



# Revealing a Phenomenon of Academically Eroding Sovereignty Based on Bibliometrics Analysis

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**Abstract.** This article systematically analyzes international academic literature data from 1974 to 2024, revealing the systematic efforts by Indian scholars to mislabel China's Southern Tibet region as "Arunachal Pradesh" within the international academic community and their attempts to treat it as Indian territory. The study finds that the phenomenon of "academically eroding sovereignty" is a result of Indian scholars deliberately introducing the false term "Arunachal Pradesh" into various academic publications. This attempt is made to mislead international researchers, leading to the mistaken belief that the region is an administrative division in northeastern India. This practice aims to distort historical facts and international law through continuous academic strategies, thereby infringing upon China's sovereignty. The research employs bibliometric methods to analyze 1,658 documents related to "Arunachal Pradesh," discussing trends in publication volume, author characteristics, citation patterns, document types, and funding sources. This analysis provides valuable insights into the academic landscape surrounding the disputed region. The study also emphasizes the importance of international cooperation, funding models, research fields, and other relevant aspects. It calls for strengthened decision-making and international collaboration to effectively resolve the China-India border disputes.

**Keywords:** pseudo "Arunachal Pradesh"; academically eroding sovereignty; bibliometrics.

## 1 Introduction

The so-called "Arunachal Pradesh" refers to the territory along the eastern border of our country that is occupied by India, situated in the eastern section of the Sino-Indian border[1,2]. The Indian government has unlawfully incorporated it into the Northeast region for administrative purposes. Compared to other areas in the Northeast region, "Arunachal Pradesh" has the largest land area, amounting to 83,743 square kilometers[3]. The Indian government's successive implementation of the 'Look East Policy'[4] and 'Act East Policy'[5] has led to a continuous increase in financial investment in the Northeast region[6]. Against this backdrop, "Arunachal Pradesh" has achieved

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certain development in the fields of economic growth, social culture, education, and scientific research[7].

Since 1974, the discourse by Indian scholars in international academic journals concerning the attribution of the southern Tibetan region of our country has gradually increased[8]. They attempt to mislead international researchers by subtly introducing the false term "Arunachal Pradesh" into various academic publications, leading to the mistaken perception of the region as an administrative area of northeastern India. Such actions by India aim to distort historical facts and international law through a sustained and escalating academic strategy, with the intention of infringing upon our country's sovereignty. This practice, which our term "academically eroding sovereignty" represents India's covert attempt to achieve its longstanding goal of comprehensively occupying the southern Tibetan territory of our country. This phenomenon poses a grave challenge to our country's sovereignty and territorial integrity, not only contravening historical facts and international law but also presenting a serious threat to both.

This study employs bibliometric methods to analyze academic literature data from 1974 to 2024 in a systematic manner. It examines the trends and patterns with which Indian scholars in international academic journals categorize the southern Tibetan region of China as belonging to India. It contributes not only to deepening the understanding and vigilance of Chinese scholars and the public concerning the Tibetan issue but also offers a foundation and reference for informed decision-making. The ultimate objective is to work towards greater initiative in resolving Sino-Indian border disputes and to safeguard China's sovereignty and territorial integrity.

## **2 Materials and Methods**

### **2.1 Data Source**

The bibliometric data utilized in this study are sourced from the Web of Science platform, provided by Clarivate, a leading research information solutions provider. This platform curates a collection of high-quality international academic journals, books, and conference proceedings that encompass the natural sciences, social sciences, arts, and humanities since 1965. Its core dataset comprises an extensive citation network, where all referenced publications are meticulously indexed, facilitating the retrieval of detailed author and institutional affiliation information. Furthermore, the platform features citation tracking capabilities, which produce citation reports that graphically illustrate citation activities and trends, thereby revealing insightful patterns in research and scholarly publications. These features greatly assist researchers in conducting in-depth analyses of relevant research fields using bibliometric methods. The database encompasses a total of 10 indices, including SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, and IC.

### **2.2 Search Strategy**

Select the Web of Science Core Collection (WOSCC), set the document search topic to Arunachal Pradesh with the time span from January 1, 1974 to March 1, 2024; the

search was conducted on March 10, 2024. The search covered ten indexed databases including Science Citation Index Expanded (SCI-EXPANDED; starting year: 1975), Social Sciences Citation Index (SSCI; starting year: 1965), Arts & Humanities Citation Index (AHCI; starting year: 1975), Conference Proceedings Citation Index-Science (CPCI-S; starting year: 1990), Conference Proceedings Citation Index-Social Science & Humanities (CPCI-SSH; starting year: 1990), Book Citation Index-Science (BKCI-S; starting year: 2005), Book Citation Index-Social Sciences & Humanities (BKCI-SSH; starting year: 2005), Emerging Sources Citation Index (ESCI; starting year: 2019), Current Chemical Reactions (CCR-EXPANDED; starting year: 1985), and Index Chemical (IC; starting year: 1993).

A total of 1,658 documents related to the topic 'Arunachal Pradesh' were retrieved. To ensure comprehensive coverage of interdisciplinary literature, this study employs a dataset that includes various types of documents. All documents and their reference data have been downloaded in TXT format for subsequent bibliometric analysis.

### 3 Results and Discussion

#### 3.1 Research Overview

This study has constructed a dataset that includes information related to the pseudo "Arunachal Pradesh" with a total of 12,805 citing articles. After excluding self-citations, the number stands at 12,011. The total number of citations across these articles reaches 16,884, and when self-citations are excluded, it amounts to 14,315. The average number of citations per item is 10.18 times, and the H-Index achieved is 52. The highest number of citations for a single article is 454 times, with an average of 56.75 citations per year [9].



Fig. 1. the overview of dataset in WOSCC by bibliometrix

As shown in Figure 1, The dataset spans a period of five decades from 1974 to 2024. It comprises a total of 1658 documents recorded over the years, with an annual growth rate of 7.04%. This growth rate is indicative of a gradual yet consistent expansion of scholarly interest and activity within the field.

The authorship metrics reveal a total of 3,547 contributing authors, out of which 153 documents are single-authored. This suggests a predominance of collaborative research efforts, further underscored by the 18.46% of international co-authorship. This percentage reflects a significant level of cross-national academic cooperation. The average

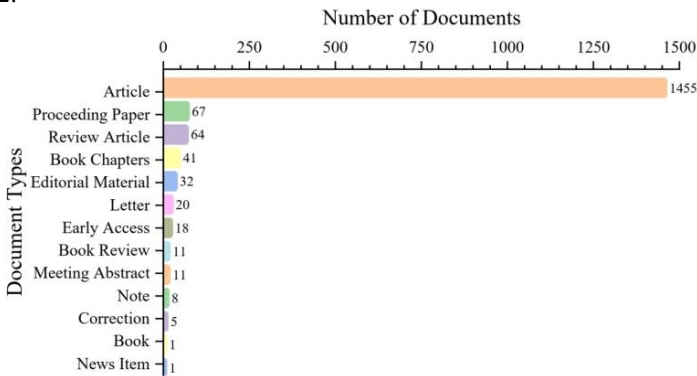
number of co-authors per document is 3.91, reinforcing the trend towards multidisciplinary and collaborative research endeavors.

In terms of keyword usage, the average document age is 9.68 years. This may imply that scholarly works remain relevant and citable within the academic community for approximately a decade. The average number of citations per document is 10.18, serving as a proxy for the impact and recognition of the research within the scholarly community.

The reference section of the dataset includes a total of 50,489 cited references. The average citation count per reference is 30.45, which indicates that the referenced works are widely acknowledged and influential within the academic sphere.

### 3.2 Document Types

In this study, a detailed classification of document types was conducted, resulting in a total of 13 different document forms. The distribution of document types is illustrated in Figure 2.



**Fig. 2.** Distribution of document types by quantity

As shown in Figure 2, this study collected 1,455 articles, which constitute the core component of the research. Additionally, the database includes 67 proceeding paper, a type of document usually first published at academic conferences, showcasing the latest advancements in the field of study. There are a total of 64 review article, providing valuable resources for comprehensive reviews in specific areas of knowledge. Book chapters amount to 41, delving into specific topics to offer readers in-depth academic insights.

Editorial materials and letters account for 32 and 20 documents, respectively, providing a platform for academic discussion. Although limited in number, document types such as book reviews, conference abstracts, brief notes, corrections, books, and news items play a key role in academic communication. It is particularly noteworthy that the presence of correction documents reflects the researchers' ongoing attention and in-depth exploration of the research field.

### 3.3 Web of Science Index

This study conducted a comprehensive indexing analysis of 1,658 documents related to the theme of the so-called "Arunachal Pradesh". The selected literature all comes from nine indexed databases within the Web of Science Core Collection, and it is worth noting that the SCI-EXPANDED database does not include relevant literature. The distribution of literature sources is illustrated in Figure 3.

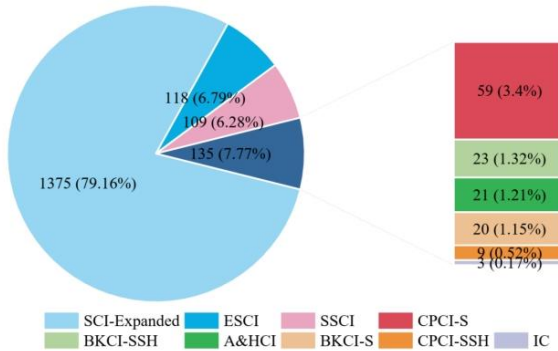


Fig. 3. Distribution of literature sources

As shown in Figure 3, the specific distribution of literature sources is as follows: The SCI-EXPANDED database includes 1,375 documents, accounting for 79.16% of the total, highlighting its significant role in scientific citation indexing. The ESCI database contains 118 documents, while the SSCI database includes 109, and the CPCI-S database has 59. Additionally, BKCI-SSH, A&HCI, BKCI-S, and CPCI-SSH have 23, 21, 20, and 9 documents respectively. The IC database contains a relatively small number of 3 documents. These figures reveal the diversity and differences among the various indexed databases in terms of document collection.

The SCI-EXPANDED database, with the highest number of included documents, occupies a central position in the scientific field. This observation is of significant importance for guiding researchers in the selection of literature resources, especially in the pursuit of research outcomes with high academic impact and broad recognition. Although other databases may not match the number of documents in SCI-EXPANDED, they may provide more specialized and in-depth literature resources in specific academic fields or interdisciplinary research. For instance, the SSCI database focuses on social sciences, while the A&HCI database covers arts and humanities, offering valuable literature resources for interdisciplinary research.

### 3.4 Research Areas

The literature and materials related to the pseudo "Arunachal Pradesh" theme span across 97 distinct research areas. Among the top 10 research fields with the highest number of publications, both Plant Sciences and Zoology have each produced over 200

articles, accounting for approximately 31% of the total. Plant Sciences leads the way with 300 publications, representing 18.1% of the overall literature volume. Top 10 research fields ranked by publication quantity are illustrated in Table 1.

**Table 1.** Top 10 research areas ranked by publication quantity

Rank	Research Areas	Count	% of 1,658
1	Plant Sciences	300	18.094
2	Zoology	211	12.726
3	Environmental Sciences Ecology	194	11.701
4	Geology	183	11.037
5	Science Technology Other Topics	178	10.736
6	Agriculture	102	6.152
7	Biodiversity Conservation	98	5.911
8	Entomology	56	3.378
9	Food Science Technology	40	2.413
10	Veterinary Sciences	39	2.352

According to Table 1, the literature related to the pseudo "Arunachal Pradesh" is primarily concentrated in four areas: Plant Sciences, Animal Sciences, Environmental and Ecological Sciences, and Geology. Researchers focusing on the outcomes of these four fields can analyze the potential implications and patterns of the pseudo "Arunachal Pradesh" literature more precisely. In addition to the main research directions, other scientific topics also account for a significant proportion of the literature, offering a diversified perspective for subsequent research on the pseudo "Arunachal Pradesh".

### 3.5 Funding Agencies

In terms of financial support for research related to the pseudo "Arunachal Pradesh" a total of 821 funding institutions have been involved. Top 10 funding agencies ranked by the number of publications are shown in Table 2.

**Table 2.** Top 10 funding agencies ranked by the number of publications

Funding Institution/Country of Affiliation	Count	% of 1,658
Department Of Science Technology, India	127	7.660
Department Of Biotechnology, India	61	3.679
University Grants Commission, India	34	2.051
Indian Council of Agricultural Research, India	28	1.689
Council Of Scientific Industrial Research, India	26	1.568
Indian Council of Medical Research, India	25	1.508
National Science Foundation, USA	14	0.844
National Geographic Society, USA	12	0.724
Science Engineering Research Board, India	12	0.724
National Natural Science Foundation of China, China	11	0.663

According to Table 2, it is evident that research funding institutions from India hold a significant advantage in terms of publication output, especially the Department of

Science and Technology (DST/India), which leads with 127 publications. Other Indian funding agencies, such as the Department of Biotechnology (DBT/India), the University Grants Commission (UGC/India), and the Indian Council of Agricultural Research (ICAR/India), also have a presence in the rankings. This phenomenon not only reflects the high priority that the Indian government places on scientific research but also suggests that the country's strategic investments in specific research areas may be yielding results, with research inputs in key areas like biotechnology, education, and agriculture generating synergistic effects.

This concentrated funding model may have already had a significant impact on India's international standing in the relevant scientific fields, to some extent reflecting the direction of India's national scientific research strategy and providing a new perspective for further analysis.

### 3.6 Publication Characteristics by Country/Region

A total of 59 countries/regions participated in research related to the so-called "Arunachal Pradesh." India led with 1,475 publications, which is 8.06 times the total number of publications from other countries. Among the top 10 countries/regions by publication volume, there are 7 developed countries. The top 10 countries/regions by publication count are shown in Table 3.

**Table 3.** Top 10 countries/regions ranked by publication quantity

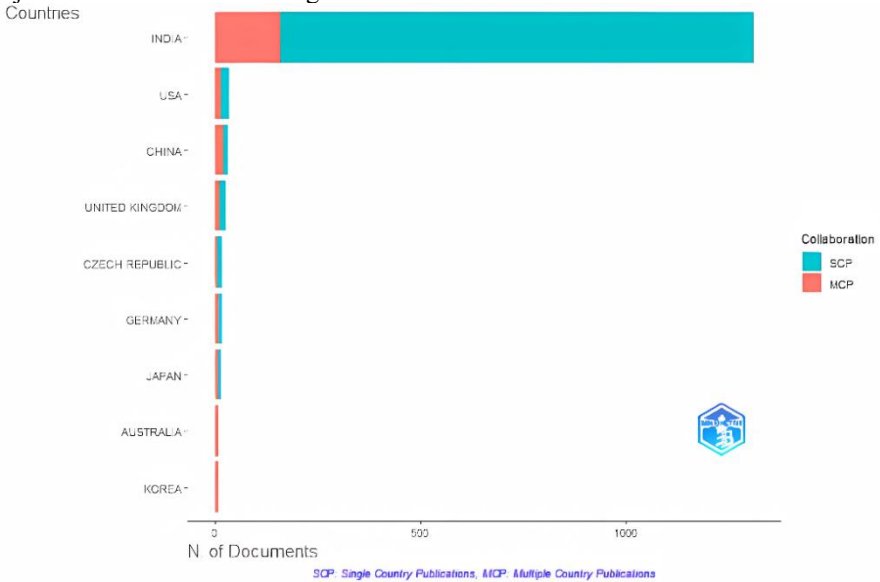
Rank	Countries/Regions	Count	% of 1,658
1	India	1,475	87.877
2	USA	97	5.850
3	England	64	3.860
4	China	56	3.378
5	Germany	36	2.171
6	Japan	29	1.749
7	Australia	24	1.448
8	Czech Republic	21	1.267
9	Thailand	20	1.206
10	Finland	19	1.146

According to Table 3, India tops the list with a notable number of 1,475 publications, which not only underscores the country's active research in the field but may also reflect the nation's focus on specific academic areas or policy directions. Following India are developed countries such as the United States, the United Kingdom, and Germany. Although their publication counts do not surpass India's, these developed nations often produce research with significant influence and innovation, likely due to their rich research resources, advanced research infrastructure, and broad international collaboration networks.

Moreover, the participation of countries like Japan, Australia, and the Czech Republic indicates the widespread engagement of developed countries in this research area. Despite having relatively fewer publications, the involvement of Thailand and Finland

also demonstrates the international academic community's multifaceted interest in the subject matter.

The country where the corresponding authors are based and the number of publications they produce can reflect the level of activity and influence of each country in the relevant research fields. The distribution of collaborative publication volumes among major countries is shown in Figure 4.



**Fig. 4.** Distribution map of collaborative publication volume among major countries

As shown in Figure 4, in terms of the distribution of literature quantity, India holds a significant leading position in the field of scientific research output. This phenomenon is closely related to factors such as its investment in scientific research, talent cultivation, and policy support. Comparative analysis between Single Country Publications (SCP) and Multiple Country Publications (MCP) reveals two patterns of scientific research activities. SCP reflects a country's internal research capabilities and autonomy, while MCP indicates the breadth and depth of international scientific cooperation. Quantifying the literature quantity from both patterns shows that India strongly tends to maintain the independence of scientific research in this field. However, it also collaborates with countries outside the region, such as the United Kingdom, the Czech Republic, Germany, Japan, Australia, and South Korea, among other developed countries, which are joining the research in this field. This will lead to a more complex study of related issues in the region in the future.

## 4 Conclusions

The analysis presented in this study sheds light on India's academic encroachment on the territory of the southern Tibetan region, referred to as "Arunachal Pradesh."



Through a comprehensive bibliometric analysis spanning five decades from 1974 to 2024, this research reveals the systematic efforts by Indian scholars to misrepresent "Arunachal Pradesh" as an integral part of India in international academic discourse. The findings underscore the grave implications of India's academic strategy, which aims to distort historical facts and international law to advance its territorial claims in the region. Key findings of the study include:

**Academic Erosion of Sovereignty:** Indian scholars have strategically employed academic publications to perpetuate the false narrative of "Arunachal Pradesh" as part of northeastern India, thereby eroding China's sovereignty over the southern Tibetan region. This covert academic strategy poses a serious challenge to China's territorial integrity and sovereignty.

**Bibliometric Analysis:** Utilizing data from the Web of Science platform, the study conducted a meticulous bibliometric analysis of 1,658 documents related to "Arunachal Pradesh." This analysis revealed trends in publication volume, authorship metrics, citation patterns, document types, and funding sources, providing valuable insights into the academic landscape surrounding the disputed region.

**International Collaboration:** The research highlights a significant level of international collaboration in scholarly endeavors related to "Arunachal Pradesh." While India dominates the research output, collaboration with developed countries such as the United States, the United Kingdom, and Germany underscores the global interest and engagement in the issue.

**Funding Patterns:** Indian funding agencies, particularly the Department of Science and Technology (DST) and the Department of Biotechnology (DBT), play a prominent role in supporting research on "Arunachal Pradesh." This concentrated funding model reflects India's strategic investments in specific research areas and underscores its commitment to advancing its territorial claims.

**Research Areas:** The majority of research related to "Arunachal Pradesh" spans fields such as Plant Sciences, Zoology, Environmental Sciences, and Geology. This interdisciplinary approach provides diverse perspectives for analyzing the implications of the disputed territory.

In conclusion, this study elucidates the multifaceted dimensions of India's academic encroachment on China's sovereignty over the southern Tibetan region. By systematically analyzing scholarly literature and funding patterns, the research contributes to a deeper understanding of the issue and underscores the importance of safeguarding China's territorial integrity and sovereignty. Moving forward, informed decision-making and international cooperation are essential to address the challenges posed by India's academic strategy and resolve Sino-Indian border disputes effectively.

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