

A Comprehensive Bibliometric Review of Indigenous Knowledge Research

Loso Judijanto¹, Sangaji Cokro Gumelar²

¹ IPOSS Jakarta

² Politeknik Tunas Pemuda Tangerang

Article Info

Article history:

Received Oct, 2025

Revised Oct, 2025

Accepted Oct, 2025

Keywords:

Bibliometric Analysis;
Collaboration Networks;
Decolonization;
Indigenous Knowledge;
Scopus;
Sustainability;
Traditional Ecological
Knowledge;
Vosviewer

ABSTRACT

This study presents a comprehensive bibliometric review of Indigenous knowledge research from 2000 to 2025, using data retrieved from the Scopus database. Through quantitative mapping with VOSviewer and Bibliometrix, the study examines publication trends, collaboration networks, and thematic developments within the global research landscape. Results reveal three dominant clusters: environmental sustainability and climate resilience; ethnobotany and traditional medicine; and Indigenous health, gender, and social well-being. Australia, Canada, and the United States emerge as leading contributors, while growing participation from Africa, Asia, and Latin America reflects a gradual diversification of epistemic voices. The findings highlight a paradigm shift from descriptive documentation of Indigenous practices to integrative and decolonial research frameworks emphasizing sustainability, equity, and community empowerment. This study contributes to understanding the intellectual evolution of Indigenous knowledge research and provides evidence-based insights for fostering inclusive, cross-cultural collaboration and ethical engagement with Indigenous communities in future scholarship.

This is an open access article under the [CC BY-SA](#) license.



Corresponding Author:

Name: Loso Judijanto

Institution: IPOSS Jakarta

Email: losojudijantobumn@gmail.com

1. INTRODUCTION

Indigenous knowledge (IK), also known as traditional knowledge or local knowledge, is the sum of the understanding, practices, and beliefs that Indigenous peoples have built up over many years of living in and interacting with their environment [1], [2]. These knowledge systems include areas like managing natural resources, medicine, spirituality, and social structure. They show how people see the world in a way that is both place-based and flexible to changes in

the environment. The worldwide scientific community is recognizing the importance of alternative epistemologies, and Indigenous knowledge has become an important part of solving problems related to environmental degradation, loss of biodiversity, and sustainable development [3], [4].

Even though more people are starting to understand this, Indigenous knowledge is still not talked about much in mainstream academic and policy discussions. Colonial and postcolonial frameworks have historically favored Western scientific

epistemologies, frequently relegating Indigenous knowledge to the status of anecdotal or unscientific [5], [6]. Decolonial scholars contend that this epistemic injustice sustains power imbalances, erodes Indigenous sovereignty, and constrains opportunities for equitable knowledge co-production [7], [8]. Consequently, a worldwide initiative to decolonize research methodology has emerged, prioritizing participative, community-driven strategies and ethical interactions with Indigenous populations [9], [10].

In the last twenty years, there has been a lot more research on Indigenous knowledge in domains including anthropology, education, ecology, environmental science, and public health [11], [12]. Studies on climate adaptation [13], biodiversity protection [14], and sustainable agriculture [15] are progressively incorporating Indigenous knowledge systems with scientific data. This multidisciplinary growth has led to a wide range of research areas that are changing quickly, but they are still not fully connected. Each subject uses its own words, ideas, and ways of citing sources, which makes it hard to combine trends or fully quantify the field's intellectual growth.

Bibliometric analysis offers a significant quantitative and visual methodology to tackle this complexity. Bibliometrics allows researchers to chart scientific landscapes and find new areas of inquiry by looking at publication trends, citation networks, co-authorship structures, and keyword co-occurrences [16]. Earlier bibliometric evaluations have initiated investigations into Indigenous knowledge research, albeit primarily within limited parameters. [17] people were interested in climate resilience and preserving history. Likewise, [18], [19] examined the convergence of Indigenous knowledge and climate adaptation, indicating insufficient representation from non-Anglophone regions. [20] has made a geographical map of Indian Indigenous knowledge literature, pointing out that it is growing quickly but that there aren't many worldwide

collaborative networks. These disjointed investigations highlight the necessity for a more extensive global synthesis.

Recent bibliometric mapping in related domains, including traditional ecological knowledge (TEK), ethnobotany, and Indigenous resource management, underscores the growth of international collaboration and multidisciplinary methodologies [21], [22]. However, the distribution of research is still not equal. The Global North makes the most contributions, while the Global South, which has the most Indigenous knowledge, is not well represented [23]. This mismatch indicates not only spatial inequality but also epistemic exclusion in the formation of global knowledge.

While previous studies have examined Indigenous knowledge research in particular regional or thematic contexts, a comprehensive bibliometric synthesis that encompasses the worldwide and interdisciplinary development of the discipline is still lacking. The lack of such a synthesis obscures essential inquiries: How has Indigenous knowledge scholarship developed on a global scale? Who are the most important writers, schools, and countries that are shaping the field? What thematic clusters delineate its intellectual nucleus, and which areas or subjects remain insufficiently examined? Without this knowledge, scholars risk repeating existing disparities by favoring Western epistemologies, giving specific places more attention, and ignoring work headed by Indigenous people. This research gap highlights the imperative for a thorough, data-driven mapping of Indigenous knowledge research to elucidate its structure, expansion, and intellectual boundaries.

This study seeks to deliver a thorough bibliometric analysis of Indigenous knowledge research by investigating its thematic development, intellectual framework, and patterns of worldwide collaboration from 2000 to 2025. It aims to examine publishing patterns and citation dynamics to comprehend the expansion and impact of scholarly

contributions in this domain, while also pinpointing prominent authors, institutions, journals, and countries that have significantly advanced Indigenous knowledge. The study also looks at the intellectual connections and collaborative interactions that affect the growth of this research area by mapping co-authorship and co-citation networks. We will use keyword co-occurrence and trend analysis to look at thematic clusters. This will show the conceptual framework and how priorities have changed over time. Ultimately, the study seeks to elucidate research deficiencies, nascent themes, and prospective trajectories for inclusive and decolonized knowledge production. This research provides a comprehensive analysis of the evolution of Indigenous knowledge studies worldwide, identifying focal points of academic concern and suggesting pathways for future investigation to promote more egalitarian, culturally informed, and internationally representative scholarship.

2. RESEARCH METHODS

2.1 Data Collection

This study utilized a bibliometric review design to quantitatively and visually assess the global landscape of Indigenous knowledge research. Bibliometric analysis employs a systematic, data-driven methodology to discern publication trends, citation patterns, topic structures, and collaboration networks [16]. The data were obtained from the Scopus database, selected for its extensive coverage of diverse peer-reviewed journals and its sophisticated export capabilities compatible with bibliometric tools [24]. The search string had both controlled vocabulary and free-text phrases, such as "Indigenous knowledge," "traditional ecological knowledge," "local knowledge," "Indigenous science," and "ethnoecology." To include as many people as possible, we employed Boolean operators and truncation (for

example, "Indigenous*"). The search was limited to the years 2000 to 2025 to include recent changes in the area. Only English-language, peer-reviewed documents (articles, reviews, and conference papers) were kept for analysis. We personally checked and removed duplicates, non-scholarly materials, and publications that were not connected to the theme (for example, those that were not related to Indigenous groups or traditional systems).

2.2 Data Processing

The bibliographic records that were retrieved (titles, abstracts, author names, keywords, affiliations, publication years, journals, and citations) were exported as CSV files and then imported into VOSviewer (version 1.6.20) and Bibliometrix (R-package) for quantitative mapping and visualization. These tools help with performance analysis, like measuring productivity and citations, as well as science mapping, which includes networks for co-authorship, co-citation, and keyword co-occurrence [25]. To measure research performance, descriptive metrics including the yearly growth rate of publications, the total number of citations, the h-index, and the productivity of journals were used. Co-authorship analysis was employed to delineate collaboration networks across authors, institutions, and nations, thereby uncovering patterns of international cooperation. Using full counting for keyword co-occurrence analysis, we found major research themes and clusters that show how the field's ideas are organized. We also did a co-citation analysis to find the most important works and sources that have shaped the conversation about research on Indigenous knowledge [26].

2.3 Validation, Interpretation, and Constraints

To guarantee methodological rigor, the study conformed to the bibliometric criteria and reporting

methods defined by [16], [27]. The bibliometric maps were evaluated through both quantitative indicators and qualitative judgment to contextualize rising trends, research frontiers, and topic shifts. We paid special attention to finding geographical differences, dominating ways of knowing, and groups of Indigenous scholars and communities that work together. The results were corroborated through iterative triangulation between VOSviewer representations and Biblioshiny outputs to guarantee uniformity in node density and cluster interpretation. However, the study recognizes the constraints associated with bibliometric analyses: dependence on a singular database (Scopus) may

exclude pertinent non-indexed material, especially Indigenous-authored works disseminated in local or community-oriented platforms. Moreover, the reliance on English-only publications may inadequately reflect Indigenous scholarship conducted in native languages. Despite these limitations, the systematic approach offers a solid and reproducible basis for charting worldwide Indigenous knowledge research and guiding future integrative, decolonial academic initiatives.

3. RESULTS AND DISCUSSION

3.1 Results

a. Network Visualization

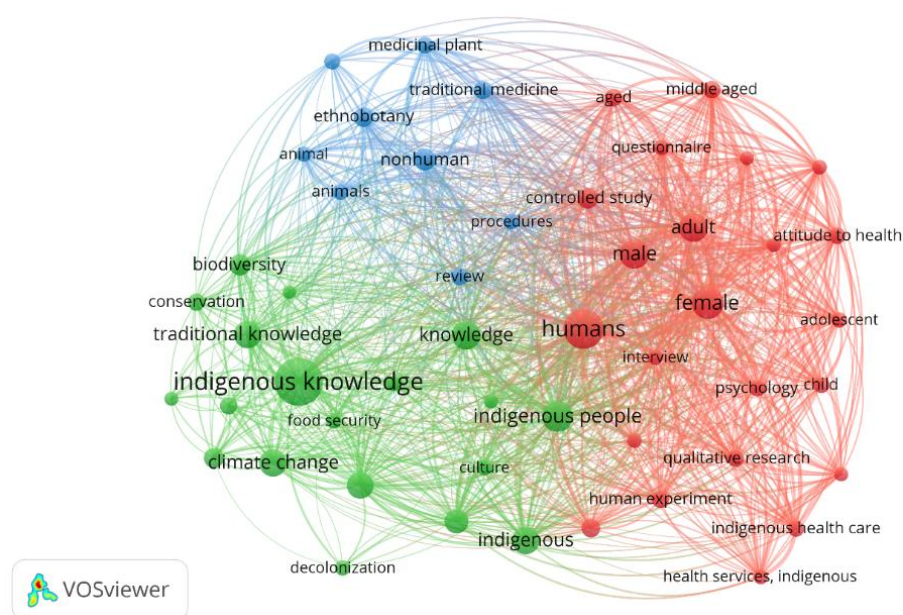


Figure 1. Network Visualization
Source: Data Analysis Result, 2025

Figure 1 shows the VOSviewer visualization of the keyword co-occurrence network of Indigenous knowledge research based on the Scopus dataset. The size of each node shows how often the keyword appears, and the color shows which cluster it belongs to based on how often it occurs with other keywords. There are three main

clusters: green, blue, and red. Each one stands for a major theme in the field of Indigenous knowledge research. The lines that connect these themes reveal that they are all very closely related to each other, showing that the area is both multidisciplinary and very interwoven across environmental, health, and social

sciences.

The green cluster, which is on the left side of the map, is based on the words "indigenous knowledge," "traditional knowledge," "biodiversity," "climate change," "food security," and "decolonization." This group of studies looks at the relationship between environmental sustainability and cultural resilience. It indicates that Indigenous knowledge is chiefly examined as a crucial element of biodiversity protection, climate adaptation, and natural resource management. The increasing use of words like "food security" and "decolonization" shows that more people are seeing Indigenous methods as ways to achieve sustainability and self-determination. Research in this field frequently highlights Indigenous ecological practices, conservation ethics, and climate adaptation rooted in traditional land stewardship.

The blue cluster, which is near the top of the map, is made up of words like "ethnobotany," "medicinal plant," "traditional medicine," "animals," and "nonhuman." This group is about the biocultural and ethnoscientific parts of Indigenous knowledge, with a focus on how it is used in ethnomedicine, pharmacology, and ecology. The connections between "ethnobotany" and "traditional medicine" show that Indigenous knowledge is still a very important source of new medicines and studies of biodiversity. The incorporation of the term "nonhuman" indicates a significant ontological transformation in contemporary study, emphasizing the

recognition of multispecies relationships within Indigenous worldviews—acknowledging that knowledge is co-produced not solely by humans but by reciprocal interactions with the natural environment.

The red cluster on the right side is made up of the words "humans," "adult," "male," "female," "health services, indigenous," "qualitative research," and "interview." This theme grouping encompasses the health, gender, and societal aspects of Indigenous knowledge study. It demonstrates that numerous researches employ qualitative and community-based approaches to examine Indigenous health practices, gendered experiences, and traditional healing systems. The repeated use of the words "attitude to health," "adolescent," and "psychology" shows that medical anthropology, psychology, and Indigenous health studies are working together more and more. This indicates that Indigenous knowledge is not solely ecological or medical but is also profoundly integrated into social identity, well-being, and cultural continuity.

Cross-cluster linkages, especially between "indigenous people," "culture," "knowledge," and "humans," show that environmental and health-related research are very closely related. The network demonstrates that Indigenous knowledge serves as a connective framework linking the natural sciences and social sciences. The close placement of "climate change" and "health care" nodes shows a new One Health viewpoint that recognizes

that ecological integrity and human well-being are linked in Indigenous ways of knowing. The proximity of "decolonization" to "indigenous people" suggests a significant shift in contemporary academia, highlighting self-representation and ethical research methodologies.

The image shows that research on Indigenous knowledge is becoming a complex, interdisciplinary discipline based on three primary areas: environmental sustainability (green), biocultural

and medicinal studies (blue), and social-health sciences (red). The numerous links show that there is a mature and collaborative intellectual system in place. Ideas like "decolonization" and "climate change" function as conceptual bridges. This network emphasizes a transformative transition from merely recording Indigenous activities to elevating Indigenous epistemologies as fundamental frameworks for sustainability, health, and cultural revival within global research discourse.

b. Overlay Visualization

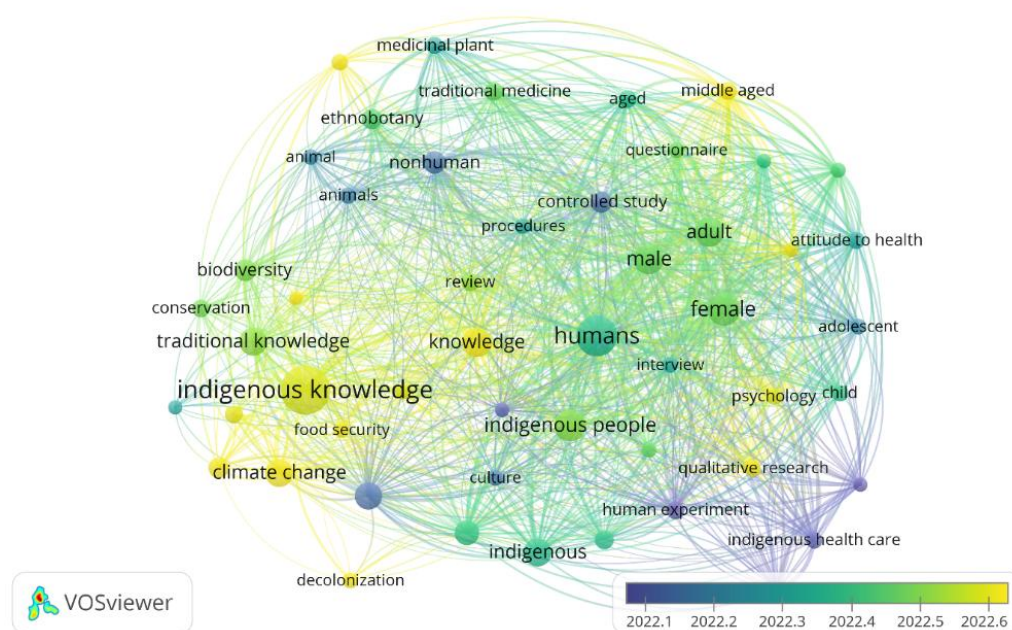


Figure 2. Overlay Visualization
Source: Data Analysis Result, 2025

The overlay visualization in figure 2 shows how Indigenous knowledge research keywords have changed over time, based on their average publication year. The color gradient, which goes from blue (early years) to yellow (more recent years), shows how the focus of research has changed over time. The first research (blue and green nodes) focused

on basic ecological and cultural ideas including "biodiversity," "traditional knowledge," "conservation," and "ethnobotany." These clusters show that until 2022, most study was focused on recording traditional ecological knowledge, medicinal plants, and Indigenous contributions to environmental sustainability. These themes are important

because they show that academics are just starting to realize how important Indigenous knowledge is for managing ecosystems and protecting biodiversity.

As the color changes to yellow, more recent research (2022–2024) show that the focus is moving toward health, gender, and methodological issues. The phrases "humans," "female," "male," "adult," "qualitative research," and "health services, Indigenous" are in lighter colors, which means they have been published more recently. This indicates that contemporary Indigenous knowledge research is progressively incorporating social and biomedical sciences, with a focus on healthcare, psychological well-being, and community engagement. The increasing use of terms like "interview," "questionnaire," and "controlled study" shows that the area is becoming more diverse in terms of methods, moving from ethnographic documentation to mixed and evidence-based methods. This chronological progression signifies a transition towards applied research focused on Indigenous health disparities, gender roles, and the social determinants of well-being.

Another important trend is the rise of decolonial and climate-related discourses, which can be seen in the yellow-tinted words "climate change," "food security," and "decolonization." Their placement at the nexus of environmental and sociocultural

domains indicates a growing integration between sustainability science and critical Indigenous studies. These changes show that there is a global push to put Indigenous ways of knowing at the core of climate resilience policy frameworks, while also questioning colonial research paradigms. The overlay map shows that study on Indigenous knowledge has grown beyond just writing down old ways of doing things to looking at modern world problems like health, decolonization, and sustainability. This is a sign of a lively, interdisciplinary, and forward-looking research path.

c. Citation Analysis

Table 1 shows ten of the most important global publications on Indigenous knowledge systems, decolonizing approaches, and sustainable conservation practices. These studies encompass various fields, including ecology, psychology, environmental governance, and social sciences, indicating an increasing academic focus on the incorporation of Indigenous perspectives, equity, and local engagement in the management of sustainability and biodiversity. The citation numbers show how each study has had a big effect on how people from many fields work together to protect the environment, manage Indigenous data, and restore ecosystems in the Anthropocene period.

Table 1. Most Cited Article

Citations	Author and Year	Title
1205	[28]	Indigenous Methodologies: Characteristics, Conversations, and Contexts

Citations	Author and Year	Title
708	[29]	Vegetation fires in the Anthropocene
651	[30]	The CARE principles for indigenous data governance
576	[31]	The role of indigenous peoples and local communities in effective and equitable conservation
498	[32]	Ten golden rules for reforestation to optimize carbon sequestration, biodiversity recovery and livelihood benefits
457	[33]	Toward a Psychological Framework of Radical Healing in Communities of Color
428	[34]	“Two-Eyed Seeing”: An Indigenous framework to transform fisheries research and management
420	[35]	Importance of ethnopharmacological studies in drug discovery: role of medicinal plants
415	[36]	Decolonizing methodologies: Research and indigenous peoples
412	[37]	Diverse values of nature for sustainability

Source: Output Publish or Perish, 2025

Table 1 shows the most cited articles over the last two decades, which shows that research on Indigenous approaches and community-centered conservation has become increasingly prominent. Academic research can trace its theoretical roots back to two seminal works: "Indigenous Methodologies: Characteristics, Conversations, and Contexts" by [9] with 1,205 citations and "Decolonizing Methodologies" by [5] with 415 citations. In addition to this, [30] put up the CARE Principles for Indigenous Data Governance, which set out ethical standards for equitable research procedures and data sovereignty. Environmental studies by [38], [39] looked at problems with the environment in the Anthropocene and how different people place different values on nature in terms of

sustainability, while a study by [40] highlighted the importance of local communities and Indigenous peoples in fair conservation. [41] presented Ten Golden Rules for Reforestation to balance carbon, biodiversity, and livelihoods; [42] integrated Western science and Indigenous wisdom in fisheries management using the "Two-Eyed Seeing" concept. Contributing to the psychosocial dimension, [43] reaffirmed the connection between cultural identity and resilience through their model of Radical Healing in Communities of Color. Taken as a whole, these seminal works provide light on a paradigm shift in modern scholarship, one that relocates Indigenous worldviews to the forefront and recognizes them as crucial to 21st-century goals of equity, sustainability, and pluralism of knowledge.

d. Density Visualization

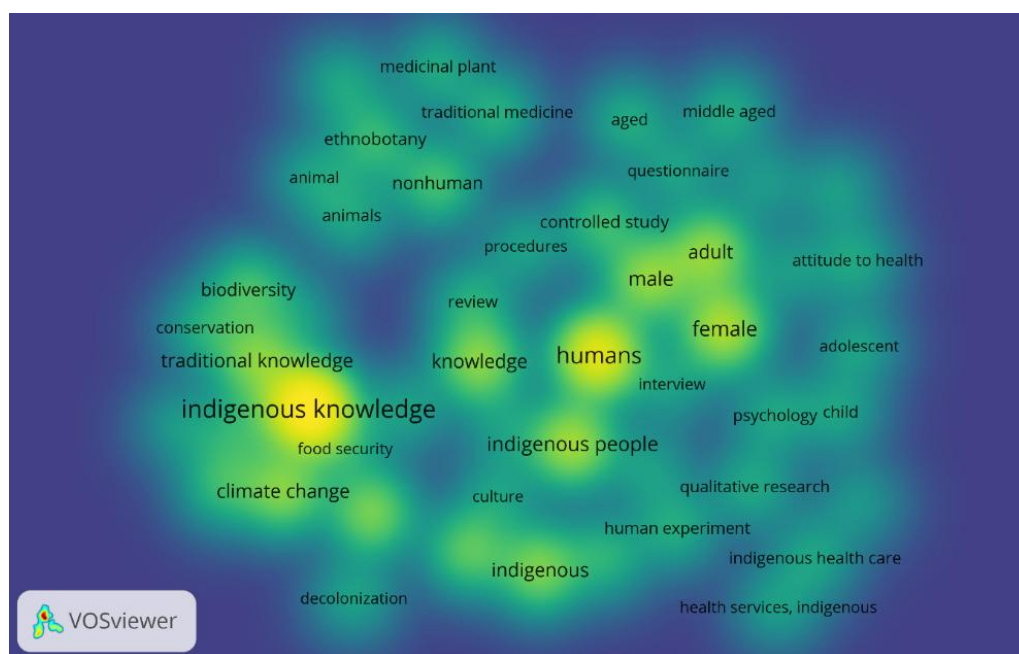


Figure 3. Density Visualization
Source: Data Analysis Result, 2025

Figure 3 density visualization shows how often and how strongly keywords show up in the Indigenous knowledge research network. The brighter yellow areas show high-density zones where keywords often appear together. These areas show the main or major study issues. The darker blue areas show topics that haven't been investigated as much. The nodes that are the most concentrated—"indigenous knowledge," "humans," "female," "male," "traditional knowledge," and "indigenous people"—show the intellectual and conceptual heart of the area. These phrases show that research on Indigenous knowledge is based on human-centered and socioecological views that combine cultural legacy with issues of gender, health, and identity. The high density around "climate change," "food security," and "biodiversity"

shows how important the field is to the environment. It also stresses Indigenous knowledge as a basis for ecological resilience and sustainability.

Emerging research frontiers are suggested by peripheral yet more active areas including "decolonization," "qualitative research," and "indigenous health care." Their modest brightness signifies an increasing academic interest, especially in research that contests colonial epistemologies and promotes decolonial techniques. The clear link between "indigenous health care" and "qualitative research" shows methodological diversity, which means using different methods to record Indigenous views on health, gender, and social well-being. The density map shows that the field is both mature and changing. It has established cores in environmental and cultural studies and is growing in health,

gender, and decolonial research. This shows that scholarship is moving toward being more

inclusive, cross-disciplinary, and community-engaged.

e. Co-Authorship Network

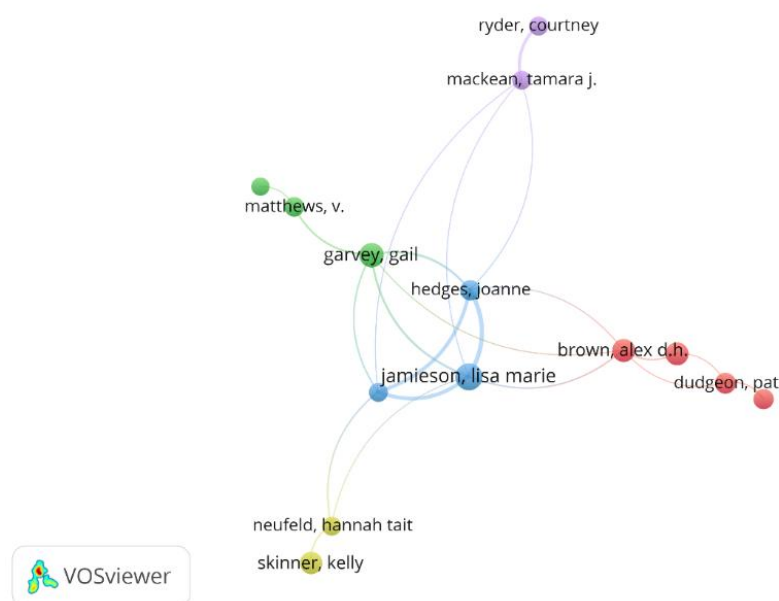


Figure 4. Author Visualization
Source: Data Analysis Result, 2025

Figure 4 shows the author collaboration visualization, which shows the co-authorship network among the top researchers in Indigenous knowledge study. The lines that connect the nodes show how often and how strongly authors have worked together on publications. The network shows multiple tiny but tightly-knit groups, which suggests that people in this sector tend to work together in regional or project-based teams instead of through big worldwide partnerships. The most important people, including Lisa Marie Jamieson, Gail Garvey, Joanne Hedges, and Tamara J. MacKean, are in bridging roles that connect different clusters. This shows that they are important collaborators who help with research across disciplines and institutions.

Their study generally combines Indigenous health, community involvement, and decolonial research methods.

The existence of smaller but unique clusters, like the Brown–Dudgeon duo and the Neufeld–Skinner partnership, shows that there are new collaborative sub-networks forming in the larger field, often focused on health, psychology, and Indigenous well-being. The network density is quite low, which shows that even while the field is producing more scholarly work, collaboration is still fairly scattered, with little integration across continents or fields of study. This visualization shows that we need stronger global collaboration frameworks to connect Indigenous researchers and institutions. This will help us produce more knowledge as a group and make sure that

Indigenous perspectives are
heard more in academic

discussions.

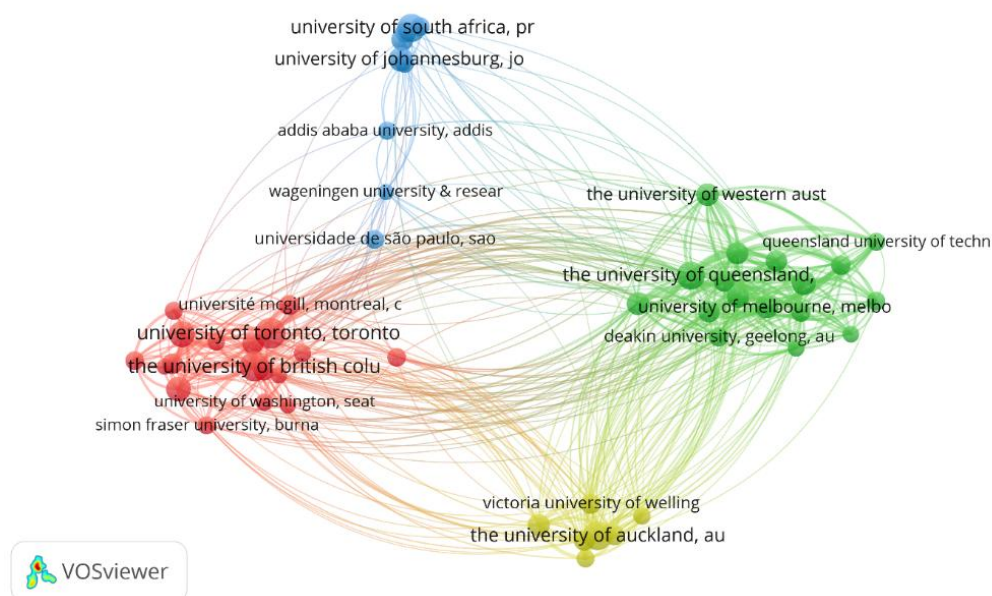


Figure 5. Affiliation Visualization
Source: Data Analysis Result, 2025

Figure 5 shows the institutional collaboration network, which shows how universities and research institutes that are actively working on Indigenous knowledge research are linked to each other. The size of each node shows how many publications it has, while the lines between them show how often and how intense collaborative activities are. Four big clusters may be seen, and they closely match up with regional and linguistic study networks. The green cluster, which includes The University of Queensland, the University of Melbourne, and the University of Western Australia, is the Australasian hub. This shows that Australia is very important for Indigenous studies, especially those that focus on Aboriginal health, education, and cultural heritage. The fact that Deakin University and Queensland University of

Technology are close to each other shows that the two universities work well together, thanks to national funding programs and Indigenous research institutes.

The red cluster includes some of the best universities in North America, like the University of Toronto, the University of British Columbia, McGill University, and Simon Fraser University. This group shows that Canada is a leader in Indigenous knowledge research, thanks to policies that promote reconciliation, decolonization, and the empowerment of Indigenous communities. The yellow cluster, which includes The University of Auckland and Victoria University of Wellington, shows New Zealand's network and how Māori ways of knowing and the Treaty of Waitangi values are used in research collaboration. The blue cluster, on the other

hand, connects the University of South Africa, the University of Johannesburg, and Addis Ababa University. This shows that Africa is becoming more involved in discussions about Indigenous knowledge, especially in the fields of traditional medicine and heritage studies.

The picture shows that Indigenous knowledge study is mostly focused on one region, but there are more connections between Australia, North America, and Africa. Even if collaborations are still strongest

inside national and language limits, the edges that connect clusters show that a global knowledge exchange network is slowly forming. This pattern shows that scholarship is moving away from being focused on specific regions and toward a more integrated international endeavor. In this effort, institutions share methods, ethical frameworks, and decolonial research practices to help spread inclusive Indigenous knowledge systems around the world.

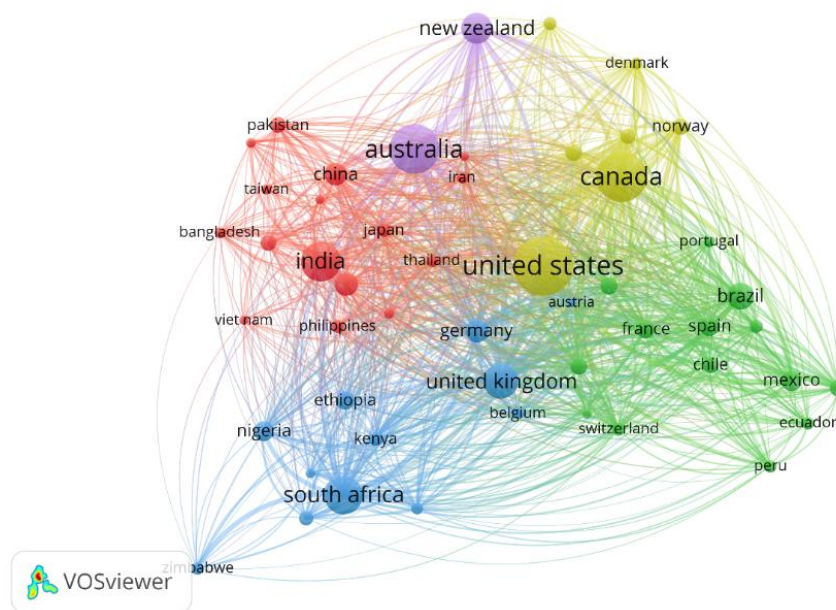


Figure 6. Country Visualization
Source: Data Analysis Result, 2025

Figure 6 shows the global network of research relationships in Indigenous knowledge studies through the nation cooperation visualization. Each node stands for a country that is participating in publishing, and the size of the node shows how productive the country is (in terms of the number of publications) and the thickness of the link shows how strong the international

collaboration is. The map shows five big groups that make up a research ecosystem that spans multiple continents. The yellow cluster, which is led by the US and Canada, is the biggest on the network. This shows that North America is the leader in Indigenous research, especially when it comes to policy, cultural revitalization, and community-based participatory approaches. These countries are important

links between Europe, Oceania, and Asia. They have had a big impact on how Indigenous knowledge is studied and understood.

The red cluster, which includes India, China, Pakistan, and Bangladesh, shows that Asia is becoming more involved in Indigenous and traditional knowledge systems. India stands out with a big node, which shows that there has been a lot of research done in ethnobotany, traditional medicine, and indigenous ecological practices. The green cluster, which is mostly made up of Brazil, Mexico, and Spain, shows substantial engagement from Latin America, often focusing on preserving Indigenous heritage, ethnobiology, and postcolonial studies. The blue cluster, on the other hand, connects South Africa, Nigeria, Kenya, and Ethiopia. This shows that Africa is becoming a strong place for study, especially in areas like biodiversity protection, traditional healing, and managing cultural assets. The purple cluster, which includes Australia and New Zealand, shows that Oceania has been a pioneer in Indigenous studies for a long time, especially in health research and studies of Aboriginal and Māori ways of knowing.

The map shows that there is a lot of worldwide collaboration going on in many different fields. The substantial co-authorship relationships between Australia, the United States, and Canada imply that these countries are working together on decolonization and empowering Indigenous communities because they have

similar goals. But the weaker ties between the Global North and Global South show that research collaboration and access to resources are still not equal. Strengthening South–South connections, especially between Africa, Asia, and Latin America, could bring in new ways of thinking and help make the global Indigenous research agenda more fair. This animation shows how mature and how inclusive the field of Indigenous knowledge study is becoming around the world.

3.2 Discussion

a. Practical Implications

The results of this bibliometric review have many real-world effects on politicians, schools, and Indigenous people. First, identifying global research patterns gives us evidence-based ideas for how to set research priorities and give out funds. These results can help governments and universities uncover areas that don't have enough representation, especially in Africa, Southeast Asia, and Latin America. They can then utilize this information to direct resources to promote fair participation in Indigenous knowledge research. Second, the visualization of co-authorship and institutional networks shows researchers who want to work with others from different fields or cultures where they would be able to work together. Strengthening these connections will facilitate the incorporation of Indigenous approaches into conventional research frameworks and promote capacity development among Indigenous researchers. Third, identifying new themes like decolonization, health equality,

and climate resilience gives policymakers useful information on how to build public health and sustainability policies that are based on Indigenous ways of knowing and are open to everyone. Finally, this study emphasizes the significance of ethical research involvement with Indigenous people, advocating for participatory, reciprocal, and culturally sensitive methodologies that transcend extractive research conventions.

b. Theoretical Contributions

This study theoretically enhances the conceptual framework of Indigenous knowledge research within the global academic community. Utilizing bibliometric techniques, the study expands current frameworks of knowledge co-production and epistemic pluralism into a quantitative realm, illustrating the interaction between Indigenous epistemologies and Western scientific paradigms across several disciplines. The delineation of three principal thematic clusters—environmental sustainability, biocultural medicine, and Indigenous health—establishes an integrative framework that connects traditional ecological knowledge (TEK) with nascent fields of sustainability science and social well-being. Additionally, this review enhances the decolonial theory of knowledge systems [5] by demonstrating the progressive decentralization of global academic networks, thereby enabling Indigenous scholarship to claim epistemic sovereignty. The project integrates bibliometric science with

Indigenous studies, creating a theoretical framework for forthcoming meta-research aimed at evaluating epistemic justice and inclusivity in academic publishing. This not only organizes the intellectual framework of Indigenous knowledge research but also contextualizes it within wider discussions on colonialism, equity, and sustainability.

c. Limitations and Directions for Future Research

This study recognizes some limitations, although its extensive reach. The initial constraint is to the database coverage; the research relied exclusively on the Scopus database, which, despite its comprehensiveness, may exclude pertinent Indigenous-authored works published in local, community-based, or non-English publications. This limitation may inadequately reflect the epistemic diversity of Indigenous scholarship, especially from areas where oral knowledge transmission is still prevalent. Second, the bibliometric approach focuses on numerical patterns and citation-based connections, which might not completely show the cultural, ethical, and contextual aspects of Indigenous research. Subsequent research ought to incorporate qualitative meta-synthesis or narrative reviews to contextualize bibliometric trends with lived experiences and community-oriented viewpoints. Third, the time frame of 2000 to 2025 leaves out earlier works that laid the groundwork for Indigenous studies before digital indexing. To rectify these deficiencies, forthcoming study ought to utilize multi-database

and multilingual bibliometric methodologies, integrating Web of Science, Dimensions, and regional repositories. Lastly, adding altmetric data, policy impact measures, and Indigenous authorship representation to this study could help us better understand how Indigenous knowledge can help with global environmental goals and social change.

4. CONCLUSION

This thorough bibliometric evaluation gives us a complete picture of Indigenous knowledge research around the world from 2000 to 2025. The study shows that the area is dynamic, diverse, and growing by mapping publishing trends, author networks, institutional collaborations, and theme clusters. It is also increasingly bridging the gaps across environmental, social, and health sciences. The results indicate that Indigenous knowledge has transitioned from a peripheral topic of

anthropological interest to a fundamental component of sustainability science, decolonial study, and community-based innovation. Strong research centers in Australia, Canada, and the United States dominate global collaborations. At the same time, new contributions from Africa, Asia, and Latin America show that knowledge production is becoming more democratic. The thematic move toward decolonization, climate change, Indigenous health, and gender studies signifies an epistemic transition from documentation to empowerment—establishing Indigenous knowledge not only as a study subject but as a knowledge system of equivalent legitimacy. Ultimately, this study emphasizes the necessity for ongoing interdisciplinary collaboration, inclusive authorship, and culturally informed research methodologies that respect Indigenous sovereignty and viewpoints, thereby ensuring that future scholarship advances not only academic knowledge but also the welfare, resilience, and self-determination of Indigenous populations globally.

REFERENCES

- [1] F. Berkes, *Sacred ecology*. Routledge, 2017.
- [2] H. Ashari and T. P. Nugrahanti, "Household economy challenges in fulfilling life needs during the Covid-19 pandemic," *Glob. Bus. Econ. Rev.*, vol. 25, no. 1, pp. 21–39, 2021.
- [3] B. Chilisa, *Indigenous research methodologies*. Sage publications, 2019.
- [4] D. Nakashima, K. Galloway McLean, H. Thulstrup, A. Ramos Castillo, J. Rubis, and T. K. Initiative, *Weathering uncertainty: traditional knowledge for climate change assessment and adaptation*. 2012.
- [5] L. T. Smith, *Decolonizing methodologies: Research and indigenous peoples*. Bloomsbury Publishing, 2021.
- [6] T. P. Nugrahanti and A. S. Jahja, "Audit judgment performance: The effect of performance incentives, obedience pressures and ethical perceptions," *J. Environ. Account. Manag.*, vol. 6, no. 3, pp. 225–234, 2018.
- [7] S. Wilson, *Research is ceremony: Indigenous research methods*. Fernwood publishing, 2020.
- [8] W. C. Borman, "360 ratings: An analysis of assumptions and a research agenda for evaluating their validity," *Hum. Resour. Manag. Rev.*, vol. 7, no. 3, pp. 299–315, 1997.
- [9] M. Kovach, "Indigenous methodologies: Characteristics, conversations, and contexts," *Univ. Toronto Press*, 2021.
- [10] H. Ashari, T. P. Nugrahanti, and B. J. Santoso, "The role of microfinance institutions during the COVID-19 pandemic," *Glob. Bus. Econ. Rev.*, vol. 30, no. 2, pp. 210–233, 2024.
- [11] A. Agrawal, J. Erbaugh, and N. Pradhan, "The commons," *Annu. Rev. Environ. Resour.*, vol. 48, no. 1, pp. 531–558, 2023.
- [12] D. García-del-Amo, "Climate Change Indicators. A Local Perspective," 2021.
- [13] J. Petzold, N. Andrews, J. D. Ford, C. Hedemann, and J. C. Postigo, "Indigenous knowledge on climate change adaptation: a global evidence map of academic literature," *Environ. Res. Lett.*, vol. 15, no. 11, p. 113007, 2020.
- [14] M. Sperl, "Biodiversity in German development cooperation after the Kunming-Montreal Global Biodiversity Framework: greater attention to the rights and contributions of Indigenous Peoples and local communities?," 2024.
- [15] P. Chaudhary and K. S. Bawa, "Local perceptions of climate change validated by scientific evidence in the Himalayas," *Biol. Lett.*, vol. 7, no. 5, pp. 767–770, 2011.
- [16] N. Donthu, S. Kumar, D. Mukherjee, N. Pandey, and W. M. Lim, "How to conduct a bibliometric analysis: An overview and guidelines," *J. Bus. Res.*, vol. 133, pp. 285–296, 2021.

- [17] O. L. Malapane, W. Musakwa, N. Chanza, and V. Radinger-Peer, "Bibliometric analysis and systematic review of indigenous knowledge from a comparative African perspective: 1990–2020," *Land*, vol. 11, no. 8, p. 1167, 2022.
- [18] E. E. Ebhuoma, "Indigenous knowledge and natural infrastructure resilience to climate change in developing countries: a bibliometric analysis," *Front. Environ. Econ.*, vol. 3, p. 1295690, 2024.
- [19] I. Agustina, H. Khuan, B. Aditi, S. A. Sitorus, and T. P. Nugrahanti, "Renewable energy mix enhancement: the power of foreign investment and green policies," *Int. J. Energy Econ. Policy*, vol. 13, no. 6, pp. 370–380, 2023.
- [20] K. K. De Santis, M. Kirstein, C. Kien, U. Griebler, S. McCrabb, and T. Jahnke, "Online dissemination of Cochrane reviews on digital health technologies: a cross-sectional study," *Syst. Rev.*, vol. 13, no. 1, p. 133, 2024.
- [21] S. A. Mashi, E. D. Jenkwe, N. R. Oluyori, and K. Idris, "Forest Cover Change and Landuse Dynamics in Okwangwo Division of Cross River National Park, Nigeria: Balancing Ecological Recovery with Socio-Environmental Pressures," *SSRN*, 2025.
- [22] F. V. Borolla, H. Rahmayanti, O. S. Hidayat, and K. H. Abdullah, "Indigenous Knowledge and Sustainable Resource Management-A Bibliometric Review," *Front. J. Soc. Technol. Environ. Sci.*, vol. 13, no. 4, pp. 88–103, 2024.
- [23] V. Hakkarainen, T. M. Daw, and M. Tengö, "On the other end of research: exploring community-level knowledge exchanges in small-scale fisheries in Zanzibar," *Sustain. Sci.*, vol. 15, no. 1, pp. 281–295, 2020.
- [24] N. J. Van Eck and L. Waltman, "Citation-based clustering of publications using CitNetExplorer and VOSviewer," *Scientometrics*, vol. 111, no. 2, pp. 1053–1070, 2017.
- [25] M. Aria and C. Cuccurullo, "Bibliometrix: An R-tool for comprehensive science mapping analysis," *J. Informetr.*, vol. 11, no. 4, pp. 959–975, 2017.
- [26] I. Zupic and T. Čater, "Bibliometric methods in management and organization," *Organ. Res. methods*, vol. 18, no. 3, pp. 429–472, 2015.
- [27] M. J. Page *et al.*, "Updating guidance for reporting systematic reviews: development of the PRISMA 2020 statement," *J. Clin. Epidemiol.*, vol. 134, pp. 103–112, 2021.
- [28] M. Kovach, *Indigenous methodologies: Characteristics, conversations, and contexts*. University of Toronto press, 2021.
- [29] D. M. J. S. Bowman, C. A. Kolden, J. T. Abatzoglou, F. H. Johnston, G. R. van der Werf, and M. Flannigan, "Vegetation fires in the Anthropocene," *Nat. Rev. Earth Environ.*, vol. 1, no. 10, pp. 500–515, 2020.
- [30] S. Carroll *et al.*, "The CARE principles for indigenous data governance," *Data Sci. J.*, vol. 19, 2020.
- [31] N. M. Dawson *et al.*, "The role of Indigenous peoples and local communities in effective and equitable conservation," *Ecol. Soc.*, vol. 26, no. 3, p. 19, 2021.
- [32] A. Di Sacco *et al.*, "Ten golden rules for reforestation to optimize carbon sequestration, biodiversity recovery and livelihood benefits," *Glob. Chang. Biol.*, vol. 27, no. 7, pp. 1328–1348, 2021.
- [33] B. H. French *et al.*, "Toward a psychological framework of radical healing in communities of color," *Couns. Psychol.*, vol. 48, no. 1, pp. 14–46, 2020.
- [34] A. J. Reid *et al.*, "'Two-Eyed Seeing': An Indigenous framework to transform fisheries research and management," *Fish Fish.*, vol. 22, no. 2, pp. 243–261, 2021.
- [35] I. Süntar, "Importance of ethnopharmacological studies in drug discovery: role of medicinal plants," *Phytochem. Rev.*, vol. 19, no. 5, pp. 1199–1209, 2020.
- [36] L. Tuhiwai Smith, "Decolonizing methodologies: Research and indigenous peoples," 2012.
- [37] U. Pascual *et al.*, "Diverse values of nature for sustainability," *Nature*, vol. 620, no. 7975, pp. 813–823, 2023.
- [38] D. M. Bowman, C. A. Kolden, J. T. Abatzoglou, F. H. Johnston, G. R. van der Werf, and M. Flannigan, "Vegetation fires in the Anthropocene," *Nat. Rev. Earth Environ.*, vol. 1, no. 10, pp. 500–515, 2020.
- [39] U. Pascual *et al.*, "Diverse values of nature for sustainability," *Nature*, vol. 620, no. 7975, pp. 813–823, 2023.
- [40] N. M. Dawson *et al.*, "The role of Indigenous peoples and local communities in effective and equitable conservation," *Ecol. Soc.*, vol. 26, no. 3, p. 19, 2021.
- [41] A. Di Sacco *et al.*, "Ten golden rules for reforestation to optimize carbon sequestration, biodiversity recovery and livelihood benefits," *Glob. Chang. Biol.*, vol. 27, no. 7, pp. 1328–1348, 2021.
- [42] A. J. Reid *et al.*, "'Two-Eyed Seeing': An Indigenous framework to transform fisheries research and management," *Fish Fish.*, vol. 22, no. 2, pp. 243–261, 2021.
- [43] B. H. French *et al.*, "Toward a psychological framework of radical healing in communities of color," *Couns. Psychol.*, vol. 48, no. 1, pp. 14–46, 2020.