

# Professor Madhav Gadgil: A Bibliometric Portrait

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## ABSTRACT

Bibliometrics is an essential tool in perceiving the achievements of scholars. The purpose of these studies is to provide a comprehensive overview of the research findings, impacts, and collaborations of researchers. By analyzing publication records, citation data, and other relevant metrics, Bibliometric portraits shed light on the scholarly contributions of individuals in various fields. One of the critical objectives of Bibliometric portraits is to inspire and motivate others to pursue careers in various fields. By showcasing the accomplishments of renowned scholars, these portraits can serve as role models and sources of inspiration for aspiring researchers. They demonstrate what can be achieved through dedication, hard work, and commitment. The present study focuses on measuring the contributions of Professor Madhav Gadgil in the field of ecology. Throughout his 49-year publishing career, Gadgil wrote 89 publications, collectively receiving 4119 citations. Notably, 63 out of 89 (70.78%) of his publications resulted from collaborations with other researchers. Among his collaborators, Gadgil has had the most active partnership with NV Joshi, who co-authored 12 publications. Other notable collaborators include R Guha, (6 publications) and G Utkarsh (5). Most of his collaborations (72) have been with researchers from India. Additionally, he has collaborated with researchers from Canada in 5 publications. Gadgil's publications have garnered a cumulative total of 4119 citations, resulting in an average of 46.28 citations per publication and an average of 84.06 per year. Notably, he wrote the highest number of articles (13) in *Current Science* and has shown a prolific output in 1996 and 1999, with 6 publications each.

**Keywords:** Bibliometric portrait, Bio-bibliometrics, Publication productivity, Prof. Madhav Gadgil, Western Ghats, Ecology.

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## INTRODUCTION

India is a land of great people. It has been a source from which the most remarkable minds emerged to glorify humankind. The list of such personalities has been extended with the addition of Madhav Dhananjay Gadgil. Prof. Gadgil is a well-known ecologist and environmental scientist who has made significant contributions to the field of ecology in India. His life is not limited to being an ecologist but has expanded as a teacher, a writer, an academician, and an institution builder. The fundamental objective of this paper is to understand the research productivity and collaboration patterns of years, writings, and authorship. This is an attempt to draw a scientometric portrait of Prof. Madhav Gadgil, an eminent ecologist.

## Biography of Prof. Madhav Gadgil

### Early life

Prof. Gadgil was born on May 24, 1942, in Pune, Maharashtra, India. He received his primary education from Balshikshan and Modern High School in Pune. During school, his interest was not limited to science but also history, culture, trekking, scuba diving, Marathi poetry, and nature. His family was always supportive of his interests. At the age of 20, he started writing for Marathi language magazines. He got guidance from eminent scholars, such as Salim Ali, Vasili Leiotief, JBS Haldane, Julian Huxley, etc. that shaped his boyhood. In 1958, he went to Fergusson College for his bachelor's degree in science. He earned his master's degree in zoology from the University of Bombay in 1967, followed by a Ph.D. in ecology from Harvard University in 1971.

### Scientific career

After completing his Ph.D. in 1971, he returned to India and started working at the Agharkar Research Institute (ARI), Pune. In 1973, he took up a teaching position at the Indian Institute of Science in Bangalore. Prof. Gadgil is best known



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for his pioneering work in the field of ecology in India. He has significantly contributed to understanding the ecology and biodiversity of mountain ranges in Western India. He also worked on the conservation of natural resources in India. His scientific investigations have been uncovering the anthropogenic impacts on the environment as deforestation, urbanization, and pollution. In addition to his scientific work, he also advocates for conserving natural resources and protecting the environment. He served as an advisor to various government agencies and had been involved in developing several national and international environmental policies.

Some of the notable works include Sacred Grooves (Gadgil and Vartak 1976; Gadgil and Chandran 1992), Socio-Ecology of Wasps (Gadgakar *et al.* 1982) Community Roosting of Birds (Gadgil and Ali 1976), Silent Valley (Prasad 2008), Elephants of Southern India (Sharatchandra and Gadgil (1976), Nair and Gadgil (1980), Gadgil and Nair (1984), Sukumar and Gadgil 1988), Bamboo (Gadgil and Prasad (1984), Prasad and Gadgil (1985), Peoples Environment Impact Assessment, and Peoples Biodiversity Register. He supported the work initiated by the Department of Science and Technology of the Government of India to establish the nation's first biosphere reserve in the Nilgiris. He had always suggested that bureaucrats focus on ecology, equity, and efficiency while making forest policies.

In addition to his scientific and conservation work, he is also a prolific writer and wrote numerous articles and books on ecology and the environment. He is a member of several professional societies and served as president of the Ecological Society of India and the Indian Academy of Sciences.

Prof. Gadgil's contributions to the field of ecology in India and his efforts to protect the environment have made him one of the country's most respected and influential figures. His work a lasting impact on the understanding and conservation of natural resources in India and helped raise awareness of the importance of environmental protection.

His writings are popular among ecological researchers. His academic papers, books, and popular writing contributed to the field. It includes titles such as *This Fissured Land: An Ecological History of India* (1993), *Ecology and Equity: The Use and Abuse of Nature in Contemporary India* (1995), *Diversity: The Cornerstone of Life* (1997), *Nurturing Biodiversity: An Indian Agenda* (1998), *Ecological Journeys: The Science and Politics of Conservation in India* (2005), and *The Use and Abuse of Nature* (2004).

#### **An institution builder**

After a decade of his joining the Indian Institute of Science, Bangalore, in 1983, he started a separate department known as the Centre for Ecological Sciences. It is a major ecological study center for many Indian students and foreign scholars.

He represented southern India in the World Wildlife Fund during 1974–1982. During the same time, he became a member of the Karnataka State Wildlife Committee and the Karnataka State Bamboo Committee. After the Wildlife Protection Act of 1972, he became part of the Tiger Project.

*The Journal of Genetics* is one of the oldest English-language journals of genetics. After the death of J. B. S. Haldane in 1964, Mrs. Haldane continued the publication of the journal with Madhav Gadgil and H. Sharat Chandra.

#### **Awards and Honours**

Gadgil received numerous awards and accolades for his work, including the Padma Shri, one of India's highest civilian honours in 1981, and the Padma Bhushan, another high civilian honour in 2006, and Karnataka State Rajyotsava Award in 1983. He received the National Environmental Fellowship for 1979-81 and the Pyu Fellowship for 1993-96. He was awarded the Rabindranath Tagore Award in 1985, the Shanti Swarup Bhatnagar Award in 1986, and the Vikram Sarabhai Award in 1990. He also received the prestigious Volvo Environment Prize in 2001 and the Tyler Prize for Environmental Achievement in 2011.

## **METHODOLOGY**

For the current study, relevant data were extracted using the Scopus database. Data retrieval was performed by searching for the author "Gadgil, Madhav" and downloading the data freeze from December 3, 2022. This freeze ensured changes in the data due to the daily updates in the Scopus database.

## **RESULTS**

### **Domain wise**

A= Environmental Science, B= Agricultural and Biological Sciences, C= Multidisciplinary, Social Sciences, D= Biochemistry, Genetics and Molecular Biology, E= Earth and Planetary Sciences, F= Economics, Econometrics and Finance, G= Mathematics, Arts and Humanities, H= Immunology and Microbiology, I= Medicine, Decision Sciences, Engineering, and J= Physics and Astronomy (Figure 1).

### **Document type**

Prof. Madhav Gadgil wrote 89 publications (Figure 2), encompassing various types such as conference papers, articles, books, editorials, and reviews. He contributed the highest number of articles (72) among his contributions, which share 80.89%, followed by reviews (5), editorials (3), books (2), book chapters (2), notes (2), conference papers (1), letters (1), and short surveys (1). Figure 3 indicates that Prof. Gadgil contributed more through articles. Figure 2 demonstrates that Prof. Gadgil's primary focus lies in publishing articles, which constitute most of his contributions.

## The productivity and citations of Prof. Madhav Gadgil

Figure 3 illustrates Prof. Gadgil's contributions over 49 years, from 1972 to 2021. During this time, he wrote a total of 89 publications, which have collectively received 4119 citations. Notably, in 1996 and 1999, he had 6 publications each year, making them the years with the highest number of publications. Additionally, he had 5 publications each in 1990, 1993, 1997, and 1998, marking them as the second highest in publication count. Prof. Gadgil's publication history reveals that he had no publications in Scopus-indexed journals during the following years: 1973, 1974, 1977, 1978, 2004, 2008, 2010, 2012, 2017, 2018, and 2020.

## Authorship pattern of Prof. Madhav Gadgil in chronological order

Table 1 provides insights into the authorship pattern of Prof. Madhav Gadgil. His publishing career commenced at 30 in 1972 (publishing career age 1), and all his 89 publications have appeared in reputable national and international communication channels. Of the 89 publications, 26 (29.22%) were authored solely by Prof. Gadgil, while the remaining 63 (70.78%) were the result of collaborations.

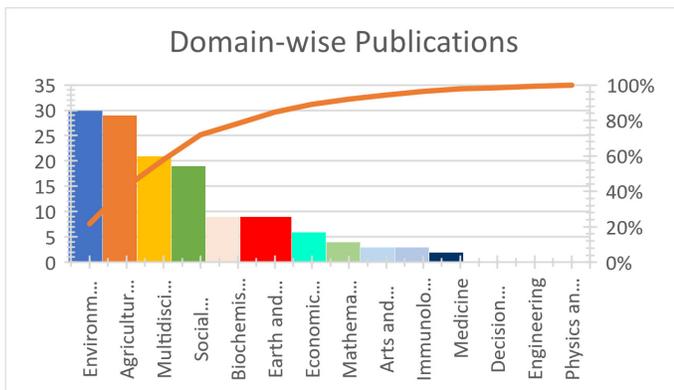


Figure 1: Domain wise distributions of publications.

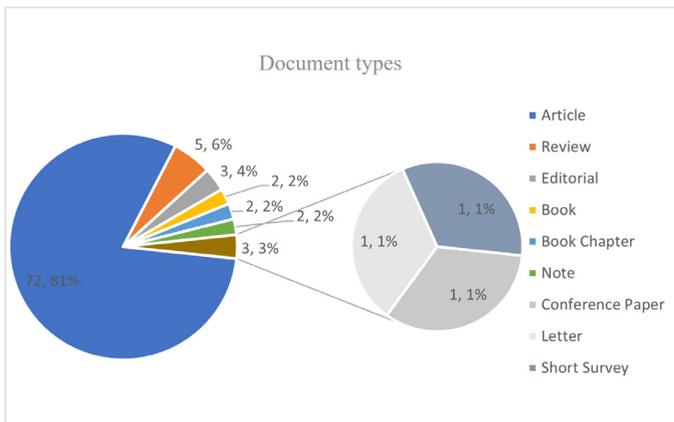


Figure 2: Document types.

Among the collaborative publications, 27 (30.33%) involved two authors, followed by 21 (29.28%) with three authors, 21 (23.85%) with four authors, 9 (10%) with five authors, 2 (2.22%) with more than five collaborators, and 4 (4.48%) with an unspecified number of collaborators. Notably, 1996 and 1999 witnessed the highest number of collaborative publications, with 5 publications each.

Table 1 also presents the yearly breakdown of single-authored and multi-authored publications. It is observed that there were no multi-authored publications in the years 1972, 1979, 1987, 2001, 2007, and 2014. Furthermore, citation trends are highlighted, particularly between 1988 and 2000. Within this period, 2922 citations were recorded, constituting 70.94% of the total citations. Prof. Gadgil's publications from 1993 received the highest number of citations, with 833 (20.22%), followed by publications from 1995, which received the second-highest number of citations, totalling 436 (10.58%).

## Quinquennial publications

Prof. Gadgil's publication output over 49 years (1972–2021) amounts to 89 publications, resulting in an average productivity of 1.81 papers per year. His first article was published in 1972. Notably, the period between 1997 and 2001 witnessed his highest publication count, with 21 papers. Among these, 3 were single authored, while 18 were active collaborations, highlighting Prof. Gadgil's active engagement in collaborative research.

Throughout his 49-year publishing career, from 1972 to 2021, Prof. Gadgil authored 26 publications (29.21%) as a single author, while 63 publications (70.79%) were the outcome of collaborative efforts (Table 2).

## Authorship status in collaborative publications

Prof. Gadgil collaborated with 100 authors throughout his career (Figure 4). Among his 89 publications, he served as the first author for 48 papers, followed by 18 as the second author, 15 as the third author, 5 as the fourth author, 1 as the sixth author, and 2 as the seventh author. Notably, he did not have any publications as the fifth author. Among his collaborators, Prof. Gadgil's highest collaboration is with Joshi, N.V., with 12 publications, followed by Guha, R., with 6 publications, Utkarsh, G., with 5 publications, and Gadgil, S., and Daniels, R.J.R., with 4 publications each. With the remaining collaborators, the collaboration ranges from 1 to 3 publications.

## Channels of communication

The selection of published sources is crucial in research as it enables researchers to effectively communicate their work to a broader audience through high-impact journals. In Prof. Gadgil's case, his communication channels have been assessed based on various indicators such as the number of papers published, the country of publication, and the impact factor of the journals.

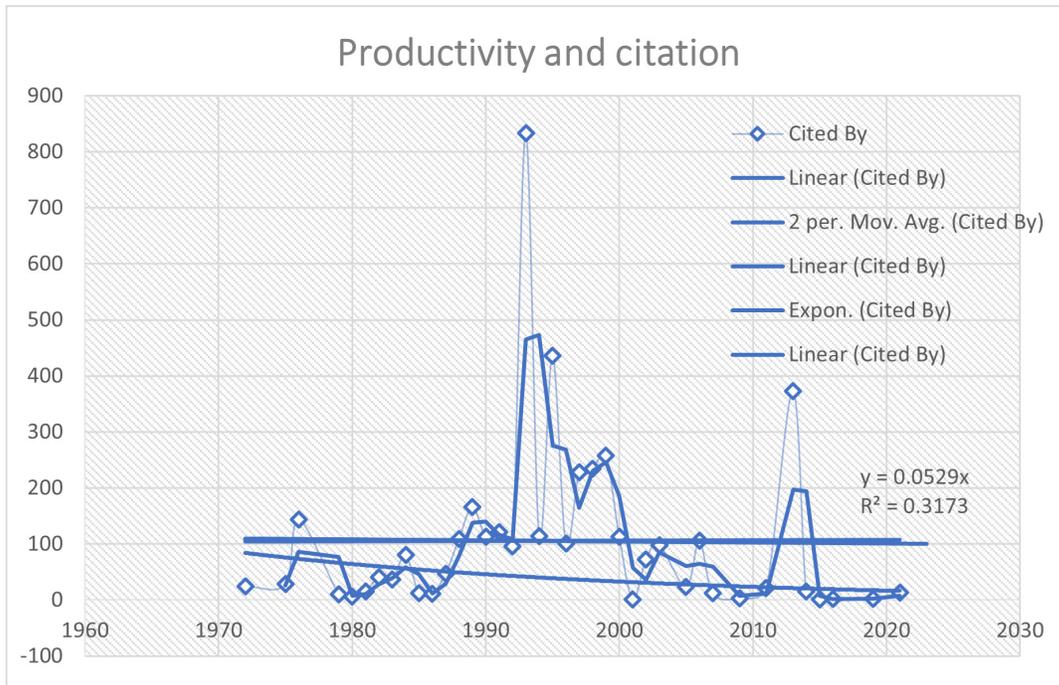


Figure 3: The productivity and citations.



Figure 4: Authorship status in collaborative publications.

Prof. Gadgil's 89 publications are distributed across 41 different resources, and Table 3 provides a breakdown of his publications by channel. Notably, he wrote 13 papers in *Current Science* (1996–2019), followed by 4 papers each in *Ambio* and *Proceedings of the National Academy of Sciences of the United States of America* (1975–2021), and 3 papers each in *Biological Conservation* and *EPW* (1990–2021). It is worth mentioning that Prof. Gadgil's articles have been published in high and medium-impact factor journals, as indicated in Table 3.

### Country-wise distribution

Prof. Gadgil's extensive publication record includes collaborations both within the country and abroad. Among his 89 publications, Table 4 highlights that most of his collaborations, comprising 72 publications (80.89%), have been with researchers from India. France follows with 5 collaborations (5.61%), while Sweden and the USA tie with 2 collaborations each (Figure 5).

This distribution demonstrates that a significant portion of Prof. Gadgil's productivity, precisely 72 publications (80.89%), stems from collaborations within India, while 17 publications (19.11%) result from international collaborations.

**Table 1: Authorship pattern of Prof. Madhav Gadgil in chronological order.**

Biological Age of Gadgil	Year	Number of papers under various authorships						TMA	TP	CP	Citations	CC	Publishing Career Age
		1	2	3	4	5	More than 5						
30	1972	1						0	1	1	24	24	1
33	1975	1	1					1	2	3	28	52	3
34	1976		1			1		2	2	5	144	196	4
37	1979	1						0	1	6	10	206	7
38	1980			1				1	1	7	6	212	8
39	1981			1				1	1	8	15	227	9
40	1982	1	1		1			2	3	11	41	268	10
41	1983		1	1				2	2	13	37	305	11
42	1984		2					2	2	15	80	385	12
43	1985	2			1			1	3	18	12	397	13
44	1986				1			1	1	19	11	408	14
45	1987	1						0	1	20	47	455	15
46	1988		1					1	1	21	109	564	16
47	1989		2					2	2	23	166	730	17
48	1990	2	1	2				3	5	28	113	843	18
49	1991	1	1	1	1			3	4	32	121	964	19
50	1992	1		1				1	2	34	96	1060	20
51	1993	2		3				3	5	39	833	1893	21
52	1994		1					1	1	40	114	2007	22
53	1995		1	2				3	3	43	436	2443	23
54	1996	4	1	1				2	6	49	101	2544	24
55	1997		1	2	2			5	5	54	228	2772	25
56	1998		2	2	1			5	5	59	234	3006	26
57	1999		4	1			1	6	6	65	258	3264	27
58	2000	2				1	1	2	4	69	113	3377	28
59	2001	1						0	1	70	1	3378	29
60	2002		1					1	1	71	72	3450	30
61	2003	1	1		1			2	3	74	98	3548	31
63	2005			1	1			2	2	76	23	3571	33
64	2006						1	1	1	77	106	3677	34
65	2007	1						0	1	78	12	3689	35
67	2009		1					1	1	79	3	3692	37
69	2011						1	1	1	80	21	3713	39
71	2013		2					2	2	82	373	4086	41
72	2014	2						0	2	84	15	4101	42
73	2015		1					1	1	85	1	4102	43
74	2016	2						0	2	87	2	4104	44
77	2019			1				1	1	88	2	4106	47
79	2021			1				1	1	89	13	4119	49
	Total	26 (29.22%)	21 (29.28%)	21 (23.85%)	9 (10%)	2 (2.22%)	4 (4.48%)	63 (70.78%)		89		4119	

TMA: Total Multi Authored; TP: Total Publications; CP: Cumulative Publications; CC: Cumulative Citations.

**Table 2: Quinquennial publications.**

SI No	Period	Single Authored Papers	Cumulative Single	% Of Single Authored	Multi Authored Papers	Cumulative Multia-Authored	% Of Multi-authored	Total Papers	Cumulative Total	% Of Total Papers
1	1972-1976	2	2	7.62	3	3	4.76	5	5	5.6
2	1977-1981	1	3	3.96	2	5	3.18	3	8	3.3
3	1982-1986	3	6	11.5	8	13	12.70	11	19	12.35
4	1987-1991	4	10	15.3	9	22	14.28	13	32	14.60
5	1992-1996	7	17	26.9	10	32	15.87	17	49	19.10
6	1997-2001	3	20	11.5	18	50	28.57	21	70	23.59
7	2002-2006	1	21	3.96	6	56	9.52	7	77	7.8
8	2007-2011	1	22	3.96	2	58	3.18	3	80	3.3
9	2012-2016	4	26	15.3	3	61	4.76	7	87	7.8
10	2017-2021	0	26	0	2	63	3.18	2	89	2.56
	TOTAL	26		100	63		100	89		100

**Table 3: Channels of communication.**

Rank	Source Title	No of Publications	Cumulative	FPY-LPY	TY	IF (2021)
1	Current Science	13	13	1996-2019	23	1.169
2	Ambio	4	17	1992-2021	29	6.943
3	Proceedings of the National Academy of Sciences of the United States of America	4	21	1975-1999	24	12.78
4	Biological Conservation	3	24	1990-2021	31	7.497
5	Economic and Political Weekly	3	27	2007-2016	9	0.37
6	Indian Journal of Agricultural Economics	2	29	1999	1	0.106
7	International Journal of Ecology and Environmental Sciences	2	31	1997-2009	12	NA
8	Journal of Applied Ecology	2	33	1995-1999	4	6.53
9	Other publications with 2 books, 2 book chapters, etc.	56	89	1972-2021	49	NA

FPY-LPY: First publication year- Last publication year; TY: Total years; IF: Impact Factor.

### Citation pattern

Prof. Gadgil's 89 publications have collectively received 4119 citations. This indicates a citation rate of 46.28 citations per publication. On average, he received 84.06 citations per year.

Of the 89 publications, 6 papers (6.74%) have not received any citations. Additionally, 28 publications (31.46%) have been cited between 1 and 10 times, while 18 papers (20.22%) have been cited between 11 and 20 times. The remaining 59 papers (32.59%) have received more than ten citations. Among Prof. Gadgil's publications, 1993 garnered the highest number of citations,

totalling 833. Furthermore, his 10 publications were cited 100 or more times, as indicated in Table 5.

### Citation analysis of Prof. Madhav Gadgil

According to Kumari (2009), the Relative Citation Impact (RCI) for Prof. Gadgil's publications varies. The highest RCI value of 4.04 was observed in 2013, while the lowest RCI values of 0.01 were recorded in 2001, 2015, and 2016. This indicates fluctuations in his publications' receiving pattern and citation impact, as presented in Table 6 and Figure 6.

**Table 4: Country-wise distribution.**

Country/Territory	Number of Publications	Percentage
India	72	80.89
Canada	5	5.61
Sweden	2	2.24
United States	2	2.24
Ghana	1	1.12
Netherlands	1	1.12
United Kingdom	1	1.12
Undefined	13	14.60

**Table 5: Citation pattern.**

Number of times Cited	Number of publications	% Of publications	Total Citations
0	6	6.74	0
1-10	28	31.46	125
11-20	18	20.22	276
21-30	8	8.98	198
31-40	3	3.37	98
41-50	5	5.61	231
51-60	5	5.61	286
61-70	2	2.24	134
71-80	1	1.15	72
81-90	2	2.24	173
91-100	1	1.15	99
100+	10	11.23	2427
Total	89	100	4119
Citation per paper			46.28

Out of Prof. Gadgil's 89 publications, 83 have received 4119 citations. This corresponds to an average of 49.62 citations per paper.

### Top 10 Highly cited publications

Table 7 highlights the highly cited publications by Prof. Gadgil. Of the 10 highly cited publications, 8 are journal articles, and 2 are books. Notably, the highest impact factor among these publications is 69.504, achieved in 2006. Following closely is another highly cited journal article with an impact factor of

6.943, published in 1993. These figures demonstrate the impact and influence of Prof. Gadgil's work in the academic community.

### Relative uncitedness index

The Relative Uncitedness Index (RUI) given by Garg K. C. and Kumar S. (2014) measures the uncitedness of publications, where a higher RUI number suggests a lower citation impact. A value of zero indicates that there are no uncited publications. In the case of Prof. Gadgil's publications from 1972 to 2021, Table 8 reveals that out of 89 publications, 6 (6.74%) have remained uncited. The RUI values for the study period ranged from 0.02 to 0.07,

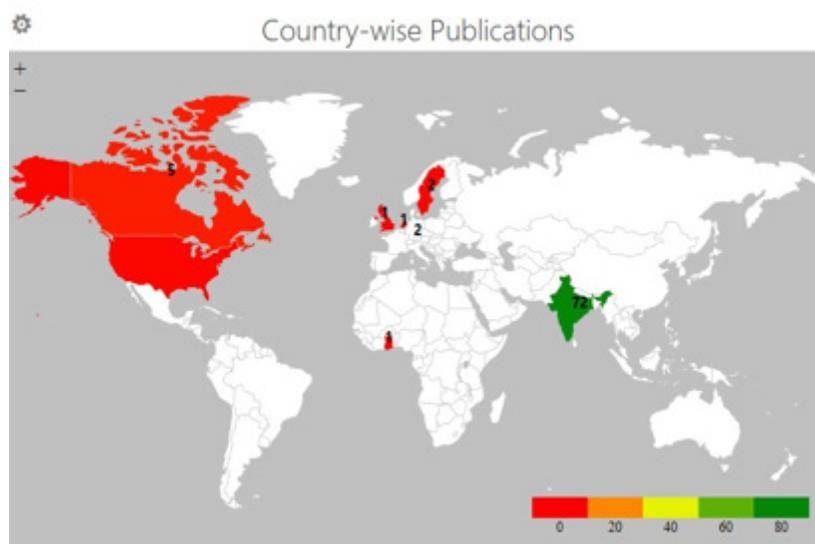
**Table 6: Citation analysis of Prof. Madhav Gadgil**

Year	TP	TP%	CP	TC	TC%	CPP	RCI
1972	1	1.12	1	24	0.58	24	0.51
1975	2	2.24	2	28	0.68	14	0.30
1976	2	2.24	2	144	3.50	72	1.56
1979	1	1.12	1	10	0.24	10	0.21
1980	1	1.12	1	6	0.14	6	0.12
1981	1	1.12	1	15	0.36	15	0.3
1982	3	3.38	2	41	1	13.66	0.2
1983	2	2.24	2	37	0.89	18.5	0.3
1984	2	2.24	2	80	1.94	40	0.8
1985	3	3.38	2	12	0.29	4	0.08
1986	1	1.12	1	11	0.26	11	0.23
1987	1	1.12	1	47	1.16	47	1.03
1988	1	1.12	1	109	2.64	109	2.35
1989	2	2.24	2	166	4.03	83	1.79
1990	5	5.62	5	113	2.74	22.6	0.48
1991	4	4.50	4	121	2.93	30.25	0.65
1992	2	2.24	2	96	2.34	48	1.04
1993	5	5.62	5	833	20.22	166.6	3.60
1994	1	1.12	1	114	2.77	114	2.47
1995	3	3.38	3	436	10.58	145.33	3.13
1996	6	6.78	5	101	2.46	16.83	0.3
1997	5	5.62	5	228	5.53	45.6	0.94
1998	5	5.62	5	234	5.69	46.8	1.03
1999	6	6.78	5	258	6.27	43	0.92
2000	4	4.50	3	113	2.75	28.25	0.61
2001	1	1.12	1	1	0.02	1	0.01
2002	1	1.12	1	72	1.75	72	1.56
2003	3	3.38	3	98	2.37	32.66	0.70
2005	2	2.24	2	23	0.55	11.5	0.24
2006	1	1.12	1	106	2.59	106	2.31
2007	1	1.12	1	12	0.30	12	0.2
2009	1	1.12	1	3	0.07	3	0.06
2011	1	1.12	1	21	0.52	21	0.46
2013	2	2.24	2	373	9.06	186.5	4.04
2014	2	2.24	2	15	0.37	7.5	0.16
2015	1	1.12	1	1	0.02	1	0.01
2016	2	2.24	1	2	0.04	1	0.01
2019	1	1.12	1	2	0.04	2	0.03
2021	1	1.12	1	13	0.31	13	0.27
	89	100	83	4119	100		

P: Total Publications; CP: Cited Publications; TC: Total Citations; CPP: Citations per paper; RCI: Relative Citation Impact.

**Table 7: Highly cited publications**

Sl. No.	Highly Cited Publications	Type of Publication	Citations	IF (2021)
1	Gadgil M., Berkes F., Folke C. Indigenous knowledge for biodiversity conservation in <i>Ambio</i> , vol. 22, pp. 151-156, March 1993.	Journal Article	795	6.943
2	Gadgil M., Guha R. Ecology and equity: the use and abuse of nature in contemporary India, Routledge, 1995.	Book	372	NA
3	Gadgil M., Guha R. This Fissured Land: An Ecological History of India, Oxford University Press, 2013.	Book	371	NA
4	Ravindranath N.H., Somashekhar B.S., Gadgil M. Carbon flow in <i>Indian forests in Climatic Change</i> , vol. 35, no.3, pp. 297-320, 1997.	Journal Article	152	4.743
5	Gadgil M., Vartak V.D. The sacred groves of Western Ghats in <i>India in Economic Botany</i> , vol.35, no.2, pp. 152-160, 1976.	Journal Article	142	2.351
6	Guha R., Gadgil M. State forestry and social conflict in British India in <i>Past and Present</i> vol.122, no.1, pp. 141-177, 1989.	Journal Article	136	2.188
7	Berkes F., Kislalioglu M., Folke C., Gadgil M. Exploring the basic ecological unit: Ecosystem-like concepts in traditional societies, in <i>Ecosystems</i> vol. 1, no.5, pp. 409-415, 1998.	Journal Article	130	4.345
8	Gadgil M., Guha R. Ecological Conflicts and the Environmental Movement in India in <i>Development and Change</i> , vol. 25, no.1, pp. 101-136, 1994.	Journal Article	114	3.458
9	Sukumar R., Gadgil M. Male-female differences in foraging on crops by Asian elephants in <i>Animal Behaviour</i> , vol. 36, no. 1, pp.1233-1235, 1988.	Journal Article	109	3.039
10	Loreau M. et al. Diversity without representation. <i>Nature</i> , vol. 442, no. 7100, pp. 245-246, 2006.	Journal Article	106	69.504



**Figure 5:** Country-wise publications

**Table 8: Relative uncitedness index**

Year	TP (1)	TP% (2)	UCP (3)	UCP % (4)	RUI (4)/(2)
1972	1	1.12	0	0.00	0.00
1975	2	2.24	0	0.00	0.00
1976	2	2.24	0	0.00	0.00
1979	1	1.12	0	0.00	0.00
1980	1	1.12	0	0.00	0.00
1981	1	1.12	0	0.00	0.00
1982	3	3.38	1	0.16	0.04
1983	2	2.24	0	0.00	0.00
1984	2	2.24	0	0.00	0.00
1985	3	3.38	1	0.16	0.04
1986	1	1.12	0	0.00	0.00
1987	1	1.12	0	0.00	0.00
1988	1	1.12	0	0.00	0.00
1989	2	2.24	0	0.00	0.00
1990	5	5.62	0	0.00	0.00
1991	4	4.50	0	0.00	0.00
1992	2	2.24	0	0.00	0.00
1993	5	5.62	0	0.00	0.00
1994	1	1.12	0	0.00	0.00
1995	3	3.38	0	0.00	0.00
1996	6	6.78	1	0.16	0.02
1997	5	5.62	0	0.00	0.00
1998	5	5.62	0	0.00	0.00
1999	6	6.78	1	0.16	0.02
2000	4	4.50	1	0.16	0.03
2001	1	1.12	0	0.00	0.00
2002	1	1.12	0	0.00	0.00
2003	3	3.38	0	0.00	0.00
2005	2	2.24	0	0.00	0.00
2006	1	1.12	0	0.00	0.00
2007	1	1.12	0	0.00	0.00
2009	1	1.12	0	0.00	0.00
2011	1	1.12	0	0.00	0.00
2013	2	2.24	0	0.00	0.00
2014	2	2.24	0	0.00	0.00
2015	1	1.12	0	0.00	0.00
2016	2	2.24	1	0.16	0.07
2019	1	1.12	0	0.00	0.00
2021	1	1.12	0	0.00	0.00
	89	100	6		

TP: Total Publications; UCP: Uncited Publications; RUI: Relative Uncitedness Index.

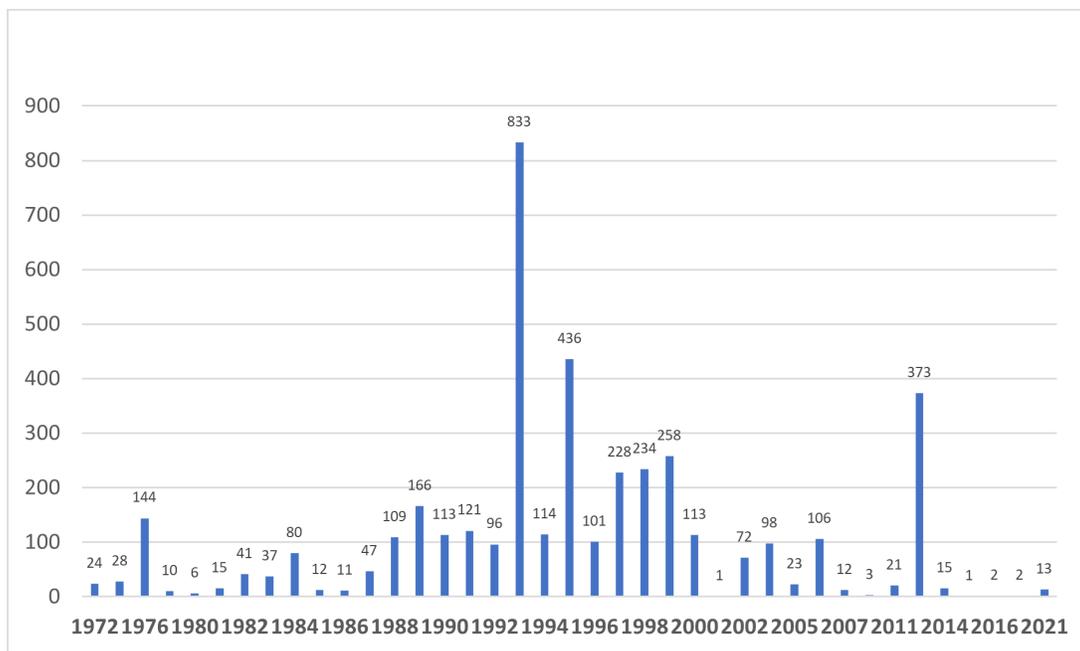


Figure 6: Year-wise citations

indicating varying degrees of uncitedness among Prof. Gadgil's publications.

### Keyword tomography

Keywords play a crucial role in appropriately indexing a research paper. In the case of Prof. Gadgil's publications, the most frequently used keyword is "Biodiversity," appearing in 7 papers. This is followed by "India," which appears in 5 papers. Additionally, keywords such as "Deforestation" and "Western Ghats" are used in 4 papers each. Other keywords used by Prof. Gadgil range between 1 and 3 occurrences. These keywords provide insights into the scholar's areas of interest and research focus.

### CONCLUSION

Prof. Madhav Gadgil is a highly accomplished and respected academic with a remarkable research career. His contributions to environmental science and ecology have impacted his peers, students, and researchers in India. Prof. Gadgil's extensive work significantly enhanced our understanding of various subjects within his specialization.

Prof. Gadgil wrote 89 publications in the Scopus-indexed journals alone and garnered 4119 citations. However, his overall publication record exceeds 200 publications, with over 13,000 citations, including papers published in non-Scopus-indexed journals. This demonstrates the breadth and depth of his research output.

In addition to his publications, Prof. Gadgil actively served on various committees and released reports that provide valuable recommendations, particularly regarding the Western Ghats.

The strong correlation between the quantity and quality of his work is evident in the numerous honors, fellowships, and awards he received. A scientometric portrait of Prof. Madhav Gadgil's research career is a source of inspiration and productivity for aspiring professionals in the field. His achievements and accomplishments stand as a shining example and role model for budding ecologists and researchers, inspiring them to pursue excellence in their endeavors.

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