

Ecotourism Research Trends in BRICS Nations: A Scientometric Analysis from 2003 to 2023

Reemina Narzary *, Rajdeep Deb* and Jacob Lalnunthleng Pulamte*

Abstract

This study examines the Ecotourism research within BRICS nations (Brazil, Russia, India, China, and South Africa), between 2003- 2023, using a scientometric approach. A total dataset of 4,359 peer-reviewed scientific articles were accessed from the Scopus database and analysed using RStudio and VOSviewer software. The number of ecotourism research output significantly increased particularly after 2014, with China dominating both productivity and international collaboration. The most prominent journals publishing ecotourism research included Sustainability (Switzerland) followed by Journal of Sustainable Tourism, and African Journal of Hospitality. Frequently occurring keywords showed association with ecotourism, tourism development, conservation, sustainability, and local participation. Spatiotemporal analysis, questionnaire surveys, and geographical analysis are the most commonly employed research methods. The analysis also showed notable disparities in research output and collaboration among BRICS nations exist, with India and Russia lagging behind South Africa and China. This study plays a prominent role in providing comprehensive overview of research on ecotourism within BRICS nations, identifying key themes, leading contributors, and areas that require more attention and addresses the gaps existing in the area. The findings contribute to offer valuable insights for academicians, policymakers, and investors aiming to encourage sustainable tourism practices in the BRICS region and beyond.

Keywords: Ecotourism, BRICS nations, Sustainable Tourism, Scientometric Analysis, Research Trends

* Department of Tourism & Hospitality Management, Mizoram University, India; narzaryreemi@gmail.com; rajdeep_au@yahoo.co.in; pulamtejacob@gmail.com

1. Introduction

Ecotourism, refers to traveling to relatively underdeveloped natural places, to experience and appreciate the local environment, learning about wildlife and engaging with authentic local culture while conserving the natural environment of the ecosystem (T. H. Lee & Jan, 2019). Ecotourism is often supported by authorities managing protected areas worldwide to promote tourism in a sustainable manner (Buckley, Cater, Linsheng, & Chen, 2008). Local communities' participation is essential to attain ecological and social sustainability within a destination (Nunkoo & Gursoy, 2012). However, well-planned ecotourism developments can benefit nearby communities (Deery, Jago, & Fredline, 2012). Ecotourism can diversify livelihood opportunities through activities such as boat operators, scuba diving guides, and seafood dealers (Plummer & Fennell, 2009). In contrast, poorly managed ecotourism can lead to environmental damage and disrupt the livelihoods of local communities, which can lead to resistance (Kousis, 2000). A comprehensive ecotourism model should incorporate sustainable practices that contribute to environmental protection, have a global outlook, and address environmental and sociocultural aspects (Weaver, 2005).

Ecotourism, as a subset of sustainable tourism, first appeared in scholarly writings in the late 1980s (Dowling, 2013; Mckercher, 2010). It has gained popularity in recent decades (Weaver & Lawton, 2002). The benefits of ecotourism in balancing the economic development of the local population with nature conservation are well acknowledged (Krüger, 2005). However, socio-cultural elements must be considered in this context because very few, if any, natural environments are completely free of human influence (Weaver, 2005). Notwithstanding the significance and benefits of ecotourism, concerns have also been expressed regarding the projected financial gains from ecotourism activities for local populations (Nsukwini & Bob, 2016). Additionally, emerging nations which were once practically shut out from the travel and tourism sector are now taking the central stage and are becoming more aware of their economic potential while mostly depending on tourism to fund foreign exchange. (Schubert, Kandampully, Solnet, & Kralj, 2010).

Brazil, Russia, India, China, and South Africa (BRICS) represent a group of major emerging economies whose growing middle class population and rapidly expanding industries have strengthened their influence in global tourism (Rasool, Maqbool, & Tarique, 2021). (Ventura, Fernandes, Tshikovhi, & Sucheran, 2023) observed that the tourism sector gained central stage at the 2017 BRICS Xiamen Summit in China and the BRICS nations are emerging as focal points in tourism market and receive

high rates of global tourist inflow from across the world. Between 1990 and 2014, the collective share of global GDP of these nations increased from 11% to nearly 30% (Mminele, 2016).

China and India, two of the BRICS nations, which account for a substantial portion of the world's population and economic output, have emerged as major economic powers while Brazil, Russia, and South Africa also make substantial contributions to the BRICS bloc's expanding influence in the global economy (Medel, 2019). Owing to its increasing long-term contribution to economic growth, inbound tourism has become increasingly important, increasing foreign exchange reserves (Zhu, Wang, & Hung, 2024), promoting investments in new infrastructure (Blake, Sinclair, & Soria, 2006), human capital and competition, and encouraging industrial development (C.-C. Lee & Chang, 2008). Finally, Brida et al. (2016) state that as the economy expands, one could argue that GDP growth could lead to an increase in international tourism which collectively highlight the strategic implication of tourism as a tool for BRICS economies sustainable progress and regional cooperation.

Formerly known as BRIC, BRICS originally comprised of four major nations: Brazil, Russia, India, and China. While South Korea and Mexico were often taken into consideration when discussing the BRIC concept, they were not included in the consultation and deliberation in the BRIC, a group of developing countries, while these two candidate nations were regarded as developed. South Africa was the newest entrant in this economic alliance, which is presently referred to as the BRICS (Vadra, 2017). Holmgren and Schnitzer (2004) reported that North America and Europe produce the majority of scientific papers each year, leading to disparities in research between developed and developing nations. Meanwhile, the BRICS bloc represents a collective effort among the member countries to globally change the dynamics of economic growth and development. Since the coalition's official formation in 2009, BRICS has undertaken several projects to improve political and economic cooperation within the bloc and with other emerging economies globally (Mazenda & Ncwadi, 2016).

Brazil, Russia, India, and China were the four main rising economies that saw exceptionally strong economic growth in the 1990s; they are referred to as the BRIC (O'Neill, 2001). After South Africa was recognized as a member of the BRICS group of powerful emerging nations, the acronym now contains a "S" at the end (Smith, 2011). The growing middle class, primarily from developing nations such as BRICS, has emerged as a major driver of the travel and tourism industry (Clément, Rougier, Berrou, Combarrous, & Darbon, 2022). Tourism development within an economy has the potential to significantly contribute to long-term human

development (Biagi, Ladu, & Royuela, 2017; Croes, Ridderstaat, Båk, & Zientara, 2021). Tourism as an economic activity is vastly integrative that supports the socioeconomic development of host economies through job creation, tax-based growth, public resource development, infrastructure development, and export revenue, it is a major potential driver of global competitiveness in BRICS economies. (Ambardar, 2017; Usmani, Akram, & Praveen, 2021).

During the last two decades, ecotourism research has expanded considerably, resulting in a large and diverse body of scientific knowledge that becomes challenging to compile using conventional narrative reviews alone. Scientometric method makes it possible to analyze vast amounts of scientific articles and identifying trends within a research domain that might not be apparent using conventional review techniques. While (Lochan Jena, Swain, & Bihari Sahu, 2012) highlighted the usefulness of such techniques in research assessment and policy planning, (Martin, 1996) underlined the value of bibliometric indicators in assessing scientific production and research advancement. Similarly, Ellegaard and Wallin (2015) emphasized that bibliometric analysis makes it possible to identify significant publications, new research topics, and academic communication patterns.

Therefore, the current study attempts to discover the research patterns, and knowledge gaps associated with the scientific works on ecotourism in BRICS nations from 2003 to 2023. To achieve this, a scientometric analysis was conducted using a systematic approach to examine and interpret large datasets, enabling a comprehensive visualization of the development and emerging themes within a specific research domain.

In order to accomplish the objectives of the study, the following research questions were framed:

RQ1. How did ecotourism research evolve across BRICS nations between 2003-2023 in terms of publication output, thematic focus, and research influence?

RQ2. How are the collaborative patterns, knowledge structures, and theme clusters represented in ecotourism research in the BRICS nations?

RQ3. Which areas of ecotourism research are well-established and which are still unexplored within BRICS nations?

RQ4. What implications do the identified research trends and knowledge gaps have for future ecotourism research, policy development, and sustainable development initiatives in emerging economies?

2. Research gap

Bibliometric studies conducted on BRICS nations have primarily focused on sustainability-related themes such as renewable energy, green finance, environmental governance and sustainable development (Fayzullina et al., 2024; Haryono, 2024; Narina & Ankit, 2026; Roucham & Zaghdoud, 2025). Although these studies have enhanced insights into their respective domains, the domain of ecotourism has comparatively been less explored within the context of BRICS nations despite the growing importance for conservation, community upliftment and sustainable economic growth. At present, a combined understanding of how ecotourism knowledge has developed across the BRICS nations remains incomplete, limiting the identification of emerging research directions, knowledge gaps, and opportunities for collaboration and policy development. Thus, a systematic assessment of the existing knowledge base is required to better understand the expansion of ecotourism studies across these emerging economies. Therefore, this study employs scientometric analysis to systematically examine ecotourism research trends in the BRICS nations between 2003 and 2023.

3. Research Design and Methods

3.1 Search strategy and article selection process

The present study focuses on research trends and thematic concentration in the scientific works associated with ecotourism in BRICS nations over the past 20 years (2003–2023), while data from 2024 were purposefully excluded because of the major geopolitical shifts that year due to the new addition of BRICS members, a scientometric analysis of academic research articles was carried out. According to Martín-Martín et al. (2018), Compared to the coverage by Web of Science Core Collection (WoS) which is 21,000 journals, Scopus is more extensive and covers nearly 36,000 journals, including those indexed in MEDLINE and Embase. Therefore, Scopus (Elsevier) was used for this purpose <https://www.scopus.com>. However, the search strategy combined keywords associated to ecotourism and sustainable tourism in combination with specific identifiers to BRICS nations. The search string included the following TITLE-ABS-KEY (("ecotourism" OR "eco-friendly tourism" OR "green tourism" OR ("sustainable" AND "tourism")) AND ("BRICS" OR Brazil OR Russia OR India OR China OR "South Africa")). A comprehensive analysis of research trends in ecotourism studies during the past 20 years was made possible by restricting the search parameters to scientific articles published between 2003 and 2023.

Conference papers, review articles and book chapters were not included in the analysis because the study focused exclusively on peer-reviewed scientific articles as they provide validated and consistently documented source for identifying research trends, owing to their rigorous evaluation process. Additionally, no specific domain was preselected, as ecotourism is a multifaced discipline encompassing sustainability, environmental science, rural development, and tourism management. This approach enabled the inclusion of a diverse and representative sample, providing a broad view of the research patterns in the BRICS nations. In the end, after removing the duplicate items, a total of 4,359 scientific articles final dataset were found.

3.2. Integration, data cleaning and analysis

The database search process retrieved 4,651 articles, which were downloaded in the format of Comma-Separated Values (CSV) for further processing and analysis. After duplicate items were removed, the final dataset consisted of 4,359 scientific articles which were processed using RStudio software (Version 4.3.1) and VOSviewer.

VOSviewer is used to visualize and analyze bibliometric networks (Van Eck & Waltman, 2010). The software is freely available at www.vosviewer.com, it enables the exploration of various bibliometric relationships, including citation linkages between publications or journals, collaborative networks among researchers, and co-occurrence patterns of scientific terms.

RStudio served as the primary analytical tool because of its suitability in statistical computing and data management, and its well-established use in bibliometric research (Team, 2000). Several studies have shown a preference for R because of its ability to handle complex datasets, merge databases, offer practical statistical algorithms, and provide an almost complete bibliometric analysis (Aria & Cuccurullo, 2017). The record of articles was subsequently exported to Excel for content review and each record was carefully examined. Information relating to article title, abstracts, keywords, materials and methods employed, geographical focus areas, and countries where the studies were conducted, was reviewed to ensure its relevance with the research objective.

Biblioshiny for Bibliometrix was further used to examine patterns of research collaboration, citation patterns, keyword associations and thematic clusters within the dataset. The analytical process concentrated on identifying dominant research themes, highly cited authors, collaboration between institutions, and emerging directions and research gaps across the BRICS nations.

4. Results and Discussion

4.1. Yearly Publication progress and trends

Figure 1 presents yearly growth of ecotourism research publications over the past 20 years across the BRICS nations, with 2019 to 2023 showing the largest share of productivity, contributing to 3,168 publications published during this period, making up roughly 68.1% of the research output. Conversely, 2023 is the most prolific year, accounting for 18.8% of the entire dataset, representing 874 articles, followed by 728 articles in 2022, which represents 16.7 % out of total publications. In contrast, the period between 2003-2005 shows relatively less publications trend and annual output not exceeding 35 publications. These findings indicate a consistent rise in the number of publications during the study period, reflecting a growing interest and emphasis on ecotourism research in the BRICS nations.

The growth in publication output became more noticeable after 2014. There has been a dramatic shift from 123 articles in 2014 to 874 articles in 2023. Overall, the amount of research produced increased steadily, although there were certain years with particularly large spikes after 2018 and reaching its highest levels during 2022-2023 as shown in Fig.1. The last decade accounted for largest share of publications in the dataset accounting for growing academic interests in ecotourism research, which is in line with international initiatives to foster the concept of Sustainable Development Goals (SDGs) and the growing acceptance of ecotourism as a means of conservation, sustainability and community development. Additionally, the increasing volume of research indicates that ecotourism has emerged as a significant and developing field of study in these countries. The consistent increase in publications since 2014 suggests the increasing recognition of ecotourism in the aspects of conservation, community development and economic growth and how they affect BRICS nations' ability to develop sustainably.

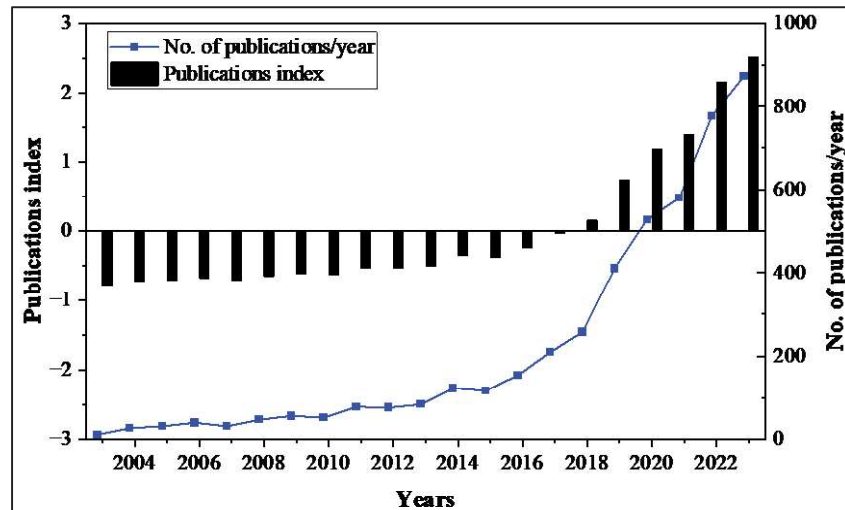


Figure 1: Annual scientific production on ecotourism research in the BRICS nations (2003–2023).

4.2. Most relevant journals publish in field of tourism

The analysis of prominent journals revealed 10 important sources of ecotourism research: Sustainability (Switzerland) contributed the largest articles of 521, followed by the Journal of Sustainable Tourism with 145 articles, and finally the African Journal of Hospitality consisting 125 articles. However, these journals have demonstrated their critical role in furthering research on environment-friendly and sustainable tourism. The popularity of these publication reflects the increased focus on sustainability and the widespread adoption of its interdisciplinary approach in the field of tourist studies and because of its substantial contribution to responsible tourism and its specific focus on sustainable tourism practices. Additionally, the distribution of publications among diverse journals within BRICS nations highlights the interdisciplinary nature of ecotourism research, covering sustainability, environmental protection, public health, and regional studies.

The number of citations varies among journals and depends on various factors such as visibility, impact, accessibility, and the scholarly relevance of published articles in the journal. Conversely, journals published in open access mode also allow all researchers to access their publications easily, which could lead to a citation increase. Consequently,

top-tier journals generate a greater percentage of citations per published manuscript and claim (McKercher, 2012).

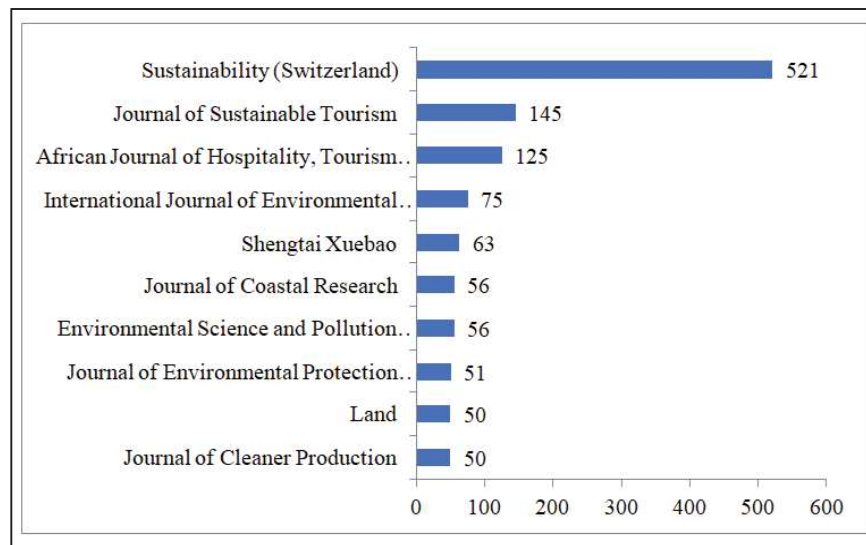


Figure 2: Most relevant journals publishing research on ecotourism.

4.3. Most productive countries and most studied Countries

This study evaluates research productivity and global collaboration in the BRICS ecotourism literature, using Total Link Strength (TLS) as a measure of academic cooperation. China (TLS: 1218) demonstrated the highest scholarly collaboration network, followed by South Africa (TLS: 591), India (TLS: 295), Brazil (TLS: 206), and Russia (TLS: 181) (Figure 3).

The classification is based on the study site rather than institutional affiliations, ensuring its relevance to the BRICS nations. The United States and the United Kingdom, which are outside the BRICS grouping were excluded for accuracy which also have high productivity.

China has high publication volume and extensive international collaboration. South Africa's comparatively large publishing production within the BRICS countries supports its strong TLS, which shows significant worldwide connectivity and scholarly engagement. Brazil and South Africa have attracted significant global interest, particularly in biodiversity conservation and community-based ecotourism. The findings from this study underscore the need for more cross-border collaborations to enhance the impact of ecotourism research in the BRICS nations.

Figure 4 illustrates how the number of published papers is commonly used to determine scientific production in a field of study. With 2,654 papers contributed by China, it is the most productive nation in ecotourism. South Africa (575), India (531), Russia (337), and Brazil (321) have high productivity levels. Given the varied biological settings and the increasing significance of sustainable tourism in their economies, these nations, which are also members of the BRICS economic bloc, reflect strong scholarly concentration on ecotourism research. According to (Shashnov & Kotsemir, 2018), China leads the BRICS nations in several topic areas on Scopus, whereas the other BRICS nations only lead to a small number of categories. According to (Bornmann, Wagner, & Leydesdorff, 2015), China has seen a notable increase in the number of frequently cited papers compared to other BRICS nations. The fact that South Africa and Brazil made the top five shows the importance of ecotourism in areas with high biodiversity may be associated with the ecological significance of their protected areas such as the Amazon Rainforest, Kruger National Park etc.

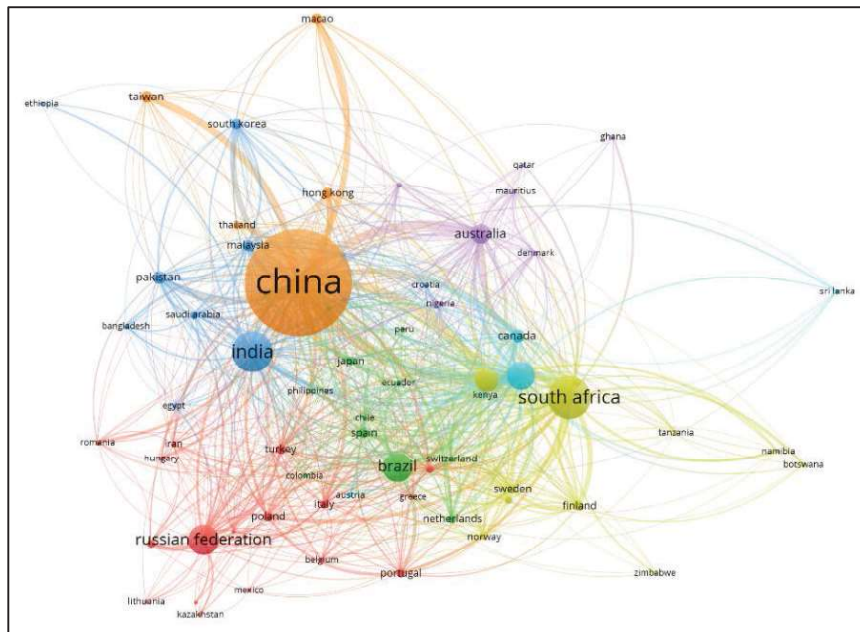


Figure 3: Collaborating network/link strength of most productive countries in ecotourism research.



Figure 4: Most productive countries in ecotourism research with number of published documents.

4.4. Networks of collaboration and most mentioned Countries

Considerable differences were observed among the BRICS with respect to citation influence and international collaboration. Data in Table 1 shows China had the greatest total citations (33,620), followed by India (6,813) and South Africa (6,656), demonstrating their significant scholarly influence in the topic. The United States received a comparatively high average citation rate per article (38.3) despite contributing less citations overall (3,369), indicating the significant influence of its published research. Despite producing fewer publications, Finland (54.4) and the Netherlands (56.6) had the greatest average citations per article, underscoring the significance of research quality in addition to publication volume. By allowing researchers to exchange knowledge, resources, and experience in the pursuit of shared goals, research collaboration is essential to the advancement of scientific knowledge (Fatt, Ujum, & Ratnavelu, 2010).

With link strengths of 1218 and 533, respectively, China and the United States demonstrated the strongest collaborative relationships when it came to international research collaboration. Due to their growing involvement in international ecotourism research networks, South Africa and India exhibited modest degrees of international engagement, this is consistent with the findings of Finardi and Buratti (2016). The collaboration network also implies that historical linkages and cultural affinities often influence research partnerships. The findings show variation in the extent of international cooperation among countries involved in ecotourism research's visibility, influence, and worldwide reach. Fig. 5 presents the spatial distribution of collaborative activities

countries, where darker shades indicate relatively stronger research collaboration whereas area with lighter shades (light blue) represent lower collaboration. Gray shaded areas show the absence of evidence on ecotourism collaboration production. The lines marked with red denote collaborative linkages between countries.

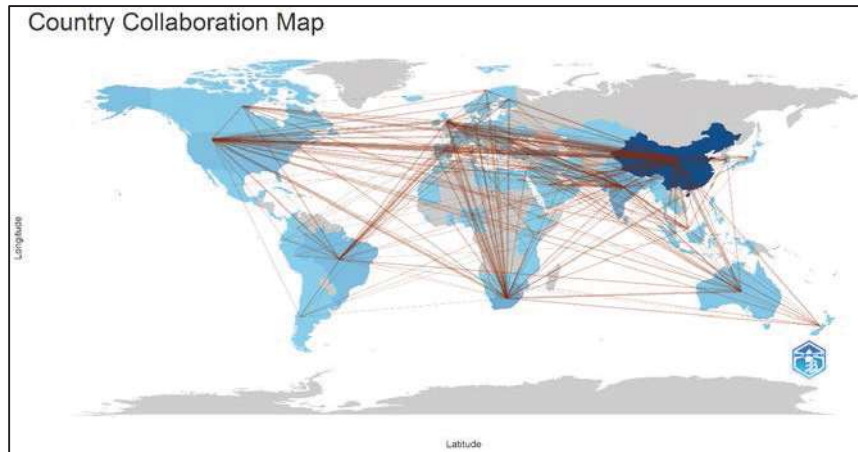


Figure 5: Networks of collaboration between countries.

Table 1: Most mentioned countries.

Country Name	TC	Average Article Mentioned
CHINA	33620	15.3
INDIA	6813	18.5
SOUTH AFRICA	6656	19
USA	3369	38.3
BRAZIL	2612	13.5
UNITED KINGDOM	1937	39.5
FINLAND	1360	54.4
AUSTRALIA	1306	28.4
NETHERLANDS	1018	56.6
KOREA	808	26.9

4.5. Most used keywords among tourism publications

The bibliometric approach identified prevalent themes in ecotourism, as shown by the data analysis of ecotourism research. However, "eco-

Even though these keywords highlight both environmental and socioeconomic factors, which are crucial to ecotourism study but "Biodiversity" and "conservation" indicate the increasing focus on nature preservation, nevertheless the popularity of phrases like "eco-tourism," "local participation," and "sustainability" emphasizes the balance sought between environmental conservation and community well-being. The integration of conservation into economic development is a predominant objective of ecotourism. It is associated with the broader goal of ecotourism to integrate conservation with the upliftment of local communities both economically and socially. The focus on "management" also "tourism development" highlights the endless study of effective frameworks for sustainable eco-tourism practices.

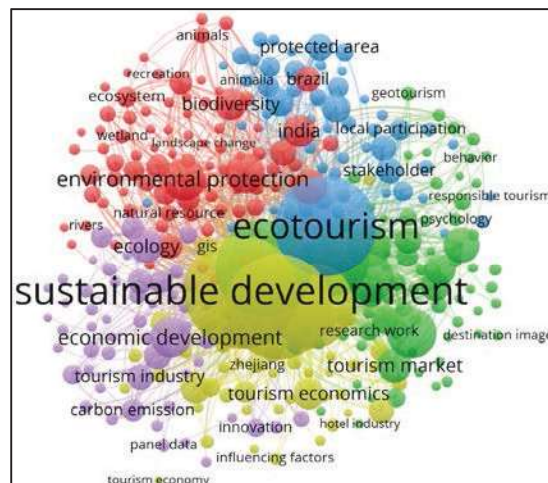


Figure 6: Word cloud illustrating the most frequently occurring keywords in ecotourism scientific articles (2003–2023).

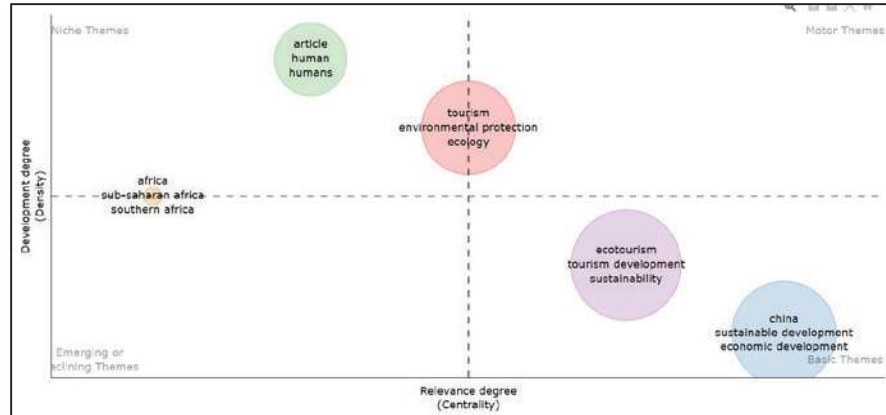


Figure 7: Thematic distribution of major research topics identified in ecotourism studies (2003–2023).

4.6. Research methods

The analysis of several research methods has revealed distinct patterns in their application in different studies. The most common method is spatiotemporal analysis, which has 157 examples, indicating that it is widely applied in studies that focus on dynamic time-dependent spatial patterns. Meanwhile, questionnaire surveys appeared to be more popular in gathering primary data from participants appearing in 129 articles. Additionally, 93 articles used geographical analysis and 74 articles used geographical distribution. Numerical models (69 articles) and regression analysis (54 articles) were used to demonstrate a quantitative approach to understanding relationships and predicting outcomes. Empirical analyses (57 articles) and theoretical studies (55 articles) followed these methods for primary data collection and theoretical research.

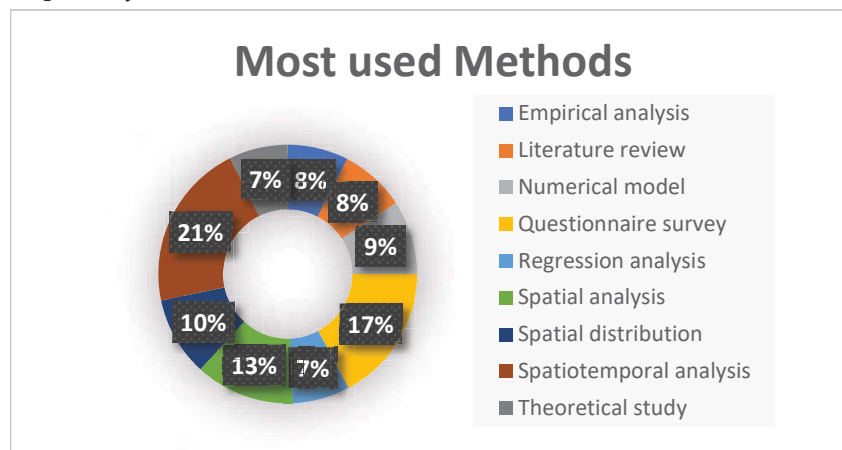


Figure 8: Frequently employed research methods or data sources in ecotourism studies (2003–2023).

5. Limitations in the study

The findings of this study offer deep evidence about the evolution of ecotourism research in the BRICS nations, but it has some limitations that should be noted; most importantly, the analysis only relied on publications retrieved from Scopus database. Scopus is known for its coverage of peer reviewed literature on a broader range, it's possible that pertinent studies that exists in other databases like Web of Science, Dimensions, Google Scholar, or local databases could be missed.

Documents such as conference proceedings, book chapters, editorials, and other scholarly publications were not included in the study whereas only peer-reviewed journal articles were included. This strategy may have missed new research trends reported in other publication forms, even while it guaranteed the inclusion of high-quality scientific literature. The results depend on the search strategy and keywords chosen; some relevant papers may not have been discovered despite efforts to develop a comprehensive search query. Lastly, the extended BRICS membership announced in 2024 was not included in this study, which concentrated on articles released between 2003 and 2023. Future study may expand the analysis to look at how the addition of new members affects theme developments in ecotourism and patterns of research collaboration.

6. Conclusion and Future Scope

Scientometric approaches have become increasingly important for examining the evolution of research fields and identifying emerging knowledge structures. The present study analysed ecotourism research in the BRICS nations between 2003-2023 using bibliometric technique. The findings indicate a substantial expansion of scholarly output during the study period particularly after 2014, reflecting growing academic interest in ecotourism and sustainable tourism development. Among the BRICS nations, China recorded the highest research output and strongest engagement in international collaboration. The analysis also found significant variations in research productivity and cooperative participation among BRICS members. India and Russia showed comparatively lower levels of scholarly input, whereas China and South Africa showed considerable research visibility and network links. These differences emphasize the significance of bolstering the bloc's institutional alliances, international cooperation, and research capabilities. The literature's theme structure, which was primarily focused on sustainability, conservation, tourism development, and community involvement, demonstrated the interdisciplinary nature of ecotourism study. Similarly, the field's methodological diversity is reflected in the frequent use of questionnaire-based surveys, geographical analysis, and spatiotemporal

techniques. Scholarly publications like Sustainability (Switzerland) and the Journal of Sustainable Tourism are still crucial for spreading knowledge about ecotourism. Overall, the report offers a summary of theme advancements, publication trends, and patterns of cooperation in ecotourism research among the BRICS countries. Additional future investigations may extend their analytical work by incorporating newly added BRICS nations and examining their research pattern across other regions. Such initiatives would help the creation of evidence-based policies for sustainable tourism in emerging economies and advance knowledge of ecotourism research.

References

- Ambardar, A. (2017). Tourism and hospitality industry in BRIC Nations: An analysis. In Opportunities and Challenges for Tourism and Hospitality in the BRIC Nations (pp. 83–94). IGI Global Scientific Publishing. Retrieved from <https://www.igi-global.com/chapter/tourism-and-hospitality-industry-in-bric-nations/165061>
- Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959–975.
- Barik, N., & Jena, P. (2019). Visibility and growth of LIS research publications: A Scopus based analysis of select open access journals during 2001 to 2015. *Library Hi Tech News*, 36(7), 1–11.
- Biagi, B., Ladu, M. G., & Royuela, V. (2017). Human Development and Tourism Specialization. Evidence from a Panel of Developed and Developing Countries. *International Journal of Tourism Research*, 19(2), 160–178. <https://doi.org/10.1002/jtr.2094>
- Blake, A., Sinclair, M. T., & Soria, J. A. C. (2006). Tourism productivity: Evidence from the United Kingdom. *Annals of Tourism Research*, 33(4), 1099–1120.
- Bornmann, L., Wagner, C., & Leydesdorff, L. (2015). BRICS countries and scientific excellence: A bibliometric analysis of most frequently cited papers. *Journal of the Association for Information Science and Technology*, 66(7), 1507–1513. <https://doi.org/10.1002/asi.23333>
- Brida, J. G., Cortes-Jimenez, I., & Pulina, M. (2016). Has the tourism-led growth hypothesis been validated? A literature review. *Current Issues in Tourism*, 19(5), 394–430. <https://doi.org/10.1080/13683500.2013.868414>

- Buckley, R., Cater, C., Linsheng, Z., & Chen, T. (2008). Shengtai luyou: Cross-cultural comparison in ecotourism. *Annals of Tourism Research*, 35(4), 945–968.
- Clément, M., Rougier, E., Berrou, J.-P., Combarnous, F., & Darbon, D. (2022). “What’s in the middle”: Scratching beneath the surface of the middle class (es) in Brazil, Côte d’Ivoire, Turkey and Vietnam. *World Development*, 158, 105988.
- Croes, R., Ridderstaat, J., Bąk, M., & Zientara, P. (2021). Tourism specialization, economic growth, human development and transition economies: The case of Poland. *Tourism Management*, 82, 104181.
- Deery, M., Jago, L., & Fredline, L. (2012). Rethinking social impacts of tourism research: A new research agenda. *Tourism Management*, 33(1), 64–73.
- Dowling, R. (2013). The history of ecotourism. In *International handbook on ecotourism* (pp. 15–30). Edward Elgar Publishing. Retrieved from <https://www.elgaronline.com/downloadpdf/edcollchap/edcoll/9780857939968/9780857939968.00008.pdf>
- Ellegaard, O., & Wallin, J. A. (2015). The bibliometric analysis of scholarly production: How great is the impact? *Scientometrics*, 105(3), 1809–1831. <https://doi.org/10.1007/s11192-015-1645-z>
- Fatt, C., Ujum, E., & Ratnavelu, K. (2010). The structure of collaboration in the Journal of Finance. *Scientometrics*, 85(3), 849–860.
- Fayzullina, A. R., Zulfugarzade, T. E., Kondakchian, N. A., Aytuganova, J. I., Khvatova, M. A., & Kelina, K. G. (2024). A review of STEM education research in BRICS countries: An analysis of research trends. *Frontiers in Education*, 9. <https://doi.org/10.3389/feduc.2024.1410069>
- Finardi, U., & Buratti, A. (2016). Scientific collaboration framework of BRICS countries: An analysis of international coauthorship. *Scientometrics*, 109(1), 433–446. <https://doi.org/10.1007/s11192-016-1927-0>
- Haryono, H. (2024). BRICS and Sustainable Development: Assessing the Impact of Green Finance Initiatives on Economic Growth and Environmental Sustainability. *West Science Business and Management*, 2(04), 1267–1273. <https://doi.org/10.58812/wsbm.v2i04.1547>
- Holmgren, M., & Schnitzer, S. A. (2004). Science on the rise in developing countries. *PLoS Biology*, 2(1), e1.
- Kousis, M. (2000). Tourism and the environment: A social movements perspective. *Annals of Tourism Research*, 27(2), 468–489.

- Krüger, O. (2005). The role of ecotourism in conservation: Panacea or Pandora's box? *Biodiversity and Conservation*, 14(3), 579–600. <https://doi.org/10.1007/s10531-004-3917-4>
- Lee, C.-C., & Chang, C.-P. (2008). Tourism development and economic growth: A closer look at panels. *Tourism Management*, 29(1), 180–192.
- Lee, T. H., & Jan, F.-H. (2019). Can community-based tourism contribute to sustainable development? Evidence from residents' perceptions of the sustainability. *Tourism Management*, 70, 368–380.
- Lochan Jena, K., Swain, D. K., & Bihari Sahu, S. (2012). Scholarly communication of The Electronic Library from 2003-2009: A bibliometric study. *The Electronic Library*, 30(1), 103–119.
- Martin, B. (1996). The use of multiple indicators in the assessment of basic research. *Scientometrics*, 36(3), 343–362.
- Martín-Martín, A., Orduna-Malea, E., Thelwall, M., & López-Cózar, E. D. (2018). Google Scholar, Web of Science, and Scopus: A systematic comparison of citations in 252 subject categories. *Journal of Informetrics*, 12(4), 1160–1177.
- Mazenda, A., & Ncwadi, R. (2016). The rise of BRICS development finance institutions: A comprehensive look into the New Development Bank and the Contingency Reserve Arrangement. *African East-Asian Affairs*, (3). Retrieved from <http://aeaa.journals.ac.za/pub/article/view/178>
- McKercher, B. (2010). Academia and the Evolution of Ecotourism. *Tourism Recreation Research*, 35(1), 15–26. <https://doi.org/10.1080/02508281.2010.11081615>
- McKercher, B. (2012). Influence ratio: An alternate means to assess the relative influence of hospitality and tourism journals on research. *International Journal of Hospitality Management*, 31(3), 962–971.
- Medel, D. (2019). Essay on emerging markets (PhD Thesis, Thesis). Thesis. Retrieved from https://www.researchgate.net/profile/Dennis-Medel/publication/330497490_Essay_on_Emerging_Markets/links/5c42e39b92851c22a37fe2ec/Essay-on-Emerging-Markets.pdf
- Mminele, D. (2016). The role of BRICS in the global economy. South African Reserve Bank, at the Bundesbank Regional Office in North Rhine-Westphalia, Düsseldorf, Germany, 7.
- Narina, R., & Ankit, N. (2026). BRICS Collaboration Trends: Dimensions Metadata Study (2020–2025). *Governance and Politics*, 4(4), 96–129. <https://doi.org/10.24833/2782-7062-2025-4-4-96-129>

- Nsukwini, S., & Bob, U. (2016). The socio-economic impacts of ecotourism in rural areas: A case study of Nompondo and the Hluhluwe-iMfolozi Park (HiP). *African Journal of Hospitality, Tourism and Leisure*, 5(3), 1-15.
- Nunkoo, R., & Gursoy, D. (2012). Residents' support for tourism: An identity perspective. *Annals of Tourism Research*, 39(1), 243-268.
- O'Neill, J. (2001). Building better global economic BRICs (Vol. 66). Goldman Sachs New York. Retrieved from <https://www.ri-esistenza.com/wp-content/uploads/2023/04/build-better-brics.pdf>
- Plummer, R., & Fennell, D. A. (2009). Managing protected areas for sustainable tourism: Prospects for adaptive co-management. *Journal of Sustainable Tourism*, 17(2), 149-168. <https://doi.org/10.1080/09669580802359301>
- Rasool, H., Maqbool, S., & Tarique, Md. (2021). The relationship between tourism and economic growth among BRICS countries: A panel cointegration analysis. *Future Business Journal*, 7(1), 1. <https://doi.org/10.1186/s43093-020-00048-3>
- Roucham, B., & Zaghdoud, O. (2025). Mapping Green Hydrogen and Renewable Energy Research in Extended BRICS (Brazil, Russia, India, China, South Africa and Others): A Bibliometric Approach with a Future Agenda. *Hydrogen*, 6(2), 33. <https://doi.org/10.3390/hydrogen6020033>
- Schubert, F., Kandampully, J., Solnet, D., & Kralj, A. (2010). Exploring Consumer Perceptions of Green Restaurants in the US. *Tourism and Hospitality Research*, 10(4), 286-300. <https://doi.org/10.1057/thr.2010.17>
- Shashnov, S., & Kotsemir, M. (2018). Research landscape of the BRICS countries: Current trends in research output, thematic structures of publications, and the relative influence of partners. *Scientometrics*, 117(2), 1115-1155. <https://doi.org/10.1007/s11192-018-2883-7>
- Smith, J. A. (2011). BRIC becomes BRICS: Changes on the geopolitical chessboard. *Foreign Policy Journal*, 21, 2011.
- Team, R. C. (2000). R language definition. Vienna, Austria: R Foundation for Statistical Computing, 3(1), 116.
- Usmani, G., Akram, V., & Praveen, B. (2021). Tourist arrivals, international tourist expenditure, and economic growth in BRIC countries. *Journal of Public Affairs*, 21(2), e2202. <https://doi.org/10.1002/pa.2202>

- Van Eck, N., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84(2), 523–538.
- Ventura, R. V., Fernandes, E., Tshikovhi, N., & Sucheran, R. (2023). BRICS inbound and outbound tourism versus socio-economic indicators. *Geo Journal of Tourism and Geosites*, 48, 733–740.
- Weaver, D. B. (2005). Comprehensive and minimalist dimensions of ecotourism. *Annals of Tourism Research*, 32(2), 439–455.
- Weaver, D. B., & Lawton, L. J. (2002). Overnight Ecotourist Market Segmentation in the Gold Coast Hinterland of Australia. *Journal of Travel Research*, 40(3), 270–280. <https://doi.org/10.1177/004728750204000305>
- Xie, H., Zhang, Y., Wu, Z., & Lv, T. (2020). A bibliometric analysis on land degradation: Current status, development, and future directions. *Land*, 9(1), 28.
- Zhu, B., Wang, C.-C., & Hung, C.-Y. (2024). Environmental, geographical, and economic impacts of inbound tourism in China: A mixed-effects gravity model approach. *Sustainability*, 16(15), 6671.