

SCHOLARLY COMMUNICATIONS ON “MIZO” IN GLOBAL CONTEXT: A SCIENTOMETRIC ANALYSIS THROUGH SCOPUS

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ABSTRACT -

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The study focuses on the evaluation of research contributions on "Mizo" at a global level through the Scopus database. Different scientometric aspects have been applied to evaluate the research performance. The study observed 79 scholarly communications through the Scopus database on "Mizo" at world level during the period of 1973-2021. Scholarly research on "Mizo" is a recent phenomenon and gained momentum after 2018. The majority of the research is from the last ten years. Citation growth is at par with publication growth in "Mizo" research and study observed 3.03 citations per paper. Sarmah P has been found as the top contributor in terms of publications and citations while amongst Mizo contributors Lalhminghlui W achieved the place. About 1/4 of the contributors belong to the Mizo community amongst the 164 total contributors. The research on “Mizo” was published by 8 foreign nations besides India, which demonstrates its significance at an international level. Research on “Mizo” has been funded by foreign funding agencies along with Indian R&D agencies. Keyword analysis reveals that ‘mizo’ and their linguistic concerns are at the heart of the study. The study holds reader’s interest due to first in the area.

Keywords : Research Contribution, Scholarly Literature, Citation Analysis, Authorship Pattern, Research Collaboration, Keyword Analysis, Mizo.

INTRODUCTION

In many nations, indigenous people are a significant part of the population. Despite being a minor group in terms of numbers, they are culturally varied and are typically found in areas with abundant natural resources across the world (Mishra et al., 2021). The Mizos are indigenous people of Mizoram, India, and its surrounding territories. The “Mizo” people are a north-eastern Indian ethnic group. This name refers to a group of ethnic communities who speak Zomi-Chin-Kuki-Mizo languages.

The Mizo people live in the Indian states of Mizoram, Manipur, and Tripura, as well as Bangladesh and Myanmar. The term Mizo does not relate to a specific tribe or clan; rather, it is a collective term. “The Mizo people moved from China in around 750 AD and lived in western Myanmar,” writes Rev Liangkhaia in his book *Mizo Chanchin*. During the fourth decade of the 16th century, they gradually began migrating towards what is now Mizoram (Mizo people, n.d.). Mizoram’s population was 1,091,014 persons, as per census data of 2011. Mizoram is India's second-least populous state. In 2011, Mizoram had a literacy rate of 91.33 percent, which was greater than the national average of 74.04 percent and ranked second among all Indian states (Mizoram Demographics, n.d.).

Tribal ethnic groups are rich in their cultural traditions. Governments are attempting to improve tribal people’s lives through promoting education, health, employment, social development, and infrastructure development etc. without disturbing cultural traditions. Tribal ethnic groups are now involved in almost every field and play an important role in the development of their society and lives in general. Researchers from several fields are studying tribal ethnic groups from various angles in order to resolve the difficulties that they [tribal ethnic groups] face. The purpose of this study is to evaluate the scholarly literature published on “Mizo” ethnic groups from various perspectives. This is the first study of its kind in the field, as there are no previous studies in the Scopus and Web of Science databases.

REVIEW OF LITERATURE

The published literature on a certain subject sheds light on the subject’s depth, dimension, and gaps,

yet a lack of literature makes it difficult to comprehend the field to some level. The scarcity of published literature in a given topic, on the other hand, tends to pave the way for future research and the discovery of gaps as well as new dimensions in the field. The current study ran into this issue and was unable to locate any published scientometric literature on indigenous peoples. Due to a scarcity of core literature on the subject, the current study analysed the published literature that dealt with various areas of its objectives. Mishra et al. (2021) investigated the trends and characteristics of indigenous community research and development. The Scopus database was used to identify research hotspots based on keywords, prolific researchers, and journals from 1979 through 2020. During the previous four decades, there has been a steady increase in the number of research and citations on indigenous populations related to environmental protection, natural resources, and economic development. The findings show that the study on the indigenous people has sparked the scientific community's interest in recent years. To comprehend and respect the deep cultural and socio-economic variety among these populations, methodologically rigorous qualitative research with potential for social and policy implications are required. Palaschuk & Bullock (2019) undertook a systematic study to assess the present state of Aboriginal forestry research, identify trends and gaps in research output, and give additional evidence to assist future research. They found that ‘Aboriginal forestry’ and associated thematic keywords are being used more often, based on an examination of 110 publications published between 1994 and 2015. Bullock et al. (2018) used several core indicators to assess research output, trends, and gaps in recently published research addressing Indigenous

capacity for collaborative natural resource development in Canada's forestry, energy, and mining sectors. They discovered 49 peer-reviewed scientific papers that show Indigenous natural resource development and capacity research has been constantly increasing. Pathak & Bharati (2018) investigated the visibility and influence of traditional knowledge-related literature. Bullock & Lawler (2015) examined 85 peer-reviewed community forestry research publications published between 1935 and 2014. They discovered that the majority of the studies came from social science, specifically geography, rather than forestry or the biophysical sciences, indicating a substantial disciplinary gap. The findings depict the evolution of community forestry in Canada through time, space, and subject.

OBJECTIVES OF THE STUDY

The main objective of the present study is to analyse the scholarly communications on “Mizo” in global perspective based on the following aspects:

- a) To carry out quantitative evaluation of scholarly communications
- b) To analyse citations of the scholarly communications
- c) To know the prolific contributors of scholarly communications
- d) To find the nature of international research collaboration
- e) To know the top funding agencies for scholarly research
- f) To know the highly cited scholarly communications, and
- g) To analyse the keywords of scholarly communications.

SCOPE & LIMITATIONS OF THE STUDY

The study is designed to explore and analyse the scholarly communications on “Mizo” in global context through the Scopus database. The study covered data available on “Mizo” in the Scopus till 23rd June, 2021. There are a total of 79 scholarly communications retrieved from the Scopus database on “Mizo” covering the time duration from 1973 to 2021. The study has been conducted with “Mizo” in “*Author Keywords*” and “*Article Title*” which made it limited to 79 documents.

METHODOLOGY

The required data for the study was collected on 23rd June, 2021 from the Scopus database using the search string *AUTHKEY (“Mizo”) OR TITLE (“Mizo”)* and the result was restricted by “All Languages”, “All Document Types” without any limitation to period. It resulted in 85 scholarly communications which include 6 non-related documents; and after filtration of such records from the dataset, 79 scholarly communications were found on “Mizo”. The retrieved data has been recorded, processed and analyzed using MS-Excel and RStudio.

RESULTS AND DISCUSSION

Quantitative Evaluation of Scholarly Communications and Citations

The “Mizo” related 79 scholarly communications were retrieved from Scopus database covering the publication period from 1973 to 2021. These scholarly communications were retrieved from the search fields “author keyword” and “title”. From Table 1, it can be seen that occurrence of

documents on “Mizo” is not uniform and 50% documents are published during 1973-2017 i.e. 45 years’ duration while the rest are published within 4 years’ duration i.e. 2018-2021. The highest contribution of research documents has been seen in the year 2018 (18.99%) followed by 2020 (16.46%). The last ten years of study duration i.e. 2012-2021 observed about 80% of the research on “Mizo” which indicates that increasing research trends on “Mizo” is a recent phenomenon. A total of 239 citations were observed for 79 scholarly communications during the period. The citation distribution is found

abnormal during the study period; and average citations per document are @3.03 citations. The study observed the highest number of citations in the year 2008 (19.67%) followed by 2016 (17.57%). The study observed more than 50% citations received during 40 years’ period from 1973 to 2012, while the rest during 9 years i.e. 2013-2021. Majority of the citations (88%) were received on scholarly communications published on and after 2005 to 2021. Citations per document have been calculated and it was found that the highest number of citations is 47, while the average citations per document are @3.03.

Table 1: Quantitative Measurement of Scholarly Communications & Citations

Year	No. of Docs	% of Total Docs	Cum. % of Total Docs	No. of Cits.	% of Cit.	Cum. % of Total Cits.	Citation/ Doc
1973	1	1.27	1.27	1	0.42	0.42	1.00
1989	1	1.27	2.53	4	1.67	2.09	4.00
1991	1	1.27	3.80	3	1.26	3.35	3.00
1998	1	1.27	5.06	0	0.00	3.35	0.00
1999	1	1.27	6.33	20	8.37	11.72	20.00
2005	2	2.53	8.86	14	5.86	17.57	7.00
2006	1	1.27	10.13	9	3.77	21.34	9.00
2008	1	1.27	11.39	47	19.67	41.00	47.00
2009	3	3.80	15.19	14	5.86	46.86	4.67
2010	2	2.53	17.72	2	0.84	47.70	1.00
2011	2	2.53	20.25	2	0.84	48.54	1.00
2012	2	2.53	22.78	7	2.93	51.46	3.50
2013	1	1.27	24.05	3	1.26	52.72	3.00
2014	2	2.53	26.58	1	0.42	53.14	0.50
2015	4	5.06	31.65	24	10.04	63.18	6.00
2016	7	8.86	40.51	42	17.57	80.75	6.00
2017	8	10.13	50.63	8	3.35	84.10	1.00
2018	15	18.99	69.62	20	8.37	92.47	1.33
2019	8	10.13	79.75	15	6.28	98.74	1.88
2020	13	16.46	96.20	3	1.26	100.00	0.23
2021	3	3.80	100.00	0	0.00	100.00	0.00
Total	79	100		239	100		3.03

Prolific Contributor of Scholarly Communications

Table 2 displays the prolific contributors on “Mizo” related documents published in Scopus database. It covers number of documents, their citations, no. of cited documents, no. of citations, percentage of citations and citations per document. On analysing the data for 79 scholarly documents, a total of 164 contributors were found who conducted research on “Mizo”. There are 119 contributors (authors) with single contribution each, 24 contributors with two contributions each, 6 contributors with 3 contributions each and 4 contributors with 4 contributions each. Table 2 reports prolific contributors those have minimum 5 contributions each on the topic. Table 2 reveals that, ‘Sarmah, P.’ has contributed the highest number of research documents (14, 17.72%) followed by ‘Lalhminghlui, W.’ (11, 13.92%), ‘Lalrohlu, F.’ (8, 10.13%), and ‘Zohmingthanga, J.’ (8, 10.13%). There are 11 prolific contributors who have contributed more than 5 research documents among 164 contributors. Further analysis has been conducted to know the cited documents and their citations for listed contributors in Table 2 and found that majority of the authors have not received citations to all of their research contributions and thus number of cited documents is less than number of total published documents. Only two contributors, Ghatak, S. and Prasanna, S.R.M. have total documents under cited category which is exceptional. Moreover, Sarmah, P. (8) has the highest number of cited documents followed by Lalhminghlui, W. (7), Ghatak, S. (7),

Pautu, J.L. (6), and Prasanna, S.R.M. (5). Citations to the documents have been calculated and it was found that the highest citations are for Sarmah, P. (43) followed by Lalhminghlui, W. (37), Ghatak, S. (36), Pautu, J.L. (32), and Senthil Kumar, N. (29). Two prolific contributors Gogoi, P. and Kumar, N.S. have 3 cited documents each with total citations less than double digits for their total publications. Out of total 239 citations, the highest share of citations is contributed by Sarmah, P. (17.99%) followed by Lalhminghlui, W. (15.48%), Ghatak, S. (15.06%), Pautu, J.L. (13.39%), and Senthil Kumar, N. (12.13%). On comparison to share of research documents vs share of citations, it has been found that Sarmah, P., Lalhminghlui, W., Ghatak, S., Pautu, J.L., Senthil Kumar, N., and Prasanna, S.R.M. have shared higher citations than share of their research documents. Moreover, study observed citations per document ratio and found that Prasanna, S.R.M. (5.4) has the highest ratio of citations per document followed by Ghatak, S. (5.14), Pautu, J.L. (4.57) and Senthil Kumar, N. (4.14). Although, Sarmah, P. has the highest number as well as highest share of citations, but citations per document ratio (3.07) is comparatively less than that of others. It is a known fact that, citations per document ratio displays the average citation impact of contributor/author and thus Prasanna, S.R.M. has the highest citation impact than the other contributors listed in Table 2. The average citations per document ratio for all the 79 documents is 3.02 and there are five prolific contributors whose average citations per document ratio is comparatively less.

Table 2: Prolific Contributors & Their Impact

Prolific Contributor	No. of Docs	% of Docs	No. of Cited Docs	No. of Cit.	% of Cit.	Citation / Doc
Sarmah, P.	14	17.72	8	43	17.99	3.07
Lalhminghlui, W.	11	13.92	7	37	15.48	3.36
Lalrohlu, F.	8	10.13	4	21	8.79	2.63
Zohmingthanga, J.	8	10.13	4	21	8.79	2.63
Ghatak, S.	7	8.86	7	36	15.06	5.14
Pautu, J.L.	7	8.86	6	32	13.39	4.57
Senthil Kumar, N.	7	8.86	4	29	12.13	4.14
Dey, A.	6	7.59	4	10	4.18	1.67
Gogoi, P.	5	6.33	3	9	3.77	1.80
Kumar, N.S.	5	6.33	3	7	2.93	1.40
Prasanna, S.R.M.	5	6.33	5	27	11.30	5.40

Table 3: Mizo Contributors & Their Impact

Prolific Contributor	No. of Docs	% of Docs	No. of Cited Docs	No. of Cit.	% of Cit.	Citation / Doc
Lalhminghlui, W.	11	13.92	7	37	15.48	3.36
Lalrohlu, F.	8	10.13	4	21	8.79	2.63
Zohmingthanga, J.	8	10.13	4	21	8.79	2.63
Pautu, J.L.	7	8.86	6	32	13.39	4.57
Lallawmzuali, D.	4	5.06	3	19	7.95	4.75
Roluahpuia	4	5.06	2	4	1.67	1
Vanlalruata	3	3.80	1	1	0.42	0.33
Chhakchhuak, L.	2	2.53	1	14	5.86	7
hruaii, V.	2	2.53	0	0	0	0
Vanlallawma, A.	2	2.53	0	0	0	0
Bawihlung, Z.	1	1.27	0	0	0	0
Chakma, S.B.	1	1.27	1	1	0.42	1
Chenkual, S.	1	1.27	1	1	0.42	1
Chhanhimi, L.	1	1.27	1	14	5.86	14
Chhuani, L.	1	1.27	1	12	5.02	12
Dingluaia, L.	1	1.27	0	0	0	0
Dinpuia, L.	1	1.27	0	0	0	0
Fanai, L.	1	1.27	0	0	0	0
Jahau, L.	1	1.27	1	1	0.42	1
Khenglawt, L.	1	1.27	0	0	0	0
Khiangte, Z.	1	1.27	0	0	0	0
Kimi, L.	1	1.27	1	12	5.02	12
Lalfakzuala, J.K.	1	1.27	1	2	0.84	2

Lalmuanthanga, C.	1	1.27	0	0	0	0
Lalnunmaw	1	1.27	1	4	1.67	4
Lalrempuii, C.	1	1.27	0	0	0	0
Lalrinpuia	1	1.27	0	0	0	0
Lalrozam, C.	1	1.27	1	1	0.42	1
Malsawmdawngliana, A.	1	1.27	0	0	0	0
Mawia, L.	1	1.27	1	2	0.84	2
Ngente, L.	1	1.27	1	2	0.84	2
Pachau, L.	1	1.27	1	1	0.42	1
Pachau, M.L.	1	1.27	0	0	0	0
Sawmveli, V.	1	1.27	0	0	0	0
Thangchungmunga	1	1.27	0	0	0	0
Tochhawng R.	1	1.27	0	0	0	0
Vanlalhruii	1	1.27	0	0	0	0
Zami Z.	1	1.27	0	0	0	0
Zarzosanga	1	1.27	0	0	0	0
Zomawaia E.	1	1.27	1	14	5.86	14
Zomingthanga, J.	1	1.27	1	1	0.42	1

Table 3 represents Mizo contributors and their impact on “Mizo” related documents. The study observed 41 Mizo contributors out of 164 total contributors which constitute 25% share of contributors (authors). Among the Mizo contributors, ‘Lalhminghlui, W.’ has contributed the highest number of research documents (11, 13.92%) followed by ‘Lalrohlu, F.’ (8, 10.13%), ‘Zohmingthanga, J.’ (8, 10.13%), and ‘Pautu, J.L.’ (7, 8.86%). There are 31 Mizo contributors with single contribution on the topic while 3 Mizo contributors with 2 contributions each. There is one Mizo contributor with three contributions and 2 Mizo contributors with 4 contributions each on the topic. There are 4 prolific Mizo contributors who have contributed more than 5 research documents among 41 Mizo contributors. The study analysed cited documents and its citations for listed contributors in Table 3 and found that 46% Mizo contributors (authors) have not received citations to all of their research

contributions while 54% Mizo contributors have at least one cited document. In cited documents category, Lalhminghlui, W. (7) has the highest number of cited documents followed by Pautu, J.L. (6), Lalrohlu, F. (4) and Zohmingthanga, J. (4). Citations to the cited documents have been calculated among Mizo contributors and it was found that the highest citations are for Lalhminghlui, W. (37), followed by Pautu, J.L. (32), Lalrohlu, F. (21), Zohmingthanga, J. (21) and Lallawmzuali, D. (19). Some Mizo contributors have single research contributions with more than 10 citations to their research contributions, while rest of the contributors have fewer citations. Out of total 239 citations, the highest share of citations among Mizo contributors are contributed by Lalhminghlui, W. (15.48%) followed by Pautu, J.L. (13.39%), Lalrohlu, F. (8.79%), Zohmingthanga, J. (8.79%) and Lallawmzuali, D. (7.95%). On comparison to share of research documents vs share of citations,

it has been found that Lalhminghlu, W., Pautu, J.L., Lallawmzuali, D., Chhakchhuak, L., Chhanhimi, L., Chhuani, L., Kimi, L., Lalnunmaw, and Zomawaia E. have shared higher citations than share of their research documents among Mizo contributors. The average citations per document ratio for the study is 3.02 which has been found higher for Lalhminghlu, W., Pautu, J.L., Lallawmzuali, D., and Chhakchhuak, L. among the group of minimum 2 research contributions per author. There are five Mizo contributors with single research contributions apiece having higher average citations per document.

International research collaboration

From the study data, international research collaboration on the study area has been

calculated and represented in Table 4. The study found that the majority of research collaboration (86.08%) on the study area belongs to the Indian researchers. There are researchers from 8 foreign countries who have research collaboration on “Mizo”. Amongst the foreign countries, the highest international collaboration was found with United States (8.86%) followed by United Kingdom (3.80%) and Mexico (2.53%). There are five countries Singapore, Canada, Netherlands, Switzerland, and Taiwan with single international research collaboration each. Study observed 5.06% research collaboration under “undefined” category due to non-availability of country information in the research documents. From the analysis, it is deduced that United States is the highest research collaborating country on “Mizo”.

Table 4: International research collaboration

Country/Territory	No. of. Docs	% of Docs
India	68	86.08
United States	7	8.86
United Kingdom	3	3.80
Mexico	2	2.53
Singapore	1	1.27
Canada	1	1.27
Netherlands	1	1.27
Switzerland	1	1.27
Taiwan	1	1.27
Undefined	4	5.06

Funding agencies for research projects

Table 5 displays the list of funding agencies on research projects dealing with “Mizo”. The funding texts have been found on 19 research documents out of total published research on “Mizo” during the period. From the analysis, it

has been found that “University Grants Commission” has funded the highest number of research projects (5.06%) followed by “Department of Biotechnology, Ministry of Science and Technology, India” (3.8%), “Department of Science and Technology, Ministry of Science and Technology, India”

(3.8%), and “Ministry of Communication and Information Technology” (3.8%). Further, some foreign funding agencies like “Centro de Investigaçãom Materiais Cerâmicos e Compósitos”, “Council for Scientific and

Industrial Research, South Africa”, “John Fell Fund, University of Oxford”, “Universidade de Aveiro”, and “University of Oxford” have financially supported research on “Mizo”.

Table 5: Funding agencies for research projects

Funding Agency	No. of Docs	%	Rank
University Grants Commission	4	5.06	1
Department of Biotechnology, Ministry of Science and Technology, India	3	3.80	2
Department of Science and Technology, Ministry of Science and Technology, India	3	3.80	2
Ministry of Communication and Information Technology	3	3.80	2
Council of Scientific and Industrial Research, India	2	2.53	3
Department of Biotechnology, Government of West Bengal	2	2.53	3
Department of Electronics and Information Technology, Ministry of Communications and Information Technology	2	2.53	3
Ministry of Human Resource Development	2	2.53	3
Centro de InvestigaçãomateriaisCerâmicos e Compósitos	1	1.27	4
Council for Scientific and Industrial Research, South Africa	1	1.27	4
Department of Biotechnology, Ministry of Science and Technology	1	1.27	4
Department of Science and Technology, Government of West Bengal	1	1.27	4
Indian Council of Medical Research	1	1.27	4
Indian Council of Social Science Research	1	1.27	4
John Fell Fund, University of Oxford	1	1.27	4
Ministry of Electronics and Information Technology	1	1.27	4
National Institute of Biomedical Innovation	1	1.27	4
Science and Engineering Research Board	1	1.27	4
Universidade de Aveiro	1	1.27	4
University of Oxford	1	1.27	4

Highly cited research documents

The research found 79 scholarly articles on the topic of “Mizo,” with a total of 239 citations. According to the data analysis, 44 research documents have obtained citations, whereas 35

research documents have received no citations. Table 6 shows the authors, document title, source title, publication year, citations, and average citation per year for top cited research work on “Mizo.”

Table 6: Top cited research documents

SN	Authors / Document Title / Journal Title / Publication Year	Citations	Citations/Year
1	Das A.K., Dutta B.K., Sharma G.D. / Medicinal plants used by different tribes of Cachar district, Assam / Indian Journal of Traditional Knowledge / 2008	47	3.615
2	Nag S. / Bamboo, rats and famines: Famine relief and perceptions of British paternalism in the Mizo hills (India) / Environment and History / 1999	20	0.909
3	Dash S., Chhanhimi L., Chhakchhuak L., Zomawaia E. / Screening for haemoglobinopathies and G6PD deficiency among the Mizos of Mizoram: A preliminary study / Indian Journal of Pathology and Microbiology / 2005	14	0.875
4	Kimi L., Ghatak S., Yadav R.P., Chhuani L., Lallawmzuali D., Pautu J.L., Senthil Kumar N. / Relevance of GSTM1, GSTT1 and GSTP1 Gene Polymorphism to Breast Cancer Susceptibility in Mizoram Population, Northeast India / Biochemical Genetics /2016	12	2.4
5	Sarma B.D., Sarmah P., Lalhminghlui W., Mahadeva Prasanna S.R. / Detection of mizo tones / Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH / 2015	12	2.0
6	Sarmah P., Dihingia L., Lalhminghlui W. / Contextual variation of tones in Mizo / Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH / 2015	12	2.0
7	Sahoo U.K. / Traditional home gardens and livelihood security in North-East India / Journal of Food, Agriculture and Environment / 2009	12	1.0
8	Ghatak S., Yadav R.P., Lalrohlui F., Chakraborty P., Ghosh S., Ghosh S., Das M., Pautu J.L., Zohmingthanga J., Senthil Kumar N. / Xenobiotic Pathway Gene Polymorphisms Associated with Gastric Cancer in High Risk Mizo-Mongoloid Population, Northeast India / Helicobacter / 2016	11	2.2
9	Kumaresan A., Hussain J., Ahmed S.K., Pathak K.A., Das A., Bujarbaruah K.M. / Growth performance of Hampshire, Large White Yorkshire and Mizo local pigs under field conditions in Mizoram / Indian Journal of Animal Sciences / 2006	9	0.6
10	Pathak A., Pakray P., Bentham J. / English–Mizo Machine Translation using neural and statistical approaches / Neural Computing and Applications / 2019	8	4.0

The most cited research document was published in 2008 and has a total of 47 citations with a

citation rate of 3.615 citations per year, while the most recent research document in the top cited

list has a citation rate of 4 citations per year. There are five highly cited scientific papers in which Mizo researchers are co-authors.

Keyword analysis

The keyword is a key-term assigned by the researcher (author) to his research documents, which displays some of the research documents’

most important topics in order to better grasp the scope of the debate. According to González et al. (2018), author keywords have advantages over title or abstract keywords because they do not contain any extraneous information and do not allow researchers to manipulate information.

Table 7: Most frequent keywords

Keyword	Frequency
mizo	47
language	15
character	11
tone	10
hybrid	9
recognition	8
image	8
ocr	8
neural	6
processing	6
handwritten	6
india	5
mizoram	5
extraction	5
machine	5
translation	5
segmentation	5

Table 8: Keyword Association Measure for keywords with “Mizo”

Keyword	mizo
character	0.79
artificial	0.78
feature	0.78
image	0.78
network	0.78
ocr	0.78
hybrid	0.76
isolated	0.76
pattern	0.76

than 50% in citations. Sarmah, P., a researcher, “Mizo,” followed by Mizo researchers Lalhminghlui, W., Lalrohlu, F., and Zohmingthanga, J. Sarmah, P. has the most cited documents followed by Mizo researchers Lalhminghlui, W., and Pautu, J.L. Furthermore, Sarmah, P. obtained the most citations for scholarly communications, followed by Lalhminghlui, W. Few Mizo researchers, such as Lalhminghlui, W., and Pautu, J.L. were among the top cited researchers. Out of 164 total researchers, 41 were Mizo, accounting for 25% of the total. Lalhminghlui, W. was the Mizo researcher that submitted the most research documents, followed by Lalrohlu, F., Zohmingthanga, J., and Pautu, J.L. Among the 41 Mizo contributors, only a few are prolific, having contributed more than five research documents. According to the research, 46% of Mizo researchers have not obtained citations for all of their scholarly publications, whereas 54% have at least one citation. The Mizo researchers Lalhminghlui, W., Pautu, J.L., Lalrohlu, F., and Zohmingthanga, J. have the most cited scholarly communications and citations to them. The majority of research collaboration on the study area is with India, with the balance being with eight international countries. The United States is the top research participating country on “Mizo.” On 19 research documents, the funding assistance can be located. The “University Grants Commission” is the agency that has financed the most research programmes. Foreign support for scholarly research on “Mizo” was also received. The most common keyword, according to the keyword analysis, is “mizo.” The majority of research documents contain the keyword ‘mizo,’ followed by ‘language,’ ‘character,’ and ‘tone,’ showing that the study is focused on ‘mizo’ and

has written the most scholarly publications on their linguistic issues. Furthermore, the study looked at the Keyword Association Measure for all of the keywords that included the phrase “Mizo” and discovered that the word “character” was highly associated. The majority of research documents are central to ‘mizo language’ and related issues.

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