

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

Winter 3-1-2021

Research Productivity on Human Migration in the Himalayan Region during 1947-2019: a Bibliometric Study

suchetan kumar

Assistant Librarian & Course Coordinator of Department of library and Information Science, DSB Campus, Kumaun University, Nainital, Uttarakhand, India 263001,-suchetan.sah@gmail.com, suchetan.sah@gmail.com

Dr. Manoj Joshi

Professor, Department of Library & Information Science, Kurukshetra University, Kurukshetra, Haryana, India. manojkj01@yahoo.com, manojkj01@yahoo.com

Md Safiqur rahaman

Research Scholar, Department of Library and Information science, DSB Campus, Kumaun University, Nainital, Uttarakhand, India 263001,, safirahaman2007@gmail.com

Mrs. Khadeeja, M. N. Ansari

Lecturer, College of Design, Imam Abdulrahman Bin Faisal University, Post Box. No. 1982, Dammam, Saudi Arabia kmnansari@iau.edu.sa ORCID: 0000-0002-1451-3822, kmnansari@iau.edu.sa

Dr. Karnika Shah

Librarian, St. Mary's Convent College, Ramnee Park, Nainital 263001, Uttarakhand, India, ansh30.lis@gmail.com, ansh30.lis@gmail.com

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>

 Part of the [Library and Information Science Commons](#)

kumar, suchetan; Joshi, Dr. Manoj; rahaman, Md Safiqur; Ansari, Mrs. Khadeeja, M. N.; and Shah, Dr. Karnika, "Research Productivity on Human Migration in the Himalayan Region during 1947-2019: a Bibliometric Study" (2021). *Library Philosophy and Practice (e-journal)*. 4909. <https://digitalcommons.unl.edu/libphilprac/4909>

**Research Productivity on Human Migration in the Himalayan Region during 1947-
2019: a Bibliometric Study**

Dr. Suchetan Kumar

Assistant Librarian & Course Coordinator of Department of library and Information Science,
DSB Campus, Kumaun University, Nainital, Uttarakhand, India 263001,-
suchetan.sah@gmail.com

Dr. Manoj Joshi

Professor, Department of Library & Information Science, Kurukshetra University,
Kurukshetra, Haryana, India. manojkj01@yahoo.com

Md. Safiqur Rahaman

Research Scholar, Department of Library and Information science,
DSB Campus, Kumaun University, Nainital, Uttarakhand, India 263001,
safirahaman2007@gmail.com

Mrs. Khadeeja, M. N. Ansari,

Assistant Professor, College of Design, Imam Abdur Rahman Bin Faisal University,
Dammam, KSA.
kmnansari@iau.edu.sa

Dr. Karnika Shah

Librarian, St. Mary's Convent College, Ramnee Park, Nainital 263001, Uttarakhand, India,
ansh30.lis@gmail.com

Abstract

Purpose: The purpose of the present study is to find research productivity on 'human migration in Himalayan region' from 1947 to 2019.

Methodology: The data of the present study have been collected from the International bibliographic database 'Scopus'. Total 582 documents were extracted from 282 sources for the Himalayan region (China, India, Pakistan, Nepal, Tajikistan, Myanmar, Bhutan, and Afghanistan) under the category of 'Social Science' for the period 1947-2019. Data analysis was conducted by using bibliometric software, namely RStudio's Biblioshiny and Microsoft office, version 2013.

Results: The results reveal that the year 2019 was the most productive year for human migration publications (86 papers). Out of 582 documents, 506 publications are in research paper form. *American Journal of Physical Anthropology* (22 papers) is the most favored journal by the researchers. Li X is the most prolific author, publishing 23 articles on the topic. China (153) is a highly collaborative and most cited (2505) country.

Keywords: *Human migration; Himalayan region; Bibliometric; Scientometrics; Research productivity*

1. Introduction

'Human migration' is the migration of people within the state or the country for winning the livelihood, the betterment of living standard and economic development, due to the constraint in the mountain ranges. People from these states migrate due to limited resources, total dependency on agriculture, fewer markets, fewer customers, low land and increase in population. Sometimes inadequate infrastructure facilities for education, hospitals, earning sources, and natural calamities also cause human migration. People migrate within and outside of the state or country; therefore, there are many types of migration. 'Internal migration' movement within the state or country; 'External migration' moving to other state or country; 'Emigration' leaving the state or country to move to another for good; 'Immigration' moving to a new state or country, and 'Seasonal migration' moving due to climatic changes or natural disaster. The Himalayan region comprises China, India, Pakistan, Nepal, Tajikistan, Myanmar, Bhutan and Afghanistan. The human migration problem prevails in this region (Wikipedia contributors, 2020).

The word 'Bibliometrics' word was first used by Paul Otlet, to mean the process of measuring all characteristics with regards to publications, books and documents (Otlet, 1934). However, Pritchard stated that it is the application of mathematical and statistical tools in different documents (Pritchard, 1969).

2. Literature Review:

Wen and Lin have collected data of rural children of Hunan province, China, age between 8-18. The studies reveal the psychological and psychosocial contexts left-behind children by one or both of their rural to urban migrant parents compared to those living in nonimmigrants families. The result of the study revealed that left-behind children have demerits in health behaviour and School management. The psychological environment of a child primarily captured by family socioeconomic status and child development in rural china regardless of their parents' migrant status. (Wen & Lin, 2012a)

Chen, Wang and Wang examine the relationship between shyness sensitivity and social competence in chinse with rural to the urban child. The participant of the study were students in the rural migrant child (Number=411) and Urban child (Number 518) of 10 years of age. The study data were collected from peer evaluation, rating of teacher and records of the school. The study disclosed that shyness was related to social and problem in school and

depression in urban children. The resulting insight the role of context in defining the functional meaning of social behavior in children adjustment (Chen et al., 2009)

Silverstein, Cong and Li, discloses that migration of adult from rural to urban in china to support elderly person who remains in the rural area. A total of 1561 parents were surveyed in 2001, who are living in Anhui Province of China. The result revealed that older parents are living in 3 generations with their grandchildren and getting more money from adult children for livelihood.(Silverstein et al., 2006a).

There are so many bibliometric studies on different discipline such as Roy,Sanku Bilas has attempted to evaluate India's scientific research output in the field of Biological science from 1901 to 194 (Roy, 2019) , Singh,M.K and Tripathi,A have examined top ten research organization in the field of Biotechnology in India during 2001 to 2016 (Singh & Tripathi, 2018), Kumar, Suchetan & Rahaman, Safiqur have conducted research output in the field of big data in India (Kumar & Rahaman, 2019) and Bebi and Kumar, S have investigated research performance by the women faculties of physics in some institution of Delhi during 2011 to 2015 (Bebi & Kumar, 2017) and Rahaman, Md.Safiqur,Kumar, Suchetan, Ansari,, Khadeeja M N, Rahman, Md Rafiqur have analysed 25 years research productivity on novel corononavirus (Rahaman et al., 2021) but there is no such type of study on human migration in the Himalayan region.

3. Objectives:

The study proposed to do a scientometric analysis on ‘human migration of Himalayan region’ from 1947 to 2019, to asetrain the research productivity as well as to explores the publication pattern with regards to document types, authorship, citation, institution, countries, collaborations, and etc.

4. Methodology:

The data have been collected Scopus databse. A total of 582 documents extracted from Himalayan region Countries (China-360, India-165, Pakistan-25, Nepal-19, Tajikistan-5, Mayanmar-4 Bhutan-2 and Afghanistan-2) under the category of Social Science from the year 1947-2019. There is no research productivity noted during the year 1947-1974. The search Strategy applied as "TITLE-ABS-KEY (human AND migration) AND (LIMIT-TO (SUBJAREA, "SOCI")) AND (LIMIT-TO (AFFILCOUNTRY, "China") OR LIMIT-TO (AFFILCOUNTRY, "India") OR LIMIT-TO (AFFILCOUNTRY, "Pakistan") OR LIMIT-TO (AFFILCOUNTRY, "Nepal") OR LIMIT-TO (AFFILCOUNTRY,

"Tajikistan") OR LIMIT-TO (AFFILCOUNTRY, "Myanmar") OR LIMIT-TO (AFFILCOUNTRY, "Afghanistan") OR LIMIT-TO (AFFILCOUNTRY, "Bhutan")) AND (EXCLUDE (PUBYEAR, 2020) OR EXCLUDE (PUBYEAR, 1942). The data analysis was done by using Biblioshiny (Massimo Aria & Corrado Cuccurullo, 2019), a bibliometrics Software as well as Microsoft Office, version 2013.

5. Results and Discussion

5.1. Year-wise research growth:

Figure (1) shows the publication growth of human migration articles increases from the year 2004 onwards until the year 2019. However, from 1947 to 1974, there were no publications. But from 1975 to 2003 almost 28 years the pace of productivity was languid. 2019 recorded the highest publications (86). Moreover, 1999 noted the highest mean citation per article (88.6) followed by 2007 (49.5) mean citation per article.

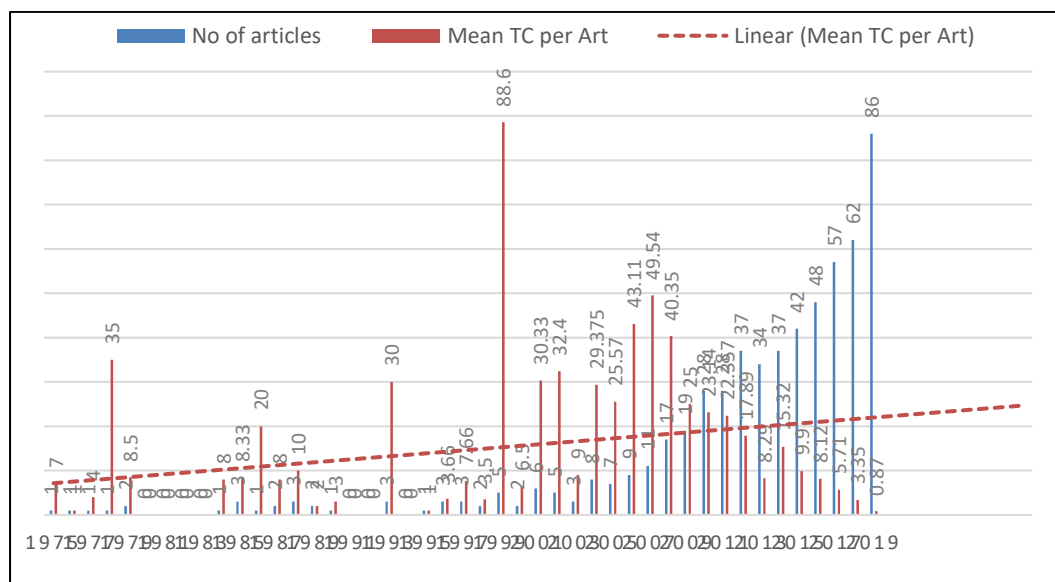


Figure 1: Year-wise production

5.2. Type of Documents:

From table (1) it is distinguished that the research article was mostly preferred document type 87% (506) amongst the whole documents followed by review & book chapter (23; 3.95%) each, conference papers (15; 2.58%), book (8; 1.37%), note (4; 0.68%), editorial (2; 0.34%) and article in press (1; 0.17%).

Table:1 Types of Documents

Document types	Number of Documents (%)
Article	506 (87)
Article In Press	1(0.17)
Book	8(1.37)
Book Chapter	23(3.95))
Conference Paper	15(2.58)
Editorial	2(0.34)
Note	4(0.68)
Review	23(3.95)
Total	582

5.3. Country Wise Collaboration:

The top 10 country-wise research collaboration among the Himalayan region countries with the rest of the world in the field of human migration noted in table (2). China is leading in publication (153 articles) collaborative country with single country publication (92) and multiple country publications (MCP: 61). However, India is the second-highest single country-wise collaboration (81 articles) with single country publications (SCP: 73 articles) and multiple country publication (MCP: 8 articles). The USA is the most preferred country with 55 papers (MCP) followed by the United Kingdom 16 papers (MCP), Canada 10 papers (MCP), Australia & Germany 7 papers each (MCP).

Table 2: Country-wise collaboration

Country	Articles	Frequency	SCP	MCP
China	153	0.3974	92	61
India	81	0.21039	73	8
USA	55	0.14286	0	55
Pakistan	16	0.04156	14	2
United Kingdom	16	0.04156	0	16
Canada	10	0.02597	0	10
Hong Kong	10	0.02597	1	9
Australia	7	0.01818	0	7
Germany	7	0.01818	0	7
Japan	4	0.01039	0	4

*MCP: Multiple Country Publication; SCP: Single Country Publication

5.4. Collaborated Most Cited Countries:

Table (3) reveals the top 10 most collaborated cited countries regarding human migration in the Himalayan region. China is leading with total citations 2505, followed by USA (1883 citations), India (866 citations), United Kingdom (346 citations), Canada (224 citations), Hong Kong (207 citations), Pakistan (193 citations), Australia (183 citations), Netherlands (152 citations), Germany (56 citations). However, Average article citations the Netherlands is leading with 38 followed by USA (34.2), Australia (26.1), Canada (22.4), United Kingdom (21.6), Hong Kong (20.7), China (16.4), Pakistan (12.1), India (10.7), and Germany (8).

Table 3: Collaborated Most Cited Countries

Country	Total Citations	Average Article Citations
China	2505	16.4
USA	1883	34.2
India	866	10.7
United Kingdom	346	21.6
Canada	224	22.4
Hong Kong	207	20.7
Pakistan	193	12.1
Australia	183	26.1
Netherlands	152	38
Germany	56	8

5.5. Institution wise Affiliations:

Table (4) explains about Institution wise Affiliations. *Beijing Normal University, China* is leading institutions having 26 research articles contributions followed by *Fudan University, China* (25 papers), *Peking University, China & University of Chinese Academy of Sciences, China* (20 papers each), *Zhejiang University, China* (18 papers), *Nanjing University, China* (17 papers), *Xi'an Jiaotong University, China* (14 papers), *Jilin University, China* (13 papers), *Sun Yat-Sen University, China* (12 papers) and *Institute of Geographic Sciences and Natural Resources Research, China* (11 papers).

Table 4: Institution wise Affiliations

Affiliations	Articles
Beijing Normal University, China	26
Fudan University, China	25
Peking University, China	20
University of Chinese Academy of Sciences, China	20
Zhejiang University, China	18
Nanjing University, China	17
Xi'an Jiaotong University, China	14
Jilin University, China	13

Sun Yat-Sen University, China	12
Institute of Geographic Sciences and Natural Resources Research, China	11

5.6. Journal Ranking

Table (5) shows top ten rankings of journals frequency wise and American *Journal of Physical Anthropology* ranks first with frequency 22, followed by *Dili Xuebao/Acta Geographica Sinica* (21, rank 2), *Social Science and Medicine* (19, rank 3), *Sustainability* (17, rank 4), *Aids Care-Psychological and Socio-Medical Aspects of Aids/HIV* (16, rank 5), *Bioscience Trends* (16, rank 5), *Journal of Biosocial Science* (16, rank 5), and *Quaternary Science Reviews* (9, rank 6).

Besides, with regards to the total citation, the ranking of the journal is differing as compare with frequency. *Social Science and Medicine* (690, rank 1), *Aids Care - Psychological and Socio-Medical Aspects of Aids/HIV* (435, rank 2), *American Journal of Physical Anthropology* (335, rank 3), *Quaternary Science Reviews* (214, rank 4), *Dili Xuebao/Acta Geographica Sinica* (146, rank 5), *Journal of Biosocial Science* (144, rank 6), *Quaternary Science Reviews* (214, rank 4)

Table 5: Top 10 Source Impact with Bradford's Zone

Source Name	Rank	Freq	Cumulative	Zone	Rank	Total
American Journal of Physical Anthropology	1	22	22	Zone 1	3	335
Dili Xuebao/Acta Geographica Sinica	2	21	43	Zone 1	5	146
Social Science and Medicine	3	19	62	Zone 1	1	690
Sustainability	4	17	79	Zone 1	8	98
Aids Care - Psychological and Socio-Medical Aspects of Aids/HIV	5	16	95	Zone 1	2	435
Bioscience Trends	5	16	111	Zone 1	7	128
Journal of Biosocial Science	5	16	127	Zone 1	6	144
Quaternary Science Reviews	6	9	136	Zone 1	4	214
Social Psychiatry and Psychiatric Epidemiology	6	9	145	Zone 1	4	319

Culture, Health and Sexuality	7	8	153	Zone 1	10	91
-------------------------------	---	---	-----	--------	----	----

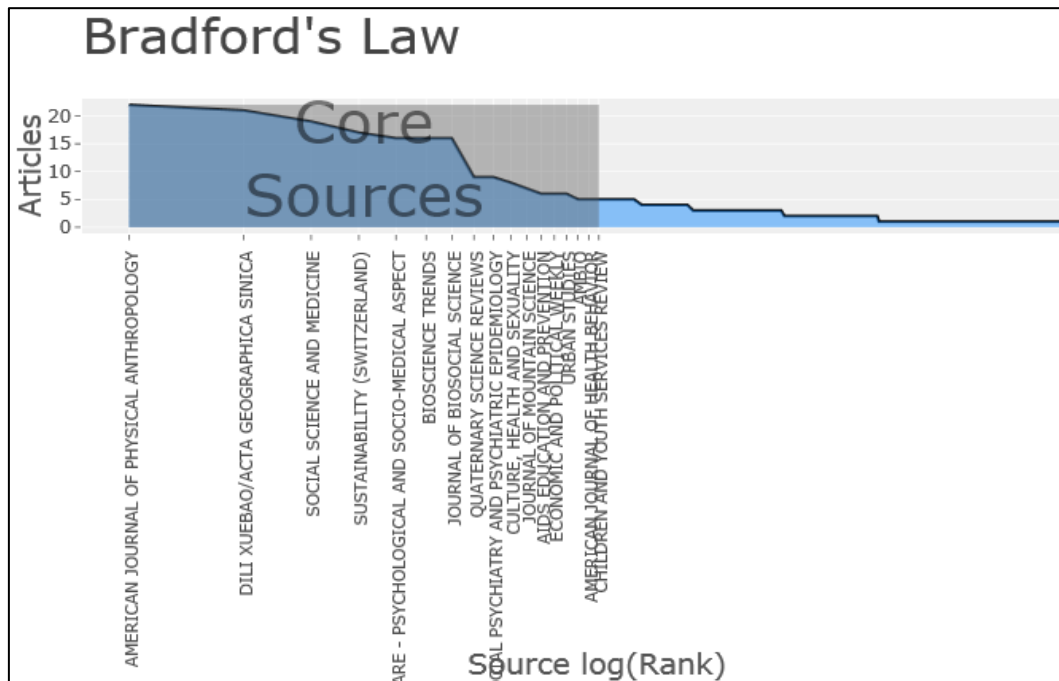


Figure 2: Bradford's Law

5.7. Top ten most global cited paper:

Table (6) portrays the top ten most global cited papers of human migration in the Himalayan region. The article entitled *Intergenerational transfers and living arrangements of older people in rural China: consequences for psychological well-being* by Silverstein M (2006), published in 'Journals of Gerontology Series B' (Silverstein et al., 2006b), which is the highest total citation (280). However, the article entitled *A GIS-based drastic model poor assessing groundwater vulnerability in Shallow Aquifer in Aligarh, India* by Rahman A (2008), appeared in the journal of 'Applied Geography' received second highest (244) citations (Rahman, 2008). The article namely *Leaving China's farms: survey results of new paths and remaining hurdles to rural migration* by Rozelle S (1999) has third-highest (184) citations (Rozelle et al., 1999). The research paper *Child development in rural China: children left behind by their migrant parents and children of non-migrant families* by Wen M (2012) has a fourth-highest (171) citation (Wen & Lin, 2012b) and The least citations (106) entitled as *The settlement intention of China's floating population in the cities: recent changes and multifaceted individual-level determinants* (2010) by Zhu and Chen (2010) among the top ten cited articles.

Table 6: Top 10 most global cited paper

Title	Author	Year	Source	TC
Intergenerational transfers and living arrangements of older people in rural China: consequences for psychological well-being	Silverstein M	2006	Journals of Gerontology Series B	280
A GIS based drastic model poor assessing groundwater vulnerability in Shallow Aquifer in Aligarh, India	Rahman A	2008	Applied Geography	244
Leaving China's farms: survey results of new paths and remaining hurdles to rural migration	Rozelle S	1999	China Quarterly	184
Child development in rural China: children left behind by their migrant parents and children of non-migrant families	Wen M	2012	Child Development	171
HIV/STD risk behaviours and perceptions among rural-to-urban migrants in China	Li X	2004	Aids Education Prevention	141
Changing sexual attitudes and behaviour in China: implications for the spread of HIV and other sexually transmitted diseases	Zhang K	1999	Aids Care Psychological Socio-Medical Aspects Aids/ HIV	141
Hukou and Non-Hukou Migrations in China: comparisons and contrasts	Chan K.W.	1999	International Journal Population Geography	114
Shyness-sensitivity and social, school, and psychological adjustment in rural migrant and urban children in China	Chen X	2009	Child Development	109
The mental health status of Chinese rural-urban migrant workers	Lu, Li	2007	Social Psychiatry and Psychiatric Epidemiology	109
The settlement intention of China's floating population in the cities: recent changes and multifaceted individual-level determinants	Zhu Y	2010	Population Space Place	106

5.8. Authorship pattern:

The table (7) reveals that the pattern of authorship for research publication of human migration in the Himalayan region. It has shown in the table that a single author has written 105 documents, followed by two authorship patterns (113), and 96 papers written by three authorship. Eighty-two documents (4 authors), documents (5 authors), while least document (one) have written by 47 authors. It found that two authorship is more prevalent while writing papers on human migration.

Table 7: Authorship Pattern

Authors	Number Documents
1	105
2	113
3	96
4	82
5	61
6	37
7	30
8	24
9	10
10	5
11	5
12	2
13	4
14	1
15	1
16	2
17	1
18	1
34	1
47	1

5.9. Prolific author:

Table (8) shows the most prolific authors with their number of publication, g-index, total citation and country of most impactful authors. *Li X* rank 1 with 23 research publications, *Li S* (rank 2; 13), *Li Y* (rank 2; 13), and six contributors rank 3 with same publications 4.

However, according to g-index *Li X* rank 1 with 23 g-index, *Li S* (rank 2; 13), *Liu Y* (rank 3; 12), four authors having same g-index equal to 10 and last two authors having six g-index. Citations wise *Li X* rank 1 with total citation 581, followed by *Lin D* (rank 2; 529), *Li S* (rank 3; 496), *Fang X* (rank 4; 428). Mostly prolific authors belong to China except for *Wang J*, who is from Japan and rank third.

Table 8: Top 10 Authors between 1947-2019

Author	Rank	NP	Rank	g-index	Rank	TC	Country
Li X	1	23	1	23	1	581	China
Li S	2	13	2	13	3	496	China
Liu Y	2	13	3	12	5	163	China
Fang X	3	10	4	10	4	428	China
Lin D	3	10	4	10	2	529	China

Wang J	3	10	4	10	6	153	Japan
Wang Y	3	10	5	7	8	56	China
Zhang J	3	10	4	10	7	120	China
Zhang X	3	10	6	6	10	41	China
Zhang H	4	9	6	6	9	44	China

*NP: Number of Publications; TC: Total Citations

5.10. Author Productivity through Lotka's law:

According to table (9) single document is written by the authors (1362; 0.826) for publications followed by two documents written (161; 0.097), three papers (61; 0.037), four papers written (19; 0.011), five papers written (13; 0.008), six papers (11; 0.007), seven papers written (6; 0.004) and 23 (1; 0.001) papers are written by only one author.

Table 9: Author Productivity through Lotka's law

Documents written	No. of Authors	Proportion of Authors
1	1372	0.826
2	161	0.097
3	61	0.037
4	19	0.011
5	13	0.008
6	11	0.007
7	6	0.004
8	2	0.001
9	7	0.004
10	7	0.004
13	2	0.001
23	1	0.001

Conclusion

The study based on human migration in the Himalayan region from 1974-2019, but 1947 to 1974 no study was found in the said subject. However, from 1975 to 2003, the pace was plodding and 2004 onwards research productivity shows increasing trends. Total of 582 documents extracted from 282 sources (journals, books, etc.) for the period of 1975-2019. Three thousand thirty-one keywords used in different documents which include the author's keyword also. An average citation per documents is 13.47. One thousand six hundred sixty-two authors engaged out of the 1560 authors' published articles with collaborations and only 102 authors published articles as single-authored papers—collaboration index 3.27. Articles are the most preferred documents used by the authors. The researcher has selected zone 1, according to Bradford's zone for the ranking of the journals. *American Journal of Physical*

Anthropology is the most favourite journal for the publications. However, *China* is leading with wise country collaborations, and the *USA* is the most collaborated country which has 55 multiple country publication. China has collaborated most cited country, and *Beijing Normal University China* is leading institutions with regards to the research of human migration among the Himalayan region.

Reference:

- Bebi, & Kumar, S. (2017). Contributions by women faculties of physics from select institutions of Delhi: A scientometrics study. *DESIDOC Journal of Library and Information Technology*, 37(6), 410–416. <https://doi.org/10.14429/djlit.37.6.11713>
- Chen, X., Wang, L., & Wang, Z. (2009). Shyness-Sensitivity and Social, School, and Psychological Adjustment in Rural Migrant and Urban Children in China. *Child Development*, 80(5), 1499–1513. <https://doi.org/10.1111/j.1467-8624.2009.01347.x>
- Kumar, S., & Rahaman, M. S. (2019). Research Performance in the field of big data in India : A Scientometric analysis based on Scopus database. *Library Philosophy and Practice*, 1(1), 1–24.
- Massimo Aria & Corrado Cuccurullo. (2019). *bibliometrix 3.0*. <https://www.bibliometrix.org/about.html>. <https://www.bibliometrix.org/index.html>
- Otlet, P. (1934). *Traité de documentation : le livre sur le livre, théorie et pratique* (Bruxelles (ed.)). Editiones Mundaneum.
- Pritchard, A. (1969). Statistical Bibliography or Bibliometrics. *Journal of Documentation*, 25, 348–349.
- Rahaman, M. S., Kumar, D. S., Ansari, K. M. N., & Rahman, M. R. (2021). Twenty-five years of global research publications trends of novel coronavirus : A scientometrics assessment. *Library Philosophy and Practice*, 1(1), 1–17.
- Rahman, A. (2008). A GIS based DRASTIC model for assessing groundwater vulnerability in shallow aquifer in Aligarh, India. *Applied Geography*, 28(1), 32–53. <https://doi.org/10.1016/j.apgeog.2007.07.008>
- Roy, S. B. (2019). Research Output of Biological Science during 1901-1945: A Scientometric

Analysis. *DESIDOC Journal of Library & Information Technology*, 39(3), 96–103.
<http://10.0.56.93/djlit.39.3.14065>

Rozelle, S., Guo, L., Shen, M., Hughart, A., & Giles, J. (1999). Leaving China's Farms: Survey Results of New Paths and Remaining Hurdles to Rural Migration. *The China Quarterly*, 158, 367–393. <http://www.jstor.org/stable/656085>

Silverstein, M., Cong, Z., & Li, S. (2006a). Intergenerational transfers and living arrangements of older people in rural China: Consequences for psychological well-being. *Journals of Gerontology - Series B Psychological Sciences and Social Sciences*, 61(5), 256–266. <https://doi.org/10.1093/geronb/61.5.S256>

Silverstein, M., Cong, Z., & Li, S. (2006b). Intergenerational Transfers and Living Arrangements of Older People in Rural China: Consequences for Psychological Well-Being. *The Journals of Gerontology: Series B*, 61(5), S256–S266.
<https://doi.org/10.1093/geronb/61.5.S256>

Singh, M. K., & Tripathi, A. (2018). Top 10 Indian academic/research organizations: A Scientometric Analysis of research in biotechnology. *Library Philosophy and Practice*, 2018. <https://www2.scopus.com/inward/record.uri?eid=2-s2.0-85047134009&partnerID=40&md5=375766cb46825830227f83bf572ef422>

Wen, M., & Lin, D. (2012a). Child development in rural China: Children left behind by their migrant parents and children of nonmigrant families. *Child Development*, 83(1), 120–136. <https://doi.org/10.1111/j.1467-8624.2011.01698.x>

Wen, M., & Lin, D. (2012b). Child Development in Rural China: Children Left Behind by Their Migrant Parents and Children of Nonmigrant Families. *Child Development*, 83(1), 120–136. <http://www.jstor.org/stable/41416071>

Wikipedia contributors. (2020). *Human migration*. In Wikipedia, The Free Encyclopedia.

Zhu, Y., & Chen, W. (2010). The settlement intention of China's floating population in the cities: Recent changes and multifaceted individual-level determinants. *Population, Space and Place*, 16(4), 253–267. <https://doi.org/10.1002/psp.544>