

Local Wisdom and Traditional Knowledge Research in Thailand: Publication Growth, Scholarly Networks, and Emerging Themes

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ABSTRACT

Local wisdom, indigenous knowledge, and traditional knowledge are increasingly important to research on biodiversity conservation, public health, food security, cultural continuity, and sustainable development. In Thailand, however, scholarship on these knowledge systems remains fragmented across disciplines and publication outlets, limiting an integrated understanding of the field. This study mapped the growth, intellectual structure, influential contributors, geographical relationships, and thematic evolution of relevant research published between 2017 and 2026. Bibliographic records were retrieved from Scopus using a TITLE-ABS-KEY search combining “local wisdom,” “indigenous knowledge,” or “traditional knowledge” with “Thailand.” After PRISMA-guided screening, 303 English-language documents were analyzed using Microsoft Excel, VOSviewer, and Biblioshiny. Analyses covered publication and citation performance, source and author productivity, PageRank centrality, country collaboration, keyword co-occurrence, thematic mapping, and thematic evolution. Publication output increased markedly, especially after 2023, while papers published from 2019 to 2021 showed the strongest citation impact. Plants, Biodiversitas, and Sustainability were among the most productive sources, while Thailand dominated corresponding authorship and occupied the central position in the international bibliographic network. Ethnobotany, medicinal plants, biodiversity, traditional food systems, and community-based knowledge formed the mature conceptual core, whereas sustainability, food security, cultural heritage, and knowledge management emerged as developing themes. By integrating conventional performance indicators with network centrality and temporal thematic analysis, this study provides a country-level map of a fragmented literature within Thailand and its international scholarly connections. The findings establish a systematic baseline for future scholarship and support broader interdisciplinary collaboration, ethical knowledge governance, community participation, and greater attention to education, language, cultural rights, and intergenerational knowledge transmission.

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I. INTRODUCTION

Local wisdom, indigenous knowledge, and traditional knowledge are living systems through which communities make sense of their environments, organize social life, manage natural resources, sustain cultural identity, and respond to ecological and economic change. They emerge from long-term interaction among people, landscapes, species, and institutions and are passed on through practice, observation, oral exchange, and intergenerational learning. In Thailand, these knowledge systems are especially visible in ethnobotany, traditional medicine, food systems, agriculture, forest management, handicrafts, and community-based conservation. Studies have documented the diversity and use of textile-dyeing plants in northeastern Thailand, weeds and useful species in northern tea plantations, medicinal plants maintained in ethnic homegardens, and traditional applications of Leguminosae among Karen communities (Junsongduang et al., 2017; Panyadee et al., 2019; Srithi et al., 2017; Sutjaritjai et al., 2019). Related work has shown the importance of local ecological knowledge for marine conservation, mangrove management, sustainable tourism, and cultural landscapes (Aylesworth et al., 2017; Hassan et al., 2018; Phoochinda, 2018; Plaiphum & Tansuchat, 2023). Taken together, this literature treats traditional knowledge not as a residue of the past, but as an active intellectual resource with continuing relevance to biodiversity protection, public health, food security, and sustainable development.

Recent scholarship has widened this perspective by connecting community knowledge with contemporary scientific, educational, and development concerns. Research on Asian food traditions traces links among cultural identity, dietary practices, biological resources, and well-being (Harmayani et al., 2019). Studies of Indigenous food systems likewise emphasize the interplay of gender roles, biodiversity, and household food security (Kuhnlein, 2017), while work in northern Thailand documents exceptionally high food-plant diversity among ethnic communities (Panyadee et al., 2023). Local wisdom has also informed green chemistry education through natural reagents and smart-device applications (Kiwfo et al., 2021), and traditional environmental knowledge has been applied in disaster management, community tourism, and sustainable textile production (Bureekhampun & Maneepun, 2021; Toyoda & Tanwattana, 2023). Alongside these developments, Indigenous education research has emphasized land-based learning and relational systems that connect education with community, territory, and cultural continuity (Bowra et al., 2021; Meixi et al., 2022). These strands show that research on local and Indigenous knowledge now extends well beyond any single disciplinary domain.

Even with this expansion, the literature remains scattered across disciplines, regions, ethnic groups, and publication outlets. A substantial share of Thai research has focused on

inventories of useful plants and ethnomedical practice, including medicinal plants used by traditional healers, Karen remedies for infectious and musculoskeletal conditions, Hmong plant use, and treatments for skin diseases (Junsongduang et al., 2020; Kantasrila et al., 2020; Nguanchoo et al., 2019; Phumthum & Balslev, 2020; Phumthum et al., 2020; Saising et al., 2022). These studies provide valuable empirical records, but their findings are dispersed across botanical, pharmacological, environmental, and regional journals. As a result, it is difficult to see how the field has developed as a whole, which publications and researchers have been most influential, or whether its thematic priorities are shifting. A related issue is conceptual: local wisdom, indigenous knowledge, and traditional knowledge are sometimes used interchangeably, although they can imply different relationships among knowledge, identity, community, territory, and historical continuity. Research on the Salween River, for example, shows that local ecological knowledge varies with gender, expertise, and political authority rather than being shared uniformly within a community (Lamb, 2018). Work on Karen conservation similarly suggests that Indigenous practice is grounded in relational ontologies and more-than-human agency that cannot be reduced to inventories of resources (Paul et al., 2021).

One response to this fragmentation is to move beyond isolated narrative accounts and use systematic, reproducible approaches that can examine not only individual studies but also the broader intellectual structure linking concepts, authors, sources, and themes. Existing research has taken several routes toward this goal. Ethnobotanical surveys have documented plant diversity, local names, preparation methods, and therapeutic or dietary applications among ethnic communities (Inta et al., 2023; Saensouk et al., 2025; Numpulsuksant et al., 2021; Phatlamphu et al., 2021; Pholhiamhan et al., 2018). Meta-analyses and systematic reviews have synthesized evidence on anti-infectious plants and herbal therapies for hypertension (Aumeeruddy & Mahomoodally, 2020; Phumthum & Balslev, 2020). Digital ontology has been proposed as a means of preserving traditional cultural knowledge (Kalita & Deka, 2020), while spatial data generation, biodiversity assessment, and conservation-status analysis have been applied to community resources and culturally significant species (Aylesworth et al., 2017; Boonma et al., 2024). Although these approaches have strengthened empirical understanding, most remain centered on particular communities, species, or practices rather than on the Thai research domain as a whole.

This lack of an integrated bibliometric synthesis constitutes a clear research gap. Influential studies address food traditions, medicinal plants, ethnobotany, ecological knowledge, and community sustainability, yet the way these contributions collectively shape the field remains difficult to discern. Existing reviews have focused on narrower domains,

including traditional herbal therapy, land-based learning, and ethnobotanical medicinal plants (Aumeeruddy & Mahomoodally, 2020; Bowra et al., 2021; Yue et al., 2021), but none maps the broader body of scholarship associated with Thailand. Bibliometric analysis is well suited to this problem because it can systematically evaluate scientific production and reveal relationships among publications, authors, sources, countries, and research themes that may be less visible in conventional narrative reviews. Related bibliometric studies have already mapped global trends in local wisdom-based school education (Saleng et al., 2025) and local wisdom in environmental management (Nurfadilah et al., 2025), illustrating the method's usefulness for synthesizing fragmented bodies of research. Building on this work, the present study provides a country-focused mapping of publications from 2017 to 2026 by integrating publication trends, citation performance, source contribution, author prominence, geographical collaboration, keyword co-occurrence, and thematic development within a single analytical framework.

This study examines the development and current intellectual landscape of Scopus-indexed research on local wisdom, indigenous knowledge, and traditional knowledge associated with Thailand between 2017 and 2026. More specifically, it traces the growth of research output, identifies the source titles contributing most substantially to the literature, determines the most prominent authors, assesses the countries most active in publication and collaboration, identifies the keywords that best represent the field, and maps dominant, emerging, and evolving research themes. Six related questions guide the analysis: (1) how has research output developed during the study period? (2) which source titles have contributed most strongly? (3) who are the most prominent authors? (4) which countries have produced the largest number of publications? (5) which keywords most clearly represent the conceptual structure of the field? and (6) what do the thematic and network structures reveal about the current research landscape? Addressing these questions provides a systematic baseline for future research, supports more informed interdisciplinary collaboration, and brings greater clarity to areas that remain underdeveloped theoretically, methodologically, or in policy terms.

II. METHODS

A bibliometric mapping design was used to examine the development and intellectual structure of research on local wisdom, indigenous knowledge, and traditional knowledge in the Thai context between 2017 and 2026. Bibliometric analysis offers a quantitative and reproducible way to assess scientific production, identify influential contributors, and trace relationships among publications, authors, institutions, countries, sources, and research topics. It is

particularly useful for large bodies of literature because performance analysis can be combined with science-mapping techniques to describe both productivity and the conceptual organization of a field (Aria & Cuccurullo, 2017). Recent applications have also shown the value of bringing descriptive indicators, network analysis, and visualization together to track shifts in research emphasis over time (Nanda et al., 2025). On this basis, the present analysis covered publication growth, source and author contributions, citation patterns, geographical distribution, collaboration networks, keyword co-occurrence, and thematic development. Network mapping was used to identify clusters and connections that may be difficult to detect in conventional narrative reviews, while conceptual structure analysis supported the interpretation of dominant and emerging themes (Aria et al., 2024; van Eck & Waltman, 2017).

Bibliographic records were retrieved exclusively from Scopus because of its broad multidisciplinary coverage, standardized metadata, citation information, and compatibility with widely used bibliometric software. Comparative assessments of major bibliographic databases show that Scopus offers substantial coverage of peer-reviewed scholarship and is suitable for large-scale bibliometric studies, although differences in database coverage remain important to acknowledge (Visser et al., 2021). The electronic search was conducted on 12 May 2026 in the title, abstract, and keyword fields using the Scopus TITLE-ABS-KEY function. The Boolean expression was TITLE-ABS-KEY (("local wisdom" OR "indigenous knowledge" OR "traditional knowledge") AND Thailand). Quotation marks retrieved the specified multiword terms as phrases, OR captured terminological variation, and AND restricted the results to publications associated with Thailand. This search returned 473 records. Although open-source tools such as openalexR provide alternative ways to collect bibliometric metadata from OpenAlex (Aria et al., 2023), Scopus was retained as the sole data source to preserve a consistent metadata structure and a clearly defined search universe.

The retrieved records were screened sequentially using the inclusion and exclusion procedure summarized in the PRISMA-style flow diagram in Figure 1. First, the publication window was restricted to 2017 through 12 May 2026. Because the search was conducted before the end of the year, the 2026 output represents only a partial publication year and is interpreted accordingly. Second, eligible document types were limited to journal articles and conference papers, which generally provide substantive and traceable research findings. Applying the temporal and document-type criteria left 329 records. Third, the analysis was restricted to English-language publications to maintain consistency in metadata interpretation, keyword analysis, and thematic coding. This step excluded 26 non-English records, yielding a final

dataset of 303 documents. The use of an explicit flow diagram follows recent bibliometric reviews that emphasize reproducibility and transparent reporting of document-selection procedures (Bancong, 2024). No other publication types or languages were added after screening; consequently, every performance indicator, network map, and thematic analysis reported here is based on the same corpus of 303 Scopus-indexed English-language articles and conference papers.

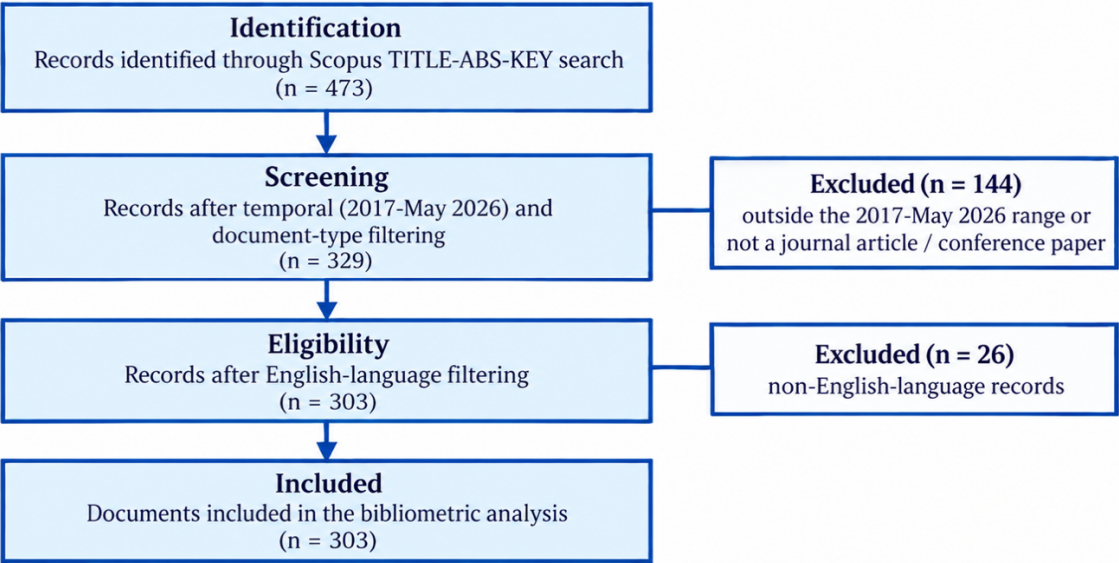


Figure 1. PRISMA-guided workflow for literature identification, screening, eligibility assessment, and inclusion

Complete bibliographic records were exported from Scopus in comma-separated values (CSV) and Research Information Systems (RIS) formats. Using both formats facilitated transfer across analytical platforms while preserving core metadata, including authors, affiliations, document titles, publication years, source titles, abstracts, author keywords, indexed keywords, references, citation counts, and document identifiers. Microsoft Excel was used to initially organize the dataset and to check the completeness and internal consistency of the exported fields. Records were sorted by publication year, document type, source, author, institutional affiliation, country, citation count, and keywords. Before network construction, potential sources of fragmentation, including inconsistent capitalization, singular and plural keyword forms, abbreviations, and closely related keyword expressions, were reviewed. The CSV file supported descriptive calculations and Biblioshiny analysis, while the RIS and compatible Scopus export files were used for reference-based and network analyses. Retaining both formats reduced software compatibility issues and enabled comparison of outputs generated across analytical platforms.

Three complementary tools were used in the analysis: Microsoft Excel, VOSviewer, and Biblioshiny, the web-based interface of the bibliometrix R package. Excel was used to calculate frequencies, percentages, annual publication totals, annual citation patterns, and rankings of productive sources, authors, institutions, and countries. VOSviewer was used to construct and visualize bibliometric networks, particularly co-authorship, citation or co-citation relationships, and keyword co-occurrence structures. In these visualizations, node size represented item weight or frequency, links indicated relationships, total link strength represented the cumulative strength of those links, and color distinguished clusters or temporal patterns. VOSviewer is widely used for citation-based clustering and visualization of related publications and research entities ([van Eck & Waltman, 2017](#)). Biblioshiny supported broader performance analysis and science mapping, including source productivity, author and country contributions, conceptual-structure analysis, thematic mapping, trend topics, and thematic evolution. The bibliometrix framework provides an integrated and reproducible science-mapping workflow ([Aria & Cuccurullo, 2017](#)), while newer comparative approaches offer additional support for interpreting relationships among metadata-derived themes ([Aria et al., 2024](#)). Outputs from the three tools were considered together to read descriptive publication trends alongside collaboration patterns, intellectual relationships, and conceptual clusters, producing a more complete account of research development in Thailand from 2017 to 2026.

III. RESULTS

The results are organized into six sections corresponding to the research questions: annual publication and citation trends, the most relevant sources, the most influential authors, the most influential countries, the most relevant keywords, and the current research landscape as reflected in trend, thematic, and evolutionary maps. Each subsection presents the relevant bibliometric evidence, while broader interpretation is developed in the Discussion.

1. Yearly trend of publications and citations

The final dataset comprised 303 Scopus-indexed English-language documents published between 2017 and 2026. Figure 2 shows a gradual rise in annual output from 10 documents in 2017 to 17 in both 2018 and 2019, followed by 26 in 2020, 25 in 2021, 26 in 2022, and 28 in 2023. Growth accelerated in 2024 and 2025, when output reached 49 and 65 documents, respectively. By the search date, 40 documents had been indexed in 2026. Because the 2026 figure covers only part of the year, it should not be compared directly with complete annual totals. Overall, publication activity increased markedly during the later years of the study

period.

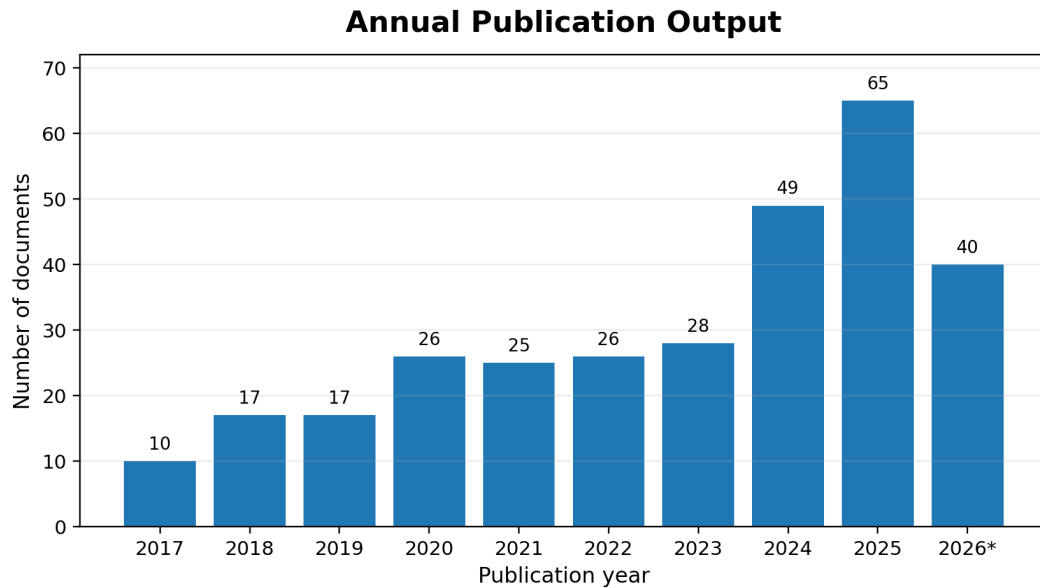


Figure 2. Annual publication output in the analyzed dataset (2017-2026)

Citation patterns followed a different temporal profile. Earlier publications generally accumulated more citations because they had been available to the scholarly community for longer. Documents published in 2019 recorded the highest mean total citation rate at 15.71 citations per document, followed by 2021 at 14.08 and 2020 at 13.92. After adjustment for the number of citable years, publications from 2021 showed the strongest annual impact, averaging 2.35 citations per document per year. In comparison, papers from 2024, 2025, and 2026 had lower mean total citation values of 3.40, 2.34, and 0.76, respectively. These lower values should not be read as evidence of weaker academic quality; they mainly reflect the shorter citation window available to recent publications. The dataset therefore shows two concurrent trends: a rapid increase in publication volume in recent years and a stronger cumulative citation impact among papers published from 2019 to 2021.

Table 1 lists the ten most highly cited publications in the 303-document dataset. Healthy Food Traditions of Asia, published in the *Journal of Ethnic Foods* in 2019, ranked first with 101 citations. It was followed by Traditional Knowledge of Wild Food Plants of Thai Karen and Lawa (Thailand) with 59 citations. Ethnomedicinal Knowledge of Traditional Healers in Roi Et, Thailand and Medicinal Plants in Homegardens of Four Ethnic Groups in Thailand each received 57 citations. The remaining publications in the top ten had between 37 and 45 citations. Most focused on ethnobotany, medicinal plants, traditional healing, wild food resources, and plant use among ethnic communities such as the Karen, Lawa, and Phu Thai. The concentration of highly cited studies from 2019 to 2021 indicates both substantial scholarly visibility and the advantage of a longer period in which citations could accumulate.

Table 1. Ten most highly cited publications in the analyzed Scopus dataset

Rank	Title	Year	Source title	Cited by	Authors
1	Healthy Food Traditions of Asia: Exploratory Case Studies from Indonesia, Thailand, Malaysia, and Nepal	2019	Journal of Ethnic Foods	101	Harmayani et al.
2	Traditional Knowledge of Wild Food Plants of Thai Karen and Lawa (Thailand)	2020	Genetic Resources and Crop Evolution	59	Punchay, Inta, Tiansawat, Balslev, & Wangpakapattanawong
3	Ethnomedicinal Knowledge of Traditional Healers in Roi Et, Thailand	2020	Plants	57	Junsongduang et al.
4	Medicinal Plants in Homegardens of Four Ethnic Groups in Thailand	2019	Journal of Ethnopharmacology	57	Panyadee, Balslev, Wangpakapattanawong, & Inta
5	Indigenous Learning on Turtle Island: A Review of the Literature on Land-Based Learning	2021	Canadian Geographer	45	Bowra, Mashford-Pringle, & Poland
6	Traditional Herbal Therapies for Hypertension: A Systematic Review of Global Ethnobotanical Field Studies	2020	South African Journal of Botany	45	Aumeeruddy & Mahomoodally
7	Application of Identification and Evaluation Techniques for Ethnobotanical Medicinal Plant of Genus <i>Panax</i> : A Review	2021	Critical Reviews in Analytical Chemistry	43	Yue, Zuo, Huang, & Wang
8	Traditional Uses of Leguminosae among the Karen in Thailand	2019	Plants	40	Sutjaritjai, Wangpakapattanawong, Balslev, & Inta
9	Ethnobotany of Phu Thai Ethnic Group in Nakhon Phanom Province, Thailand	2018	Walailak Journal of Science and Technology	40	Pholhiamhan, Saensouk, & Saensouk
10	Ethnobotany of Zingiberaceae in Mae Hong Son, Northern Thailand	2023	Biodiversitas	37	Inta, Trisonthi, Pongamornkul, & Panyadee

2. Most relevant sources

Figure 3 traces cumulative output for the five most productive sources publishing research on local wisdom, indigenous knowledge, and traditional knowledge in Thailand between 2017 and 2026. Plants showed the earliest and most consistent growth, increasing from two publications in 2019 to nine by 2025. Biodiversitas expanded more rapidly after 2020, rising from three publications in 2021 to nine in 2025 and thereby matching Plants as the leading source. Sustainability (Switzerland) also grew steadily and reached eight publications by 2025. Humanities, Arts and Social Sciences Studies increased from two publications in 2023 to six in 2024, while the Tropical Journal of Natural Product Research rose sharply between 2024 and 2025 to reach six publications. Together, these patterns show that interest in Thai local and traditional knowledge has broadened considerably since 2020 across journals in environmental science, biodiversity, plant science, natural products, and social science.

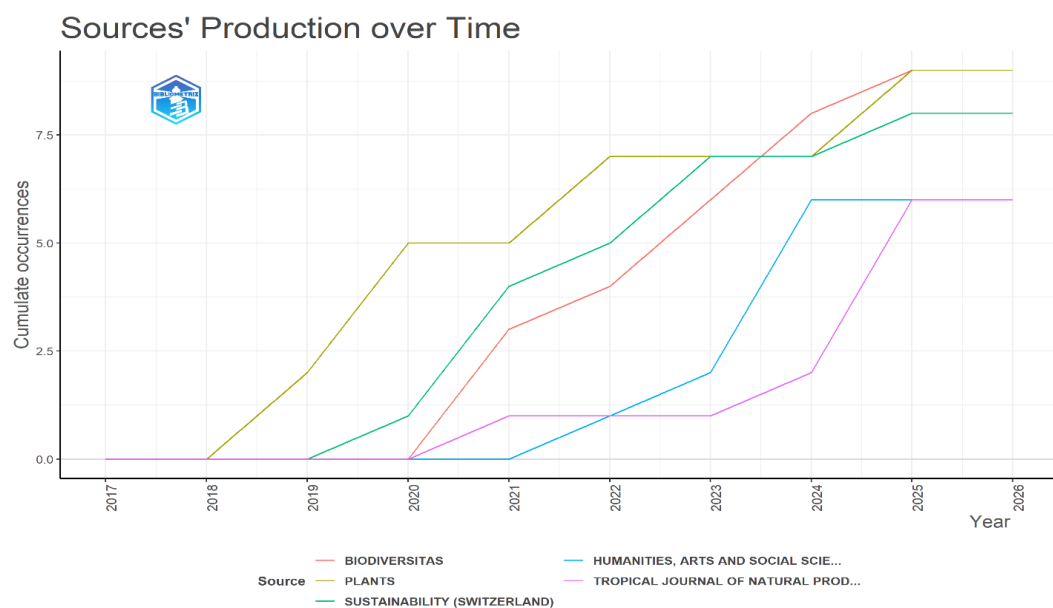


Figure 3. Cumulative publication output of the five most productive source titles (2017-2026)

Table 2 ranks the ten publications with the highest PageRank values in the bibliographic network. The study of wild edible plants used by the Tai Yoy ethnic group, published in Biology, ranked first with a PageRank of 0.5218. It was followed by research on edible underground storage organ plants in Diversity (0.4219) and an ethnobotanical study of the Lao Isan ethnic group in the Tropical Journal of Natural Product Research (0.4158). Citation counts and PageRank did not move in parallel. Traditional Knowledge of Wild Food Plants of Thai Karen and Lawa had the highest citation count among the listed papers, with 59 citations, yet ranked tenth by PageRank at 0.3377. Conversely, several less-cited publications recorded higher

PageRank values because they were more strongly connected to influential documents within the network.

Table 2. Ten publications with the highest PageRank centrality in the bibliographic network

Rank	Article title	Source title	Citations	PageRank
1	Utilization of Wild Edible Plants by the Tai Yoy Ethnic Group in Akat Amnuai	Biology	8	0.5218
2	Exploring Edible Underground Storage Organ Plants in Maha Sarakham Province	Diversity	6	0.4219
3	Ethnobotanical of the Lao Isan Ethnic Group in Pho Chai District, Roi Et Province	Tropical Journal of Natural Product Research	14	0.4158
4	Community Forest Management and the Resilience of Karen Indigenous Knowledge	Environmental Management	7	0.3920
5	Climate Change and Mental Health in Northeast of Thailand	International Journal of Environmental Health Research	7	0.3838
6	Facebook Feeds and Child Feeding: A Qualitative Study of Thai Mothers Online	International Journal of Environmental Research and Public Health	5	0.3695
7	Gender Roles, Food System Biodiversity, and Food Security in Indigenous Peoples' Communities	Maternal & Child Nutrition	18	0.3668
8	Plants Used by Thai Hmong to Treat Related Infectious Symptoms	Pharmaceutical Sciences Asia	0	0.3530
9	Kinship and Containment: A Qualitative Study of Village Health Volunteers' Roles	Open Public Health Journal	0	0.3430
10	Traditional Knowledge of Wild Food Plants of Thai Karen and Lawa (Thailand)	Genetic Resources and Crop Evolution	59	0.3377

3. Most influential authors

Figure 4 links influential cited references, prominent authors, and frequently occurring merged keywords in a three-field plot. Saensouk S., Saensouk P., Inta A., Balslev H., and Wangpakapattanawong P. occupy central positions in the field's knowledge structure. Their work is closely connected to ethnobotany, Thailand, traditional knowledge, medicinal plants and medicinal plant diversity, food security, indigenous knowledge, sustainable development, and biodiversity. The dense flows among cited references, authors, and keywords underscore the interdisciplinary character of the literature, which brings together ethnobotany, traditional medicine, ecological knowledge, cultural heritage, rural livelihoods, and biodiversity conservation.

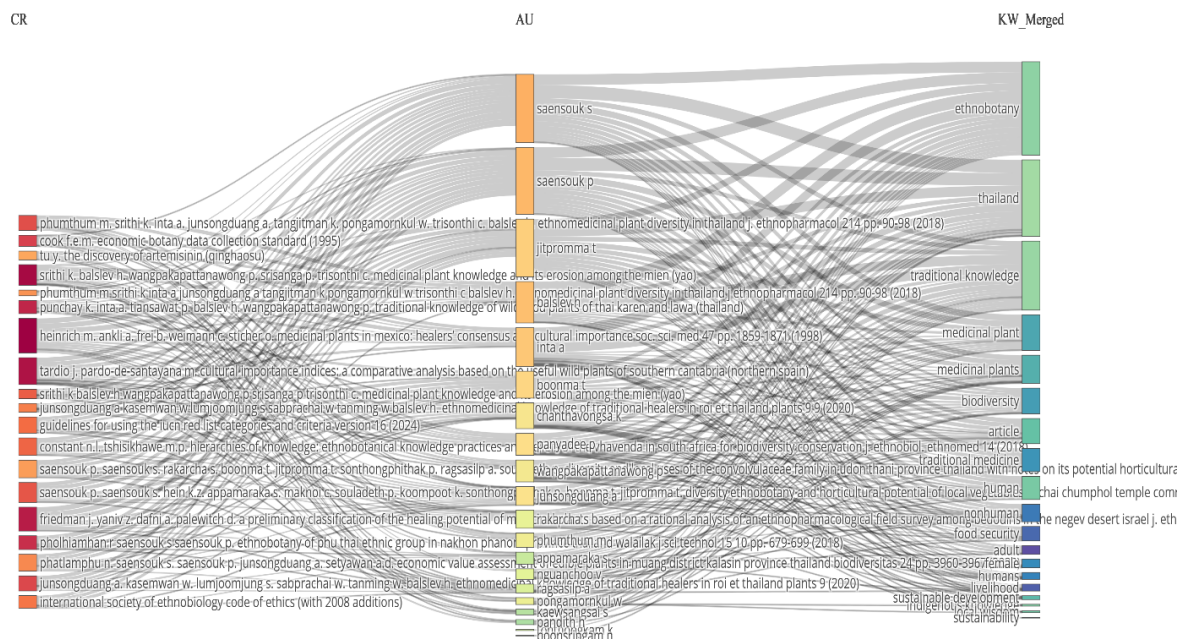


Figure 4. Three-field plot linking cited references, leading authors, and frequently occurring keywords

Figure 5 shows publication activity over time for the ten most productive authors. Balslev H., Inta A., Panyadee P., Junsongduang A., and Wangpakapattanawong P. published consistently across several years, indicating sustained influence during the earlier and middle parts of the study period. Saensouk S. and Saensouk P. became more prominent from 2021 onward and reached their highest activity in 2025. More recent contributors, including Jitpromma T., Boonma T., and Chanthavongsa K., appeared mainly during 2024-2026, suggesting both the entry of new researchers and the expansion of collaborative networks.

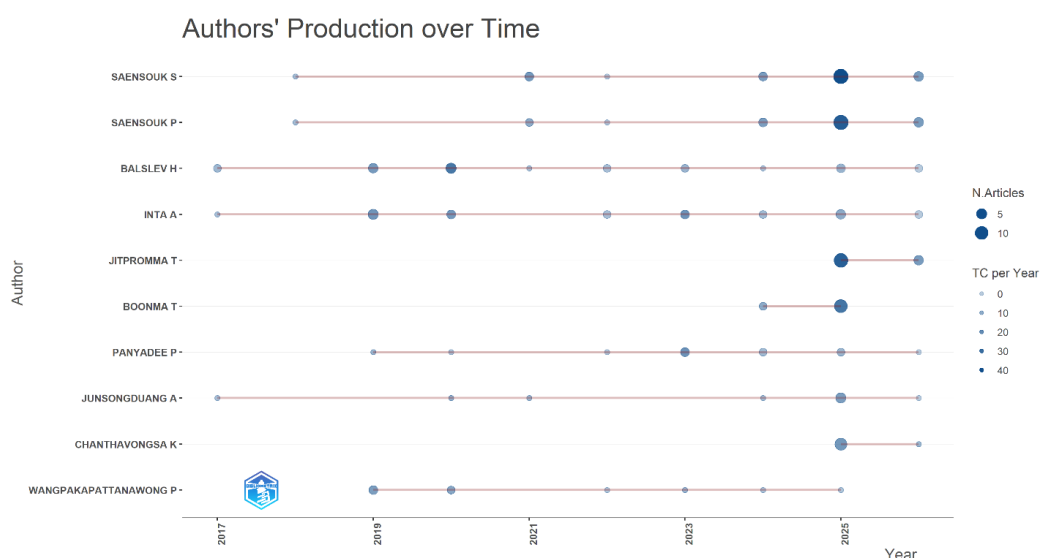


Figure 5. Publication activity of the ten most productive authors over time

4. Most influential countries

Figure 6 summarizes the geographical distribution and collaboration patterns of corresponding authors. Thailand accounted for more than 200 documents and clearly dominated the publication landscape. Its output included substantial numbers of both single-country and multiple-country publications, reflecting strong domestic research capacity alongside active international collaboration. Indonesia ranked a distant second. Canada, the United States, Australia, India, Japan, Malaysia, the Netherlands, Austria, Italy, Singapore, the United Kingdom, Brazil, Finland, Germany, Korea, Mauritius, the Philippines, and Sweden each contributed comparatively small numbers of publications.

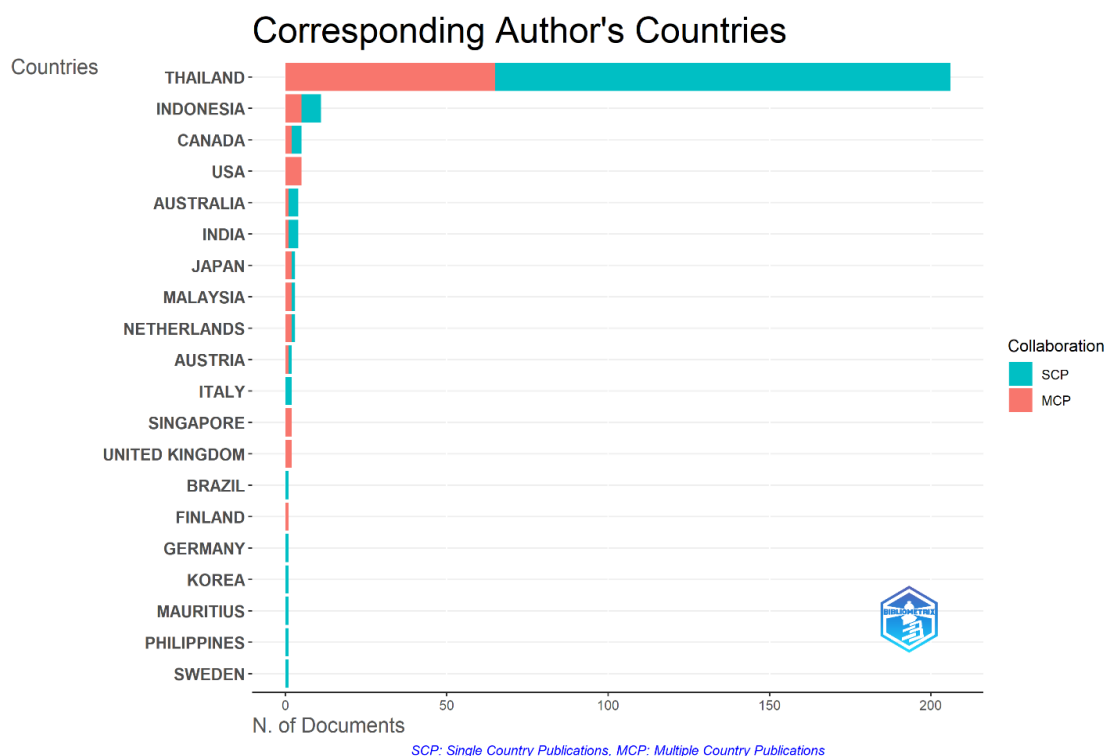


Figure 6. Corresponding-author countries by single-country and multiple-country publications

Figure 7 maps the country-level bibliographic coupling network. Thailand occupies the largest and most central position, reflecting both its publication volume and the strength of its shared-reference relationships with other countries. Its most visible connections involve Denmark, Laos, China, Indonesia, Malaysia, Japan, the United States, India, Canada, and Australia. The clustering pattern places Indonesia, Malaysia, Japan, and China within a closely related regional group, while Denmark, the United States, India, Canada, and Australia are connected through distinct but overlapping scholarly traditions.

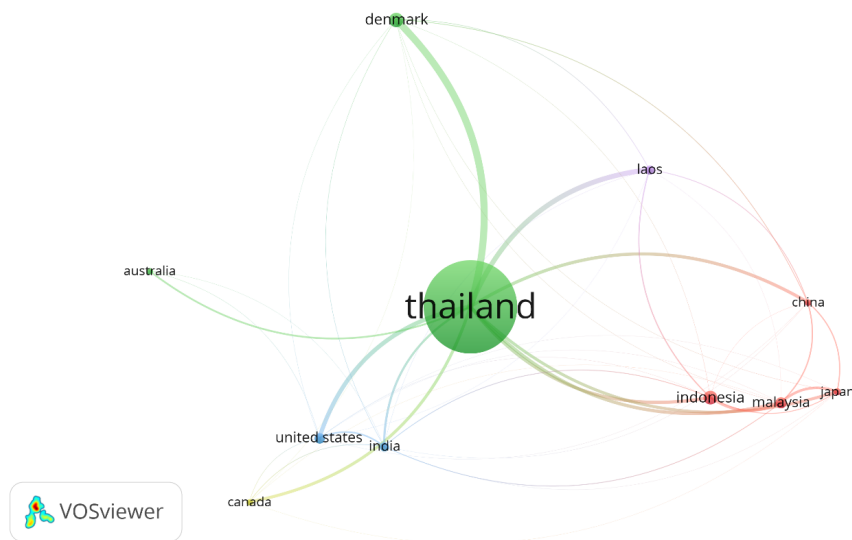


Figure 7. Country-level bibliographic coupling network

5. Most relevant keywords

Figure 8 summarizes the distribution of keywords across the 303 documents. "Thailand" was the most frequent term, appearing 116 times and accounting for 16 percent of all keyword occurrences. It was followed by "traditional knowledge" with 73 occurrences (10 percent), "ethnobotany" with 49 (7 percent), and "indigenous knowledge" with 32 (5 percent). Other prominent terms were "local wisdom" and "human" with 24 occurrences each, "article" with 23, "sustainable development" with 20, "medicinal plants" with 19, "medicinal plant" with 18, and "biodiversity" with 16.



Figure 8. Treemap of keyword frequencies

The keyword co-occurrence network in Figure 9 places "Thailand" at the center as the largest node, with strong links to "indigenous knowledge," "ethnobotany," and "local wisdom." Several interconnected clusters are visible. One centers on ethnobotany and medicinal knowledge, including "medicinal plants," "medicinal plant," "traditional medicine," "ethnic groups," and "fruit." A second cluster reflects social and community concerns through terms such as "human," "knowledge," "community," "village," "land use," and "agriculture." A third links "local wisdom" with "cultural heritage," "community development," "creative economy," and "lifelong learning." Additional connections to "biodiversity," "livelihood," "diversity," "Myanmar," and "Southeast Asia" point to the ecological, socioeconomic, and regional dimensions of the field.

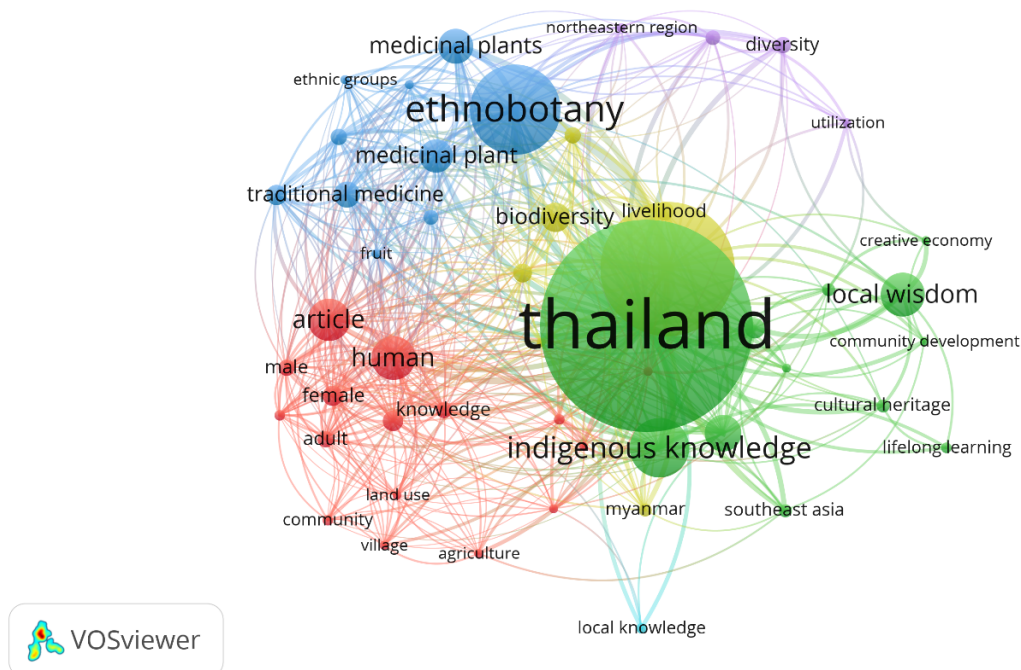


Figure 9. Co-occurrence network of keywords

6. Current research landscape

Figure 10 tracks the temporal movement of major research topics. Earlier publications were associated with broad terms such as "local knowledge," "ethnic groups," "Myanmar," "land use," "food supply," and "social network." Around 2023, the literature became increasingly centered on "Thailand," "traditional knowledge," and "ethnobotany." By 2024, "indigenous knowledge," "local wisdom," and "human" had become more prominent, indicating greater attention to the social and community dimensions of knowledge systems. The most recent period shifts further toward applied sustainability concerns, particularly "medicinal plants," "sustainability," "food security," and "fruit."

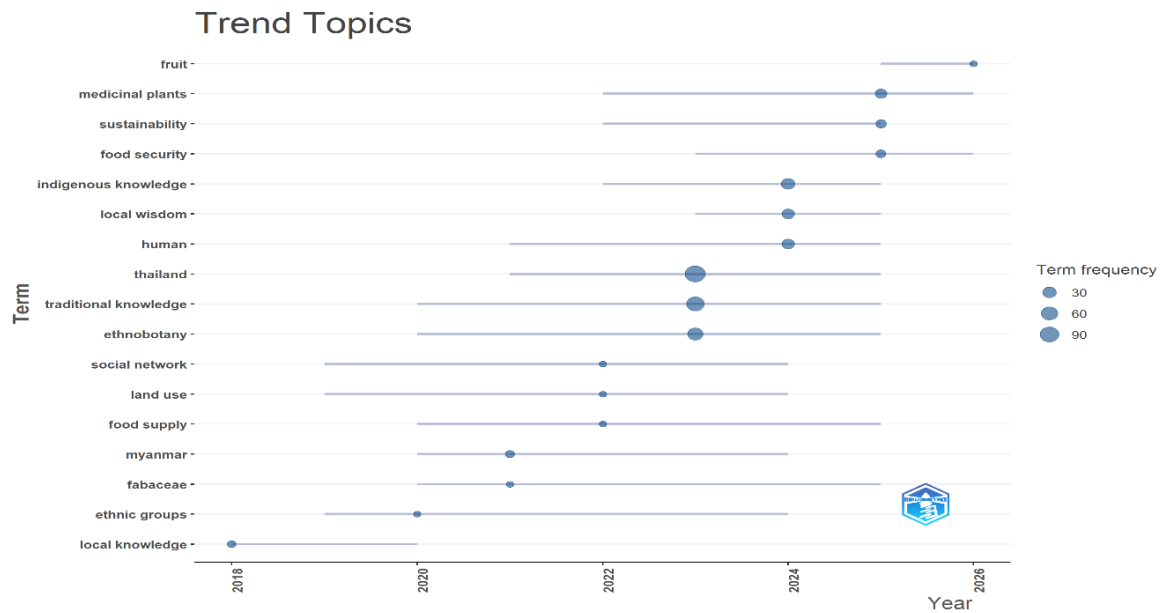


Figure 10. Temporal distribution of trending research topics (2017-2026)

Figure 11 positions the major themes according to their centrality and internal development. The cluster containing "Thailand," "traditional knowledge," and "local wisdom" lies in the basic-themes quadrant, where high centrality is paired with relatively low internal development. These concepts therefore provide a broad intellectual foundation for the field while remaining conceptually general. The "human," "article," and "female" cluster lies near the motor-themes quadrant, but largely reflects indexing and population characteristics rather than a distinct substantive theme. In contrast, "ethnobotany," "medicinal plant," and "medicinal plants" occupy a highly developed and relatively central position, confirming plant-based knowledge and traditional medicine as the field's most mature domain. "Medicine," "plants," and "classification" form a more specialized niche theme, whereas "indigenous knowledge," "sustainable development," and "knowledge management" appear in the emerging-or-declining quadrant.

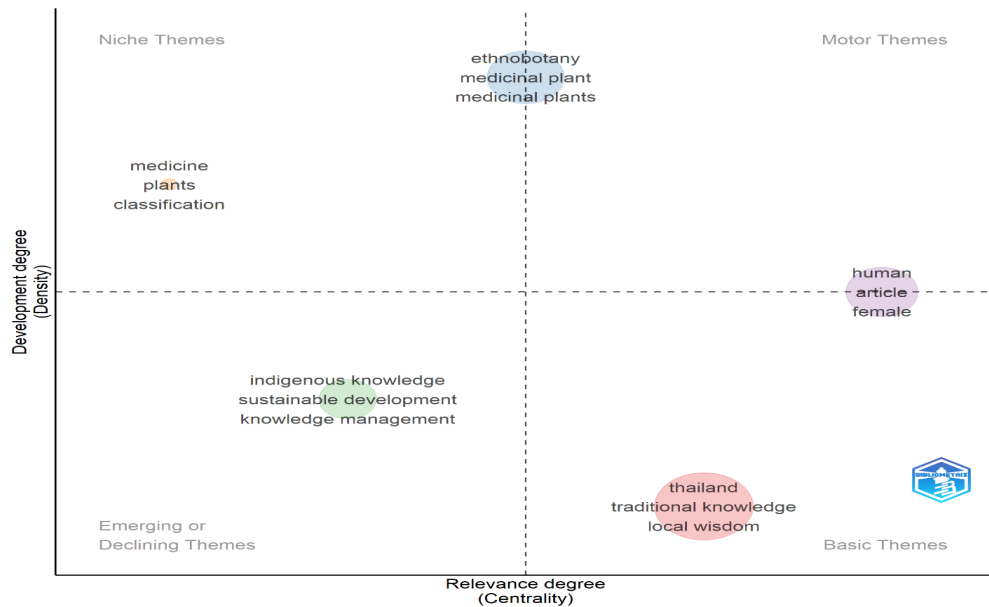


Figure 11. Thematic map based on centrality and density

Figure 12 traces thematic evolution across four periods. From 2017 to 2021, the literature was organized around biodiversity, ethnobotany, local wisdom, Thailand, indigenous knowledge, and traditional knowledge, reflecting a broad emphasis on documenting biological resources and community-based knowledge. During 2022-2024, these themes became more differentiated, with local wisdom, traditional knowledge, indigenous knowledge, ethnobotany, Thailand, and food security developing as distinct but connected research streams. By 2025, indigenous knowledge had become the dominant thematic focus while Thailand remained an important contextual theme. In 2026, indigenous knowledge continued to hold the strongest position and remained closely linked with traditional knowledge, Thailand, and local wisdom.

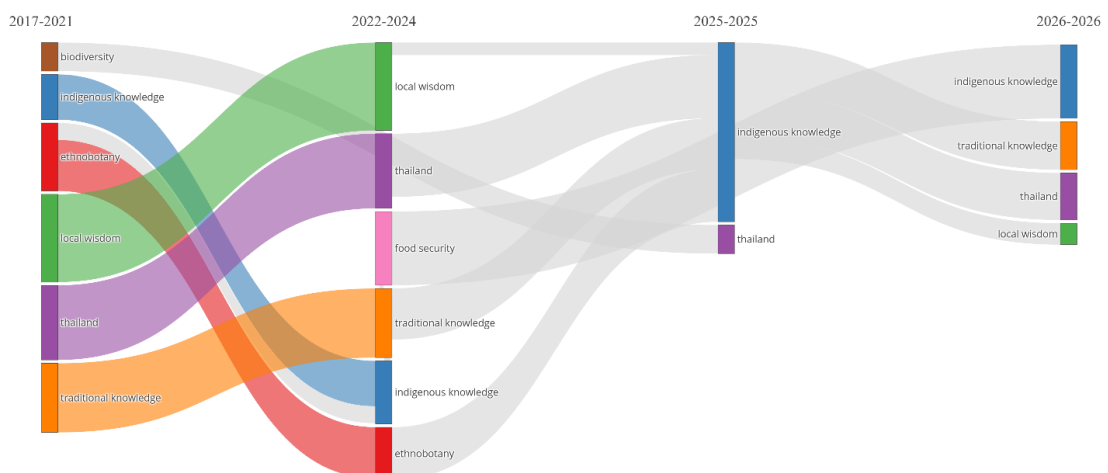


Figure 12. Thematic evolution across four publication periods (2017-2026)

IV. DISCUSSION

The findings show that scholarship on local wisdom, indigenous knowledge, and traditional knowledge in Thailand is shifting from a relatively small, dispersed body of literature toward a more visible, institutionally established field. The sharp increase in output after 2023 points to growing recognition of community-based knowledge in biodiversity, sustainability, health, and development research, although the partial 2026 data window prevents direct comparison with complete years. This trajectory is consistent with broader bibliometric evidence of rising interest in local-wisdom scholarship in education and environmental management ([Nurfadilah et al., 2025](#); [Saleng et al., 2025](#)). Publication growth, however, should not be equated with greater conceptual diversity. The thematic maps indicate that much of the recent expansion still rests on a relatively stable core of ethnobotany, medicinal plants, biodiversity, and traditional food systems.

The concentration of citation impact among papers published from 2019 to 2021 helps clarify the field's intellectual base. Some of this pattern is attributable to citation-window effects, since older papers have had more time to accumulate citations. Yet the most highly cited studies also share a substantive feature: they connect locally grounded knowledge with broader questions of nutrition, health, biodiversity, and cultural continuity. Research on Asian food traditions, medicinal plants in ethnic homegardens, ethnomedicinal knowledge, and wild food plants illustrates this pattern ([Harmayani et al., 2019](#); [Junsongduang et al., 2020](#); [Panyadee et al., 2019](#); [Punchay et al., 2020](#)). Their visibility suggests that local or Indigenous knowledge attracts wider scholarly attention when it is treated not only as documentation of a particular practice, but also as evidence relevant to interdisciplinary problems. The implication is not to detach community knowledge from context, but to connect it carefully with broader theoretical and policy concerns.

PageRank offers a different, complementary perspective on scholarly influence. Several papers with modest citation counts occupied central positions in the publication network, while some highly cited studies had lower PageRank values. The distinction matters methodologically: citation frequency reflects accumulated visibility, whereas network centrality captures how strongly a publication connects influential parts of the literature. Bibliometric research therefore benefits from combining performance indicators with structural network measures rather than relying on a single ranking metric ([Aria & Cuccurullo, 2017](#); [Aria et al., 2024](#); [van Eck & Waltman, 2017](#)). In this corpus, the central positions of studies on wild edible plants, forest resilience, food-system biodiversity, public health, and traditional

ecological knowledge suggest that interdisciplinary bridging is already taking place even when citation counts are moderate.

Patterns across sources and authors confirm that the field is interdisciplinary, but they also reveal an uneven distribution across disciplines. Plants, Biodiversitas, Sustainability, and journals focused on natural products account for a substantial share of the visible growth, while a relatively small group of ethnobotanical scholars has provided much of the field's empirical continuity. At the same time, newer research on sustainable textiles, green chemistry education, cultural capital, tourism, and community development signals a gradual move beyond plant documentation (Bureekhampun & Maneepun, 2021; Kiwfo et al., 2021; Phoochinda, 2018; Plaiphum & Tansuchat, 2023). This diversification matters because local knowledge systems also encompass language, education, governance, livelihood, and cultural practice. Stronger participation from anthropology, education, linguistics, law, and public policy could broaden the field conceptually and reduce the tendency to equate local wisdom primarily with ethnobotanical inventories.

Thailand's dominance in corresponding authorship is unsurprising because the search strategy explicitly required a Thailand-related term. The coupling network nevertheless shows that the literature is not nationally isolated. Connections with neighboring Southeast Asian countries and partners in Asia, Europe, North America, and Australia point to a growing international research infrastructure. Such regional collaboration is especially important because ethnic communities, ecosystems, food systems, and cultural practices often extend across national borders. Comparative research in Southeast Asia, including biocultural studies of community-resource relationships such as mangrove use, illustrates the value of a broader regional perspective (Buenavista & Purnobasuki, 2023). Even so, single-country publications still outnumber cross-national studies, leaving considerable scope for comparative research and jointly governed collaboration.

The keyword and thematic analyses indicate a gradual movement from documentation toward application, preservation, and governance. Ethnobotany and medicinal plants remain mature, well-developed themes, while sustainability, food security, knowledge management, cultural heritage, and education are becoming more visible. This direction is consistent with research on digital ontologies for cultural knowledge preservation, local-wisdom-based science education, Indigenous food systems, and community livelihood knowledge (Kalita & Deka, 2020; Kiwfo et al., 2021; Kuhnlein, 2017; Panyadee et al., 2023). The field therefore appears to be asking not only what communities know, but also how that knowledge is transmitted,

applied, protected, and adapted under changing social and environmental conditions. This shift is important if local-wisdom research is to develop from a largely descriptive corpus into a more theoretically integrated and practically relevant field.

The mapped literature also warns against treating local wisdom, indigenous knowledge, and traditional knowledge as interchangeable labels. Although the terms overlap, they can refer to different relationships among knowledge, identity, territory, historical continuity, and authority. Research on the Salween River shows that local ecological knowledge is shaped by gender, expertise, and political authority (Lamb, 2018), while studies of Karen conservation emphasize relational ontology and more-than-human agency (Paul et al., 2021). Indigenous education research similarly shows that knowledge transmission is embedded in land, community, and cultural continuity rather than functioning as decontextualized information transfer (Bowra et al., 2021; Meixi et al., 2022). Future work should therefore pair bibliometric growth with closer attention to community consent, benefit sharing, knowledge ownership, gendered access, and the rights of knowledge holders.

From an educational perspective, the limited visibility of language, customary governance, and intergenerational transmission is particularly noteworthy. The corpus points to considerable potential for bringing ethnobotanical and ecological knowledge into curriculum design, teacher preparation, and community-engaged learning, but this translation needs to be collaborative rather than extractive. Kiwfo et al. (2021), for instance, show how locally grounded materials and digital tools can connect local knowledge with sustainability-oriented science education. Further educational research is needed to examine how community knowledge is selected, validated, taught, and evaluated across formal and non-formal settings, including multilingual contexts. These implications must nevertheless be read within the study's methodological limits, especially its reliance on Scopus, its restriction to English-language records, its incomplete 2026 coverage, and its dependence on bibliographic metadata for keyword mapping.

V. CONCLUSION

This study offers an integrated bibliometric overview of research on local wisdom, indigenous knowledge, and traditional knowledge in Thailand from 2017 to 2026. The literature has grown substantially, especially in recent years, but remains strongly rooted in ethnobotany, medicinal plants, biodiversity, traditional food systems, and community-based knowledge. A relatively concentrated group of authors and journals has shaped this development, with Thailand serving as the principal center of publication activity and international bibliographic connectivity.

Citation and PageRank analyses show that scholarly influence has more than one dimension: citation counts capture accumulated visibility, whereas PageRank identifies publications that connect important intellectual and thematic clusters. The thematic results also point to a gradual shift from documenting biological resources and plant uses toward sustainability, food security, cultural heritage, knowledge management, and community development. These findings clarify the field's growth, major contributors, geographical structure, conceptual foundations, and emerging directions.

The study also has several limitations. Its corpus was restricted to Scopus-indexed English-language publications and may therefore omit Thai-language studies, community reports, locally published research, or documents indexed in other databases. The 2026 data cover only part of the year, citation indicators are affected by publication age, and thematic maps depend on the quality of bibliographic metadata. Future studies should draw on additional regional and international databases, include multilingual publications, extend the observation period, and examine institutional, funding, and community collaboration more closely. Greater attention is also needed to education, language, customary governance, intellectual property, intergenerational knowledge transmission, ethical consent, benefit sharing, and community participation. Within these boundaries, the study establishes a systematic country-level baseline by combining performance, citation, network, and thematic analyses. It also provides education researchers and practitioners with an evidence base for incorporating traditional and indigenous knowledge into curriculum design, teacher preparation, and community-engaged pedagogy in ways that remain ethically and socially responsive.

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Author contributions

Manavavee Mamah: Conceptualization, methodology, data curation, formal analysis, visualization, and writing – original draft. Badriyah Yusof: Validation, interpretation, supervision, and writing – review & editing. Khalilah Hassan: Validation, interpretation, and writing – review & editing. All authors reviewed and approved the final manuscript.

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Data availability

The bibliographic dataset analyzed in this study is available from the corresponding author upon reasonable request.

Declarations**Ethics approval**

Not applicable.

Consent to participate

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Consent to publication

Not applicable.

Conflict of Interest

The authors declare no conflicts of interest.

Declaration of generative AI and AI-assisted technologies

During the preparation of this manuscript, the authors used ChatGPT (OpenAI, GPT-5.5) to improve the language and readability of the manuscript. Following the use of this tool, the authors carefully reviewed, verified, and edited the generated content as necessary to ensure its accuracy, consistency, and scientific integrity. The authors take full responsibility for the content of the published article.

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