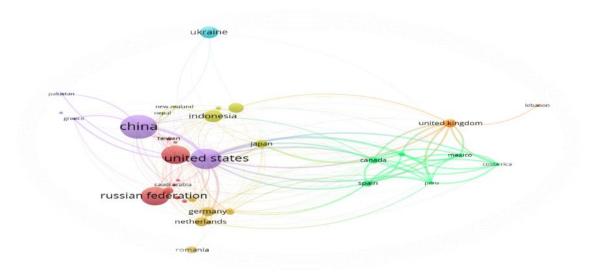


Figure 21. Bibliographic Coupling of Countries

Source: authors based on VOS viewer software

# **Co-citation of Cited References**

In this database, there are a total of 9304 cited references. By keeping the threshold of a minimum of 2 citations per cited reference, a total of 326 met the threshold.

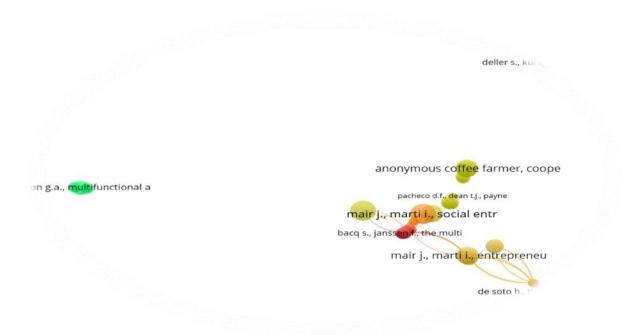


Figure 22. Co-citation of Cited References

Source: authors based on VOS viewer software

# **Co-citation of Cited Sources**

There are a total of 5448 sources, out of which 60 met the minimum threshold of 10 citations per source.

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

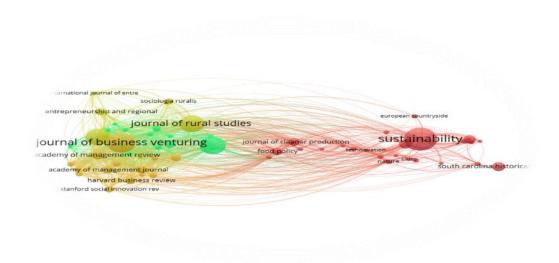


Figure 23. Co-citation of Cited Sources

Source: authors based on VOS viewer software

# **Co-citation of Cited Authors:**

There are a total of 15,073 authors associated with the database. To obtain the co-citations of cited authors, a minimum threshold of 10 was considered for the analysis. The analysis results show that 57 authors are meeting the threshold value.

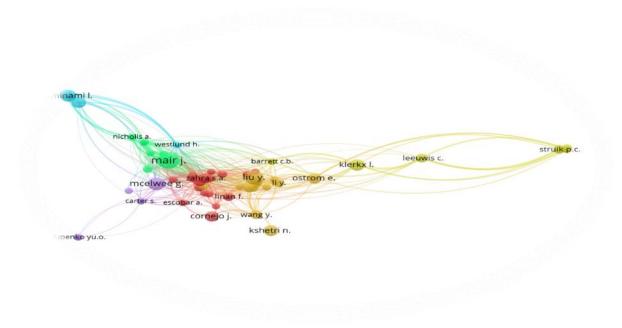


Figure 24. Co-citation of Cited Authors

Source: authors based on VOS viewer software

# **CONCLUSIONS**

This bibliographic analysis of social entrepreneurship and agricultural development, using the Scopus database and VOSviewer software, the database is considered from the year 2013 onwards. The keyword search is used

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

with AND and OR operators for searching the database. A total of 225 documents are obtained as the outcome of the search highlights important trends and influential works in the field. The most cited paper is "Towards Resilience through Systems-based Plant breeding" by Lammerts van Bueren et al. (2018) with 80 citations, focusing on resilience in agriculture. Other notable works include Chitsaz et al. (2019) on human and social capital in Iran and Sargani et al. (2020) on sustainable entrepreneurship, both with 53 citations, indicating key areas of interest in social entrepreneurship and agricultural sustainability. Analysis of co-authoring shows famous authors such as Furuzawa, Shinichi and Kiminami, Akira and Lily, each with high productivity and significant collaborative relationships. Institutions such as Niigata University and the University of Tokyo show significant research activity, while the China Agricultural Information Institute and San Francisco State University stand out for the impact of their citations. At the national level, China leads with 29 documents and 226 citations, followed by the United States with 24 documents and 222 citations, highlighting their dominant role in this research field. Keyword co-occurrence analysis identified "explainable agriculture" and "entrepreneurship" as central themes, reflecting the focus on innovative and sustainable agricultural practices. The combined analysis of citations and bibliographic records further confirmed the influence of specific authors, sources, and sources. Nation. These findings highlight the interconnected and collaborative nature of social enterprise and agricultural development research, emphasizing the importance of social capital, sustainability, and innovation.

#### References

- [1] Alvord, S. H., Brown, L. D., & Letts, C. W. (2004). Social entrepreneurship and societal transformation. Journal of Applied Behavioral Science, 40(3), 260-282. https://doi.org/10.1177/0021886304266847
- [2] Austin, J., Stevenson, H., & Wei-Skillern, J. (2006). Social and commercial entrepreneurship: Same, different, or both? Entrepreneurship Theory and Practice, 30(1), 1-22. https://doi.org/10.1111/j.1540-6520.2006.00107.x
- [3] Bass, B. M., & Riggio, R. E. (2006). Transformational leadership. Psychology Press.
- [4] Bullough, A., Renko, M., & Abdelzaher, D. (2017). Women's business ownership: Operating within the context of institutional and in-group collectivism. Journal of Management, 43(7), 2037-2064. https://doi.org/10.1177/0149206314561302
- [5] Dees, J. G., & Anderson, B. B. (2006). Framing a theory of social entrepreneurship: Building on two schools of practice and thought. In R. Mosher-Williams (Ed.), Research on social entrepreneurship: Understanding and contributing to an emerging field (pp. 39-66). ARNOVA.
- [6] Giones, F., & Brem, A. (2017). Digital technology entrepreneurship: A definition and research agenda. Technology Innovation Management Review, 7(5), 44-51. https://doi.org/10.22215/timreview/1076
- [7] Humbert, A. L. (2018). Gender, entrepreneurship and motivational perspectives in entrepreneurship. Routledge.
- [8] Kerlin, J. A. (2017). Shaping social enterprise: Understanding institutional context and influence. Emerald Group Publishing.
- [9] Kickul, J., & Lyons, T. S. (2016). Understanding social entrepreneurship: The relentless pursuit of mission in an ever changing world. Routledge.
- [10] Leadbeater, C. (2015). The rise of the social entrepreneur. Demos.
- [11] Lyon, F., & Fernandez, H. (2012). Strategies for scaling up social enterprise: Lessons from early years providers. Social Enterprise Journal, 8(1), 63-77. https://doi.org/10.1108/17508611211226593
- [12] Mair, J., & Marti, I. (2006). Social entrepreneurship research: A source of explanation, prediction, and delight. Journal of World Business, 41(1), 36-44. https://doi.org/10.1016/j.jwb.2005.09.00
- [13] Basha, S. M., & Ramaratnam, M. S. (2017). Construction of an Optimal Portfolio Using Sharpe's Single Index Model: A Study on Nifty Midcap 150 Scrips. Indian Journal of Research in Capital Markets, 4(4), 25-41.
- [14] Krishnamoorthy, D. N., & Mahabub Basha, S. (2022). An empirical study on construction portfolio with reference to BSE. Int J Finance Manage Econ, 5(1), 110-114.

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

- [15] Mohammed, B. Z., Kumar, P. M., Thilaga, S., & Basha, M. (2022). An Empirical Study On Customer Experience And Customer Engagement Towards Electric Bikes With Reference To Bangalore City. Journal of Positive School Psychology, 4591-4597.
- [16] Ahmad, A. Y. A. B., Kumari, S. S., MahabubBasha, S., Guha, S. K., Gehlot, A., & Pant, B. (2023, January). Blockchain Implementation in Financial Sector and Cyber Security System. In 2023 International Conference on Artificial Intelligence and Smart Communication (AISC) (pp. 586-590). IEEE.
- [17] Janani, S., Sivarathinabala, M., Anand, R., Ahamad, S., Usmani, M. A., & Basha, S. M. (2023, February). Machine Learning Analysis on Predicting Credit Card Forgery. In International Conference On Innovative Computing And Communication (pp. 137-148). Singapore: Springer Nature Singapore.
- [18] Kalyan, N. B., Ahmad, K., Rahi, F., Shelke, C., & Basha, S. M. (2023, September). Application of Internet of Things and Machine learning in improving supply chain financial risk management System. In 2023 IEEE 2nd International Conference on Industrial Electronics: Developments & Applications (ICIDeA) (pp. 211-216). IEEE.
- [19] Sheshadri, T., Shelly, R., Sharma, K., Sharma, T., & Basha, M. (2024). An Empirical Study on Integration of Artificial Intelligence and Marketing Management to Transform Consumer Engagement in Selected PSU Banks (PNB and Canara Banks). NATURALISTA CAMPANO, 28(1), 463-471.
- [20] Joe, M. P. (2024). Enhancing Employability by Design: Optimizing Retention and Achievement in Indian Higher Education Institution. NATURALISTA CAMPANO, 28(1), 472-481.
- [21] Dawra, A., Ramachandran, K. K., Mohanty, D., Gowrabhathini, J., Goswami, B., Ross, D. S., & Mahabub Basha, S. (2024). 12Enhancing Business Development, Ethics, and Governance with the Adoption of Distributed Systems. Meta Heuristic Algorithms for Advanced Distributed Systems, 193-209.
- [22] Singh, A., Krishna, S. H., Tadamarla, A., Gupta, S., Mane, A., & Basha, M. (2023, December). Design and Implementation of Blockchain Based Technology for Supply Chain Quality Management: Challenges and Opportunities. In 2023 4th International Conference on Computation, Automation and Knowledge Management (ICCAKM) (pp. 01-06). IEEE.
- [23] Almashaqbeh, H. A., Ramachandran, K. K., Guha, S. K., Basha, M., & Nomani, M. Z. M. (2024). The Advancement of Using Internet of Things in Blockchain Applications for Creating Sustainable Environment in the Real Word Scenario. Computer Science Engineering and Emerging Technologies: Proceedings of ICCS 2022, 278.
- [24] Kotti, J., Ganesh, C. N., Naveenan, R. V., Gorde, S. G., Basha, M., Pramanik, S., & Gupta, A. (2024). Utilizing Big Data Technology for Online Financial Risk Management. In Artificial Intelligence Approaches to Sustainable Accounting (pp. 135-148). IGI Global.
- [25] Shaik, M. (2023). Impact of artificial intelligence on marketing. East Asian Journal of Multidisciplinary Research, 2(3), 993-1004.
- [26] Reddy, K., SN, M. L., Thilaga, S., & Basha, M. M. (2023). Construction Of An Optimal Portfolio Using The Single Index Model: An Empirical Study Of Pre And Post Covid 19. Journal of Pharmaceutical Negative Results, 406-417.
- [27] Basha, M., Reddy, K., Mubeen, S., Raju, K. H. H., & Jalaja, V. (2023). Does the Performance of Banking Sector Promote Economic Growth? A Time Series Analysis. International Journal of Professional Business Review: Int. J. Prof. Bus. Rev., 8(6), 7.
- [28] Mahabub, B. S., Haralayya, B., Sisodia, D. R., Tiwari, M., Raghuwanshi, S., Venkatesan, K. G. S., & Bhanot, A. An Empirical Analysis of Machine Learning and Strategic Management of Economic and Financial Security and its Impact on Business Enterprises. In Recent Advances in Management and Engineering (pp. 26-32). CRC Press.
- [29] Vemula, R., Mahabub, B. S., Jalaja, V., Nagaraj, K. V., Karumuri, V., & Ketha, M. (2024). Analysis of Social Media Marketing Impact on Consumer Behaviour. In Recent Advances in Management and Engineering (pp. 250-255). CRC Press.
- [30] Dr.V. Jalaja, Dr. Thejasvi Sheshadri, Dr.V.K. Arthi, Dr.S. Thilaga, Dr.J. Bamini, S. Mahabub Basha, & Manyam Kethan. (2024). Maximizing Marketing Value: An Empirical Study on the Framework for

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

- Assessing AI and ML Integration in Marketing Management. Indian Journal of Information Sources and Services, 14(3), 64–70. https://doi.org/10.51983/ijiss-2024.14.3.09
- Raji N, George, V., Iyer, R. S., Sharma, S., Pathan, F. I., & Basha S, M. (2024). REVOLUTIONIZING [31] RECRUITMENT: THE **ROLE** OF ARTIFICIAL **INTELLIGENCE** IN **TALENT** ACQUISITION. ShodhKosh: Journal of Visual and Performing Arts, 5(1), 750-759. https://doi.org/10.29121/shodhkosh.v5.i1.2024.2141
- [32] Policepatil, S., Sharma, J., Kumar, B., Singh, D., Pramanik, S., Gupta, A., & Mahabub, B. S. (2025). Financial Sector Hyper-Automation: Transforming Banking and Investing Procedures. In Examining Global Regulations During the Rise of Fintech (pp. 299-318). IGI Global.
- [33] Reddy, K. S., Kethan, M., Basha, S. M., Singh, A., Kumar, P., & Ashalatha, D. (2024, April). Ethical and Legal Implications of AI on Business and Employment: Privacy, Bias, and Accountability. In 2024 International Conference on Knowledge Engineering and Communication Systems (ICKECS) (Vol. 1, pp. 1-6). IEEE.
- [34] Rana, S., Sheshadri, T., Malhotra, N., & Basha, S. M. (2024). Creating Digital Learning Environments: Tools and Technologies for Success. In Transdisciplinary Teaching and Technological Integration for Improved Learning: Case Studies and Practical Approaches (pp. 1-21). IGI Global.
- [35] Muñoz, P., & Cohen, B. (2018). Sustainable entrepreneurship research: Taking stock and looking ahead. Business Strategy and the Environment, 27(3), 300-322. https://doi.org/10.1002/bse.2000
- [36] Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. Entrepreneurship Theory and Practice, 41(6), 1029-1055. https://doi.org/10.1111/etap.12254
- [37] Nicholls, A. (2018). Measuring impact in social entrepreneurship: New accountabilities to stakeholders and investors? In A. Nicholls, R. Schwartz, & J. Gabriel (Eds.), Research handbook on social entrepreneurship (pp. 187-213). Edward Elgar Publishing. https://doi.org/10.4337/9781788113182
- [38] Peredo, A. M., & Chrisman, J. J. (2006). Toward a theory of community-based enterprise. Academy of Management Review, 31(2), 309-328. https://doi.org/10.5465/amr.2006.20208683
- [39] Phills, J. A., Deiglmeier, K., & Miller, D. T. (2008). Rediscovering social innovation. Stanford Social Innovation Review, 6(4), 34-43.
- [40] Rawhouser, H., Cummings, M., & Newbert, S. L. (2019). Social impact measurement: Current approaches and future directions for social entrepreneurship research. Entrepreneurship Theory and Practice, 43(1), 82-115. https://doi.org/10.1177/1042258717727718
- [41] Smith, B. R., Stevens, C. E., & Barr, T. F. (2015). Social entrepreneurs and earned income opportunities: The dilemma of earned income pursuit. Journal of Social Entrepreneurship, 6(1), 102-124. https://doi.org/10.1080/19420676.2014.890372
- [42] Tracey, P., & Phillips, N. (2007). The distinctive challenge of educating social entrepreneurs: A postscript and rejoinder to the special issue on entrepreneurship education. Academy of Management Learning & Education, 6(2), 264-271. https://doi.org/10.5465/amle.2007.25223465
- [43] Wilson, F., & Post, J. E. (2013). Business models for people, planet (& profits): Exploring the phenomena of social business, a market-based approach to social value creation. Small Business Economics, 40(3), 715-737. https://doi.org/10.1007/s11187-011-9401-0
- [44] Yunus, M., Moingeon, B., & Lehmann-Ortega, L. (2010). Building social business models: Lessons from the Grameen experience. Long Range Planning, 43(2-3), 308-325. https://doi.org/10.1016/j.lrp.2009.12.005
- [45] Zahra, S. A., Rawhouser, H. N., Bhawe, N., Neubaum, D. O., & Hayton, J. C. (2008). Globalization of social entrepreneurship opportunities. Strategic Entrepreneurship Journal, 2(2), 117-131. https://doi.org/10.1002/sej.43
- [46] One Acre Fund. (2023). Impact report. Retrieved from https://oneacrefund.org
- [47] Navdanya. (2022). Annual report. Retrieved from https://navdanya.org
- [48] Kiva. (2021). Financial inclusion in agriculture. Retrieved from https://kiva.org
- [49] FAO. (2021). The state of food and agriculture 2021. Retrieved from https://fao.org

ISSN: 1526-4726 Vol 4 Issue 3 (2024)

- [50] Lammerts van Bueren, E. T., Struik, P. C., van Eekeren, N., & Nuijten, E. (2018). Towards resilience through systems-based plant breeding. Springer-Verlag France.
- [51] Chitsaz, E., Tajpour, M., Hosseini, E., Khorram, H., & Zorrieh, S. (2019). The effect of human and social capital on entrepreneurial activities: A case study of Iran. Entrepreneurship and Sustainability Center.
- [52] Sargani, G. R., Zhou, D., Raza, M. H., & Wei, Y. (2020). Sustainable entrepreneurship in the agriculture sector: The nexus of the triple bottom line measurement approach. MDPI.