

# RESEARCH PRODUCTIVITY AND CITATIONS OF UNIVERSITIES IN SOUTH TAMIL NADU: A STUDY BASED INDIAN CITATION INDEX (ICI)

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## Abstract

*Indian Citation Index database is a powerful tool that let you search, track, measure and collaborate in the sciences, social sciences, arts, and humanities to turns raw data/information into the powerful knowledge you need. A database in general is a collection of information that is organized so that it can easily be accessed for various purposes, managed, and updated regularly. This paper is discussed about the published research articles and its citation from Universities in South Tamil Nadu. During period from 2009 to 2013, 377 articles were published which include, in the year 2009, 81 (21.49%) articles were published by three universities sand 45 citations were identified from Indian Citation Index.*

**Keywords:** Indian Citation Index; Year wise Productivity; Citation Analysis; Document Type

## INTRODUCTION

India is contributing good amount of knowledge but there is no tool for evaluation and measurement of its knowledge. At international level few tools/databases are available but coverage of Indian knowledge contents particularly published in local national journals are negligible. If you can measure that of which you speak, and can express it by a number, you know something of your subject; but if you cannot measure it, your knowledge is meager and unsatisfactory." William Thomson, Lord Kelvin. India is a huge part of the global society, has long and distinguished history as country, possess capability and vital resource to influence, mark presence on the emerging universe of knowledge. Therefore, these tools/databases are not adequate to evaluate/ analyze India's knowledge contents. To resolve similar limitation, few countries, like China, Korea, Japan etc. have already brought out their own citation indexes. Mr. Prakash Chand, Ex Scientist NISCAIR, CSIR and M/s DIVA ENTERPRISES Pvt. Ltd. with a view to address this long felt need have developed and brought out multidisciplinary Indian Citation Index (ICI) by scanning -1000 journals of Indian origin.

## INDIAN CITATION INDEX (ICI)

Indian Citation Index (ICI) is a home grown abstracts and citation database, with multidisciplinary objective information/knowledge contents from about 1000 top Indian scholarly journals. It provides powerful search engine basically to perform search and evaluation for researchers, policy makers, decision makers etc. At present, it is planned to launch this long awaited and needed information tool with five years back files (depth) which would go over 10 years and beyond in a year's time. ICI database is a powerful tool that let you search, track, measure and collaborate in the sciences, social sciences, arts, and humanities to turns raw data/information into the powerful knowledge you need. Indian Citation Index (ICI) database is an abstracts and citation database intended to measure and perform two basic functions, general literature search and evaluation using citations similar to international databases. A database in general is a collection of information that is organized so that it can easily be accessed for various purposes, managed, and updated regularly. Citations symbolize the association of R&D ideas. The references that researchers cite in their papers make explicit links between their current research and prior work in the literature archive. Indian Citation Index (ICI) use intellectual links by listing both cited and citing works. Like other indexes, this enables one to move back in time to previously published papers. But uniquely one can also look forward in time to determine who has subsequently cited an earlier piece of research. ICI is the abbreviation of "Indian Citation Index "(ICI). It is a multidisciplinary abstract and citation database of journals publish from India. ICI is useful for researchers, administrators, policy makers, editors, librarians and analysts for their respective nature of work. Once you get registered with the site you will be given a 30 days trial to see and adjudge its usability. The access to ICI without registration is now restricted, you need to register yourself before you are given an access to ICI.

## SCOPE OF THE STUDY

The main aim the study is to analysis the research output and its citation by the authors from Universities in South Tamil Nadu. In South Tamil Nadu consist of four government Universities such as The Gandhigram Rural Institute Gandhigram, Madurai Kamaraj University Madurai and Manonmaniam Sundaranar University Tirunelveli and Mother Teresa University for Women, Kodaikanal. It is discussed about the research articles produced by the authors and also shows the citation and cited articles.

## OBJECTIVES OF THE STUDY

Based on the sources the framed objectives are;

1. To identify the year wise publication of article in ICI
2. To know the year wise citation and Cited Articles
3. To identify the subject by highly cited
4. To classify the Document type

METHODOLOGY

Citation analysis is one of the most widely used methods of Bibliometrics. It is the examination of the frequency, patterns, and graphs of citations in articles and books. . This study is aimed to discuss about the analysis of the citation index of the research output by faculty members of Annamalai University, Annamalai Nagar. The relevant sources and data are collected from Indian Citation Index on 20.3.2014. Based on the available sources the following discussions were made.

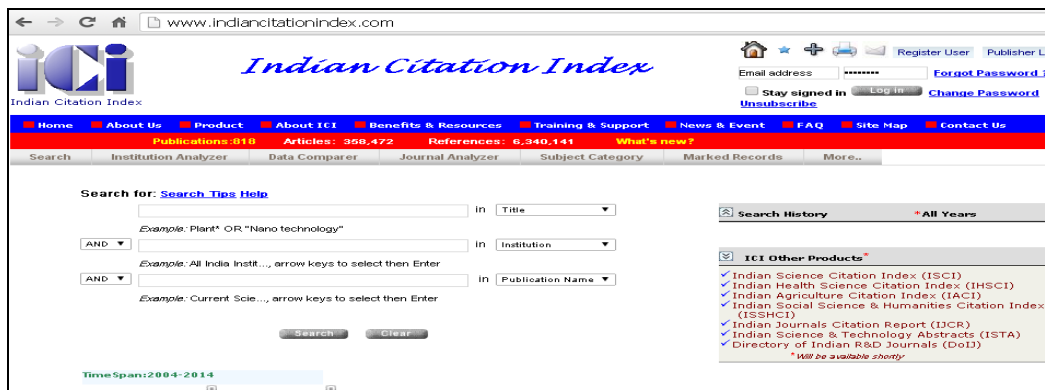


Figure 1.Home Page of Indian Citation index

ANALYSIS AND INTERPRETATION

The distributions of the research publication productivity and the contributions by the various authors from Universities in South Tamil Nadu. The relevant were collected and that is available in the Indian Citation Index, were analyzed in the table 1.

Table 1: Distribution of published Articles from Universities in South Tamil Nadu

Sl. No.	Year	Gandhigram Rural Institute (GRI)	Madurai Kamaraj University (MKU)	Manonmaniam Sundaranar University (MSU)	Total
1	2009	29(7.69)	12(3.18)	40(10.61)	81(21.49)
2	2010	24(6.37)	12(3.18)	41(10.88)	77(20.42)
3	2011	32(8.49)	9(2.39)	50(13.26)	91(24.14)
4	2012	22(5.84)	12(3.18)	44(11.67)	78(20.69)
5	2013	15(3.98)	5(1.33)	30(7.96)	50(13.26)
		<b>122(32.36)</b>	<b>50(13.26)</b>	<b>205(54.38)</b>	<b>377(100)</b>

Table 1 indicates the year wise distribution of articles published by the various authors from Universities in South Tamil Nadu. In South Tamil Nadu Contains four government Universities such as The Gandhigram Rural Institute Gandhigram, Madurai Kamaraj University Madurai and Manonmaniam Sundaranar University Tirunelveli and Mother Teresa University for Women, Kodaikanal. As per the data available in the Indian Citation Index there no such papers

published from Mother Teresa University. It is considered for the last 5 years i.e 2009 to 2013. During the period 377 articles were published which are indexed in Indian Citation Index. Among the 377, in the year 2009, 81 (21.49%) articles were published by three universities. But the maximum no of article, 91 in the year 2011. Among the 91, 32(8.49%) articles from Gandhigram Rural Institute, 50 (13.26%) articles from Manonmaniam Sundaranar University and 9(2.39%) Madurai Kamaraj University. It clearly shows the authors from Manonmaniam Sundaranar University are more concentrating on Indian journals,

**Table 2: Year Wise Distribution of Citation from Universities in South Tamil Nadu**

Sl. No.	Year	Gandhigram Rural Institute (GRI)	Madurai Kamaraj University (MKU)	Manonmaniam Sundaranar University (MSU)	Total
1	2009	8(17.78)	5(11.11)	3(6.67)	16(35.56)
2	2010	2(4.44)	1(2.22)	9(20.00)	12(26.67)
3	2011	2(4.44)	1(2.22)	8(17.78)	11(24.44)
4	2012	1(2.22)	0	3(6.67)	4(8.89)
5	2013	1(2.22)	0	1(2.22)	2(4.44)
		<b>14(31.11)</b>	<b>7(15.56)</b>	<b>24(53.33)</b>	<b>45(100)</b>

Table 2 indicates the year wise distribution of article citation by various authors from Universities from South Tamil Nadu. It is considered for the last five years from 2009 to 2013. During the period 45 citations were identified from Indian Citation Index. Among the 45, 14(31.11%) from Gandhigram Rural Institute, 7(15.56%) from Madurai Kamaraj University and 24(6.67%) from Manonmaniam Sundaranar University citations were identified. In the year 2009, 8 (17.78%) from Gandhigram Rural Institute, 5(11.11%) from Madurai Kamaraj University and 3(6.67%) from Manonmaniam Sundaranar University citations were identified. The highest no. of citations 16 (35.56%) were identified in the year 2009.

**Table 3: Year Wise Distribution of Cited Article from Universities in South Tamil Nadu**

Sl.No.	Year	Gandhigram Rural Institute (GRI)	Madurai Kamaraj University (MKU)	Manonmaniam Sundaranar University (MSU)	Total
1	2009	6(17.65)	3(8.82)	3(8.82)	12(35.29)
2	2010	1(2.94)	1(2.94)	5(14.71)	7(20.59)
3	2011	2(5.88)	1(2.94)	6(17.65)	9(26.47)
4	2012	1(2.94)	0	3(8.82)	4(11.76)
5	2013	1(2.94)	0	1(2.94)	2(5.88)
		<b>11(32.35)</b>	<b>5(14.71)</b>	<b>18(52.94)</b>	<b>34(100)</b>

Table 3 states the year wise distribution of various cited article from Universities from South Tamil Nadu. From the year 2009 to 2013 nearly 34 cited articles were identified from Indian Citation Index. Among the 34, 12(35.29%) cited articles from 2009, 7(20.59%) cited articles

from 2010, 9(26.47%) cited articles from 2011, 4(11.76%) cited articles from 2012 and 2(5.88%) cited articles from 2013 were identified. It is clearly shows from the year 2009 the cited articles rate is in the decreasing order.

**Table 4: Subject Wise Distribution of Cited Articles (TOP 15)**

Sl. No.	Name	Gandhigram Rural Institute (GRI)	Madurai Kamaraj University (MKU)	Manonmaniam Sundaranar University (MSU)	Total
1	Agriculture	7(2.76)	1(0.39)	3(1.18)	11(4.33)
2	Arts and Humanities	1(0.39)	0	0	1(0.39)
3	Astronomy, Astrophysics, Space and Geodesy	0	0	1(0.39)	1(0.39)
4	Biological Science	24(9.45)	8(3.15)	38(14.96)	70(27.56)
5	Biotechnology	6(2.36)	2(0.79)	11(4.33)	19(7.48)
6	Botany	13(5.12)	0	14(5.51)	27(10.63)
7	Business and Marketing	0	1(0.39)	3(1.18)	4(1.57)
8	Chemistry	20(7.87)	6(2.36)	35(13.78)	61(24.02)
9	Computer Science and Technology	4(1.57)	4(1.57)	13(5.12)	21(8.27)
10	Dairying, Dairy, Animals and Animals Produce	3(1.18)	0	1(0.39)	4(1.57)
11	Domestic Science	5(19.7)	0	0	5(1.97)
12	Earth and Geological Science	3(1.18)	0	2(0.79)	5(1.97)
13	Education	0	1(0.39)	0	1(0.39)
14	Engineering Science and Technology	0	4(1.57)	0	4(1.57)
15	Environmental Science	0	7(2.76)	0	7(2.76)
16	General Science & Technology	0	13(5.12)	0	13(5.12)
	<b>Total</b>	<b>86(33.86)</b>	<b>47(18.50)</b>	<b>121(47.64)</b>	<b>254(100)</b>

Table 4 shows the top 15 subjects it includes various articles published and cited by the authors from Universities in South Tamil Nadu y which are available in the Indian Citation Index. As per the sources available in the Indian Citation Index more than 50 articles were published from Biological Sciences and Chemistry subject. But in the other case, less than 10 articles were published from Arts and Humanities/Astronomy, Astrophysics, Space and Geodesy,/Business and Marketing/Dairying, Dairy, Animals and Animals Produce/ Domestic Science/ Earth and Geological Science/ Education/ Engineering Science and Technology and Environmental Science subjects.

**Table 5: Distribution of Article and Citations from Universities in South Tamil Nadu**

Sl. No.	Year	No. of Articles				No. of Citations			
		GRI	MKU	MSU	Total	GRI	MKU	MSU	Total
1	2009	29 (7.69)	12 (3.18)	40 (10.61)	81 (21.49)	8 (17.78)	5 (11.11)	3 (6.67)	16 (35.56)
2	2010	24 (6.37)	12 (3.18)	41 (10.88)	77 (20.42)	2 (4.44)	1 (2.22)	9 (20.00)	12 (26.67)
3	2011	32 (8.49)	9(2.39)	50 (13.26)	91 (24.14)	2 (4.44)	1(2.22)	8 (17.78)	11 (24.44)
4	2012	22 (5.84)	12 (3.18)	44 (11.67)	78 (20.69)	1 (2.22)	0	3 (6.67)	4 (8.890)
5	2013	15 (3.98)	5 (1.33)	30 (7.96)	50 (13.26)	1 (2.22)	0	1 (2.22)	2 (4.44)
<b>Total</b>		<b>122 (32.36)</b>	<b>50 (13.26)</b>	<b>205 (54.38)</b>	<b>377 (100)</b>	<b>14 (31.11)</b>	<b>7(15.56)</b>	<b>24 (53.33)</b>	<b>45 (100)</b>

Table 5 indicates the year wise distribution of articles published by the various authors from Universities in South Tamil Nadu. During the year 2009 to 2013, 377 articles were published which are indexed in Indian Citation Index. Among the 377, in the year 2009, 81 (21.49%) articles were published by three universities. But the maximum no of article, 91 in the year 2011. Among the 91, 32(8.49%) articles from Gandhigram Rural Institute, 50 (13.26%) articles from Manonmaniam Sundaranar University and 9(2.39%) Madurai Kamaraj University. In the part of citations during the period 45 citations were identified from Indian Citation Index. Among the 45, 14(31.11%) from Gandhigram Rural Institute, 7(15.56%) from Madurai Kamaraj University and 24(6.67%) from Manonmaniam Sundaranar University citations were identified. It is clearly shows very less no. of articles were cited.

**Table 5: Distribution of Citations and Cited Article from Universities in South Tamil Nadu**

Sl. No.	Year	No. of Citations				No. of Cited articles			
		GRI	MKU	MSU	Total	GRI	MKU	MSU	Total
1	2009	8 (17.78)	5 (11.11)	3 (6.67)	16 (35.56)	6 (17.65)	3 (8.82)	3 (8.82)	12 (35.29)
2	2010	2 (4.44)	1 (2.22)	9 (20.00)	12 (26.67)	1 (2.94)	1 (2.94)	5 (14.71)	7 (20.59)
3	2011	2 (4.44)	1 (2.22)	8 (17.78)	11 (24.44)	2 (5.88)	1 (2.94)	6 (17.65)	9 (26.47)
4	2012	1 (2.22)	0	3 (6.67)	4 (8.890)	1 (2.94)	0	3 (8.82)	4 (11.76)
5	2013	1 (2.22)	0	1 (2.22)	2 (4.44)	1 (2.94)	0	1 (2.94)	2 (5.88)
<b>Total</b>		<b>14 (31.11)</b>	<b>7 (15.56)</b>	<b>24 (53.33)</b>	<b>45 (100)</b>	<b>11 (32.35)</b>	<b>5 (14.71)</b>	<b>18 (52.94)</b>	<b>34 (100)</b>

Table 6 indicates the year wise distribution of article citation and cited articles by various authors from Universities from South Tamil Nadu. It is considered for the last five years from 2009 to 2013. The highest no. of citations 16 (35.56%) were identified in the year 2009. From the year 2009 to 2013 nearly 34 cited articles were identified from Indian Citation Index. It is clearly shows from the year 2009 the cited articles rate is in the decreasing order.

**Table 7: Distribution of Document Type (Articles Cited)**

Sl. No.	Year	Gandhigram Rural Institute (GRI)	Madurai Kamaraj University (MKU)	Manonmaniam Sundaranar University (MSU)	Total
1	Case Study	1(0.27)	1(0.27)	1(0.27)(0.27)	3(0.80)
2	Editorial	2(0.53)	3(0.80)	3(0.80)	8(2.13)
3	Report (R&D)	0	0	1(0.27)	1(0.27)
4	Research Article	113(30.05)	40(10.64)	189(50.27)	342(90.96)
5	Research Method	0	0	1(0.27)	1(0.27)
6	Research Note	2(0.53)	1(0.27)	2(0.53)	5(1.33)
7	Review Article	2(0.53)	1(0.27)	3(0.80)	6(1.60)
8	Short Communication	2(0.53)	4(1.06)	5(1.33)	11(2.93)
	<b>Total</b>	<b>122(32.18)</b>	<b>50(13.30)</b>	<b>205(54.52)</b>	<b>377(100)</b>

The table 7 indicates the distribution of document type based on the articles published from authors from Universities in South Tamil Nadu. It shows 377 articles, which includes 342(90.96%) Research Articles, 11(2.93%) in Short communications, 8(2.13%) Editorial , 6(1.60%) review articles. It is concluded that the highest articles are from research article type. From Gandhigram Rural Institute among the 122 (32.18%) 113(30.05%) are type of research articles which is available in the Indian Citation Index.

## FINDINGS

- In South Tamil Nadu Contains four government Universities such as The Gandhigram Rural Institute Gandhigram, Madurai Kamaraj University Madurai and Manonmaniam Sundaranar University Tirunelveli and Mother Teresa University for Women, Kodaikanal. As per the data available in the Indian Citation Index there no such papers published from Mother Teresa University.
- During the period 377 articles were published which are indexed in Indian Citation Index. Among the 377, in the year 2009, 81 (21.49%) articles were published by three universities. But the maximum no of article, 91 in the year 2011.
- In the year 2009, 8 (17.78%) from Gandhigram Rural Institute, 5(11.11%) from Madurai Kamaraj University and 3(6.67%) from Manonmaniam Sundaranar University citations were identified. The highest no. of citations 16 (35.56%) were identified in the year 2009.

- As per the sources available in the Indian Citation Index more than 50 articles were published from Biological Sciences and Chemistry subject.
- Among the 377 articles, the type of document which includes 342(90.96%) Research Articles, 11(2.93%) in Short communications, 8(2.13%) Editorial , 6(1.60%) review articles.

## CONCLUSION

Indian Citation Index is increase the visibility of and access to other library resources. It provides users to search peer-reviewed and highly used contents publish in local national journals. ICI is useful for researchers, administrators, policy makers, editors, librarians and analysts for their respective nature of work. So, the library professionals are make the necessary arrangement to bring out knowledge and utilization Indian Citation Index and its benefits to end user community

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