

Scientometric Analysis of Literature on Self-Reliant India (1979-2024)

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Librarian

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Abstract: *This study presented remarkable findings that core to fulfill Developed India Mission 2047. It remembers that true self-reliance is built on the standards of skill development, technological advancement, and inclusive growth. The study used Scientometrics parameters, and the period was restricted from 1979 to 2024. The study is based on literature published on self-reliant India and raw data was retrieved from the SCOPUS database with proper search string. The study found that increasing trend of literature on 'self-reliant' after 2019 and Lotka's law reveals, 0.934% of the authors (466 authors) have one publication. The CSIR-National Physical Laboratory has greater number of documents and stimulating finding is that India has secured top rank in terms of literature production on self-reliant. This study will be useful to the students, teachers, researcher scholars and policy makers and those who are working in the area of social cause and self-reliant.*

Keywords: Self-reliant, India, Scientometrics, Biblioshiny

I. INTRODUCTION

The vision behind self-reliant India is to reduce dependency on imports, especially in key sectors such as manufacturing, technology, and agriculture; while simultaneously promoting domestic industries, entrepreneurship and innovation. The assessments of scientific literature produced at the individual or institutional level have been done to map the impact of the literature produced. These assessments enable the rating of the contribution of research papers by the evaluation of various statistical indicators. It also helps allocating funds for policymaking and international benchmarking. (Diem & Wolter, 2013) These works present annual scientific productions on 'self-reliant India'. The researchers were observed that the literature production rate is low but after 2019, the production rate has been increasing tremendously.

II. LITERATURE REVIEW

The authors focused on the economic progression of India's respective to self-reliant. There is a gap in research work that, the study left out the law-related issues to IPR. (Venkateswaran & Bhat, 2022)

The author discussed covid-19 pandemic and how the country faced various situations and practices. He presents a study on different aspects and conclusions. (Sarukkai, 2021)

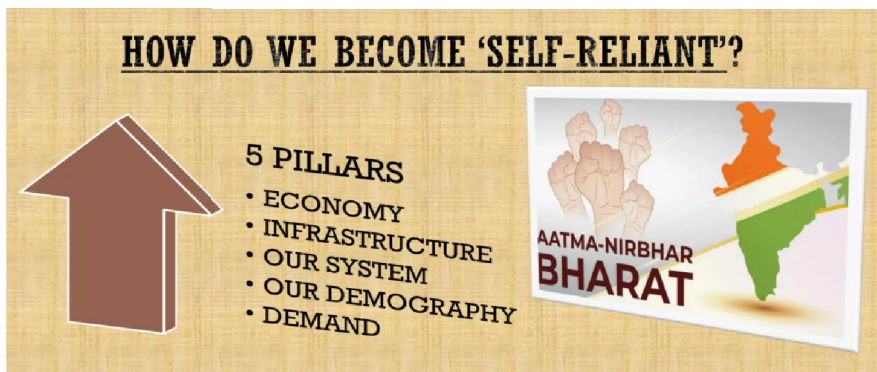
The author has analyzed that, India has the abilities to become self-reliant in the scenario of post-COVID-19. (Alam et al., 2021)

The author analyzed the economic, political, and technological aspects of self-reliance. This study intends to provide significant insights into shaping and enhancing India's self-reliance in global environmental issues through a review of guidelines for policies, initiatives, and empirical research. (M. & Yamuna, 2023)

The author suggested that, India has the potential to create the medical supportive equipment in period of Covid-19. The Study elaborates to understand the upcoming impact on the country and the youth during the period of COVID-19. This data was collected in the study through a questionnaire. (Pillai et al., 2010)

Browsing the available literature, it was found that there was no Scientometrics study conducted on production of scientific literature published on scientometric analysis of literature on self-reliant India.

Dynamic factors towards self-reliant India



Source: <https://image.slidesharecdn.com/selfreliantindia-210529091230/75/self-reliant-india-7-2048.jpg?cb=1667312905>(Self-reliant-India-7-2048.Jpg (2048×1152), n.d.)

Objective of the study:

- To identify the annual scientific productions on Self Reliant India research (SRI), most relevant sources and most relevant authors.
- To evaluate the authorship pattern and frequency distribution of scientific productivity through Lotka’s law.
- To identify the top ten-most global cited documents on SRI.
- To identify the top ten-most relevant affiliations/Institutes.
- To find out the country-wise scientific production.

III. RESEARCH METHODOLOGY

The study used scientometrics parameters and the period was restricted from 1979 to 2024. The study is based on literature published on Self Reliant India and raw data was retrieved from the SCOPUS database with proper search string on 18th February 2024. “TITLE-ABS-KEY (self AND reliant AND India) AND (LIMIT-TO (LANGUAGE, English))” this search strategy generated 200 documents and the study was employed for further review. The entire bibliographic data was retrieved in CSV file format and further analysis was done through Biblioshiny (Version.2022.02.1+461).

Main Information about data:

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	1979:2024
Sources (Journals, Books, etc)	173
Documents	200
Annual Growth Rate %	0
Document Average Age	8.71
Average citations per doc	3.685
References	6861
DOCUMENT CONTENTS	
Keywords Plus (ID)	1206
Author's Keywords (DE)	679

AUTHORS	
Authors	499
Authors of single-authored docs	64
AUTHORS COLLABORATION	
Single-authored docs	65
Co-Authors per Doc	2.73
International co-authorships %	8
DOCUMENT TYPES	
article	129
book	3
book chapter	26
conference paper	24
conference review	1
note	1
review	15
short survey	1

Table 1: Descriptive analysis: Main information on Self Reliant India Research

IV. DATA ANALYSIS AND INTERPRETATION

Fig. No.1 depicts the annual scientific production on 'self-reliant India' research. It is observed that the literature production rate is low but after 2019, the production rate has been increased tremendously. The reason behind was that number campaigns has been initiated by the respective government i.e. 2019 (11), 2020 (16), 2021 (26), 2022 (26), 2023 (33)

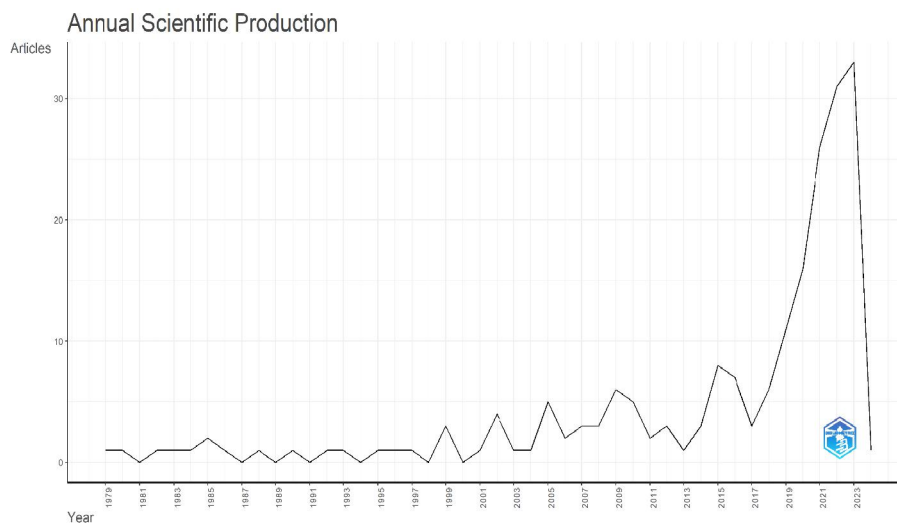


Fig.1: Annual Scientific Production

Most Relevant Sources:

Sources	Articles
CURRENT SCIENCE	6
INTERNATIONAL JOURNAL OF APPLIED ENGINEERING RESEARCH	4

INDIAN JOURNAL OF AGRICULTURAL SCIENCES	3
INDIAN JOURNAL OF ECONOMICS AND DEVELOPMENT	3
JOURNAL OF RURAL DEVELOPMENT	3
ADVANCES IN INTELLIGENT SYSTEMS AND COMPUTING	2
FIIB BUSINESS REVIEW	2
GLOBAL BUSINESS REVIEW	2
GLOBAL TRADE AND CUSTOMS JOURNAL	2
INDIAN JOURNAL OF LEPROSY	2

Table No. 2 : Most Relevant Sources

Table No. 2 depicts the most relevant sources which are associated with the publication on ‘Self Reliant India’. Top ten sources identified from the collected data from SCOPUS database. Current Science Journal has published a greater number of documents (6) followed by International Journal of Applied Engineering Research (4)

Most Relevant Authors:

Fig. No. 2 depicts the top authors who has been published articles about literature of ‘Self Reliant India’. It is observed that Kumar, S. (6) followed by Aswal DK (5) articles, Singh, S. (4), Garg N. (3)

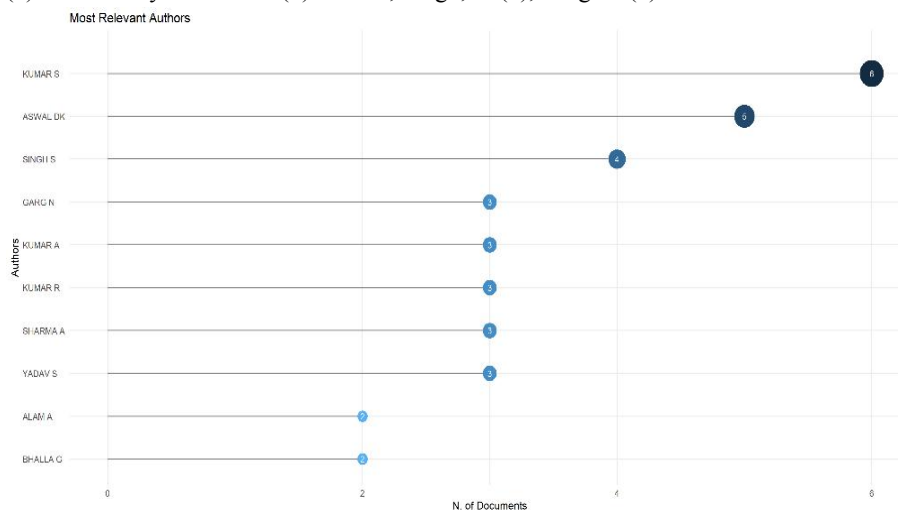


Fig. 2: Most Relevant Authors

Lotka's Law and Author Productivity:

Scientific Productivity through Lotka’s Law has been applied for collected data and result is indicated in the Table No. 3 and Fig No. 3. Total 466 authors contributed articles during the period from 1979 to 2024. Here Lotka’s law reveals that 0.934% of the authors (466 authors) have one publication, and 0.05 % of the authors (25 authors) have two publications.

Documents written	N. of Authors	Proportion of Authors
1	466	0.934
2	25	0.05
3	5	0.01
4	1	0.002
5	1	0.002
6	1	0.002

Table No. 3: Lotka’s Law and Author Productivity

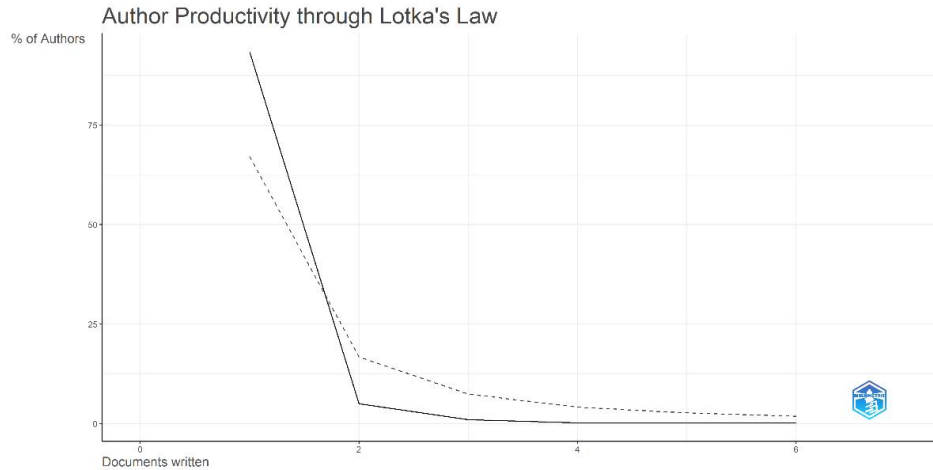


Fig.3: Author Productivity through Lotka's Law

Most Relevant Affiliations:

The researchers have tried to analyze the most relevant affiliations produced the literature about Self Reliant India Research. CSIR-National Physical Laboratory has produced greater number of articles (18), followed by ICAR-Indian Grassland and Fodder Research Institute.

Affiliation	Articles
CSIR-NATIONAL PHYSICAL LABORATORY	18
ICAR-INDIAN GRASSLAND AND FODDER RESEARCH INSTITUTE	9
ICAR-CENTRAL INSTITUTE OF BRACKISHWATER AQUACULTURE	8
ICAR-INDIAN INSTITUTE OF WATER MANAGEMENT	7
INSTITUTE OF FOREST PRODUCTIVITY	6
NARSEE MONJI INSTITUTE OF MANAGEMENT STUDIES DEEMED TO BE UNIVERSITY	6
VYAS DENTAL COLLEGE AND HOSPITAL	6
CSIR - NATIONAL PHYSICAL LABORATORY	5
CSIR-NATIONAL PHYSICAL LABORATORY (CSIR-NPL)	5
INCHEON NATIONAL UNIVERSITY	5

Table No. 4 : Most Relevant Affiliation

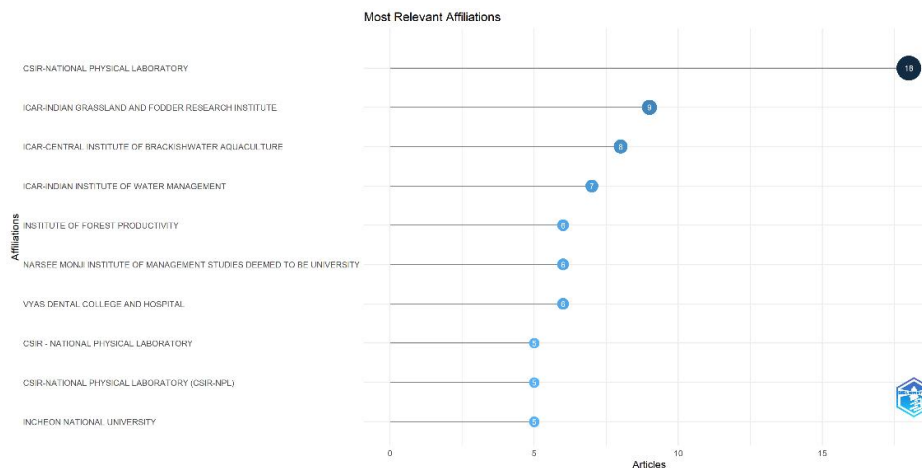


Fig. No. 4: Most Relevant Affiliation

Countries' Scientific Production:

Country wise scientific production depicted in the Table No. 4 and Fig No. 5. It is seen that India has produced a greater number of documents (448), followed by USA (22), then, UK (8). It means that Self Reliant India has been started in India, therefore this literature produced by Indian Jurisdiction only.

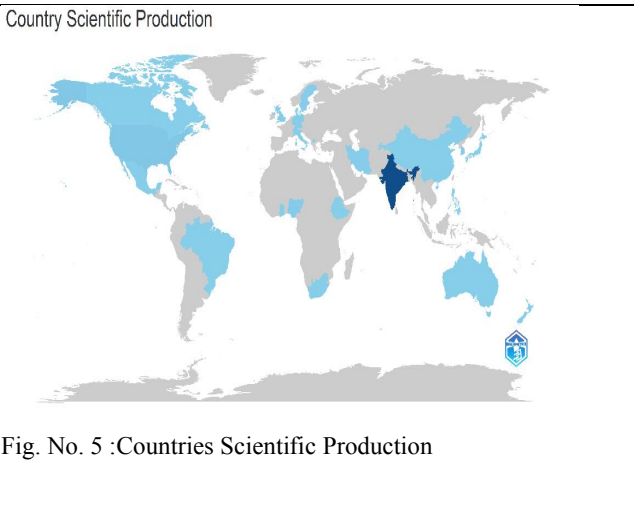
region	Freq	Country Scientific Production 
INDIA	448	
USA	22	
UK	8	
NIGERIA	6	
SOUTH KOREA	6	
GERMANY	4	
IRAN	3	
SINGAPORE	3	
SWEDEN	3	
AUSTRALIA	2	

Table No. 5 : Countries Scientific Production

Fig. No. 5 : Countries Scientific Production

Top Ten Most Global Cited Documents:

Table No. 6 shows that the documents which have been cited mostly are associated with 'Self Reliant India' research. HAYAT P, 2016, INDIA Q has received (54) citations followed by SINHA A, 2016, GLOB INDIA: HOW GLOB RULES AND MARK ARE SHAP INDIA'S RISE TO POWER (38).

Paper	DOI	Total Citations	TC per Year	Normalize d TC
HAYAT P, 2016, INDIA Q	10.1177/0974928416637930	54	6.00	3.32
SINHA A, 2016, GLOB INDIA: HOW GLOB RULES AND MARK ARE SHAP INDIA'S RISE TO POWER	10.1017/CBO9781316480540	38	4.22	2.33
BRIGHT B, 2021, GLOBALIZATION HEALTH	10.1186/s12992-021-00668-6	31	7.75	6.89
D'COSTA AP, 2002, INT J TECHNOL MANAGE	10.1504/IJTM.2002.003079	29	1.26	3.14
NIMMI PM, 2022, HIGH EDUC SKILLS WORK BASED LEARNING	10.1108/HESWBL-01-2021-0004	25	8.33	7.38
RAB S, 2020, MAPAN J METROL SOC IND	10.1007/s12647-020-00400-6	23	4.60	5.84
KAUR R, 2009, CULT SOC HIST	10.2752/147800409X466272	18	1.13	4.32
PULICHERLA KK, 2022, ENVIRON RES	10.1016/j.envres.2021.112263	17	5.67	5.02
WANG C, 2021, PAC FOCUS	10.1111/pafo.12180	17	4.25	3.78
ASIM M, 2018, LECT NOTES ELECTR ENG	10.1007/978-981-10-4286-7_2	16	2.29	3.10

Table No. 6: Countries Scientific Production

V. FINDINGS

- It is observed that the literature production rate is low but after 2019, the production rate has been increased tremendously.
- According the Lotka's law reveals that, 0.934% of the authors (466 authors) have one publication, and 0.05 % of the authors (25 authors) have two publications.
- CSIR-National Physical Laboratory has produced greater number of articles (18), followed by ICAR-Indian Grassland and Fodder Research Institute.
- It is seen that India has produced a greater number of documents (448), followed by USA (22), then, UK (8).

V. CONCLUSION

This setup gives the sights of further next level of self-reliant India study, and it will give further direction to the researchers to find thirst areas. This study has presented remarkable findings that stimulate the 'Developed India Mission 2047. It remembers that true self-reliance is built on the standards of skill development, technological advancement, and inclusive growth. The interesting finding is that India has secured top rank by producing more literature after screening SCOPUS which is an authentic Indexing and abstracting database covering more than 94 million records from worldwide.

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