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Research Productivity of Green Economics Literature: A Bibliometric Analysis

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Abstract

This article has made an attempt to study the research productivity of Green economics literature. Nowadays, Bibliometrics is an interdisciplinary method and apply irrespective of subjects and branches in common, library and information science in particular.Green economy is an economy that results in reducing environmental risks and ecological scarcities and that aims for sustainable development without degrading the environment.For this study the researcher applied the search string "Green Economics" on Scopus database and downloaded a total of 3,464 documents during 2001- 2014..The following bibliographic parameters were taken for analyses and the results were brought under the year wise distribution, author wise distribution, source wise, document type wise, affixation wise, country wise and subject wise and ranked its each category of research productivity.

Keywords: Green Economics, Bibliometrics, Scopus Database, Bibliographic Output.

Introduction

The green economy is defined as an economy that results in reducing environmental risks and ecological scarcities, and that aims for sustainable development without degrading the environment. Green economists perceive nature as being extremely valuable and seek to maintain it. Supporters of this branch of economics are concerned with the environment and believe that actions should be taken to protect nature and encourage the positive co-existence of both humans and nature. Emphasis is placed on creating value through quality rather than on accumulating material items and money.

What is Green Economics?

A methodology of economics that support the harmonious interaction between humans and nature and attempts to meets the needs of both simultaneously. The green economic theories encompass a wide range of ideas all dealing with the interconnected relationship between people and the environment. Green economists assert that the basis for all economic decisions should be in some way tied to the ecosystem.

1. Year Wise Research Output of Green Economics

The table – 1 presents the year wise output of total documents 3,464 for the study period of 2001 to with 450 documents and followed by the year 2014 and 2013 has occupied the rank of second and third with 428 2014 and ranked according their number of publications. Among the 14 years, 2012 has occupied the top rank and 426 documents respectively. The below chart also show the year wise distribution of green economics by graphical representation of the whole study period.

Table – 1 Shows the Year wise Research Output of Green Economics

Year	Docs	%	Rank
2014	428	12.36	2
2013	426	12.30	3
2012	450	12.99	1
2011	399	11.52	4
2010	359	10.36	5
2009	287	8.29	6
2008	214	6.18	7
2007	192	5.54	8
2006	151	4.36	9
2005	148	4.27	10
2004	123	3.55	12
2003	134	3.87	11
2002	82	2.37	13
2001	71	2.05	14

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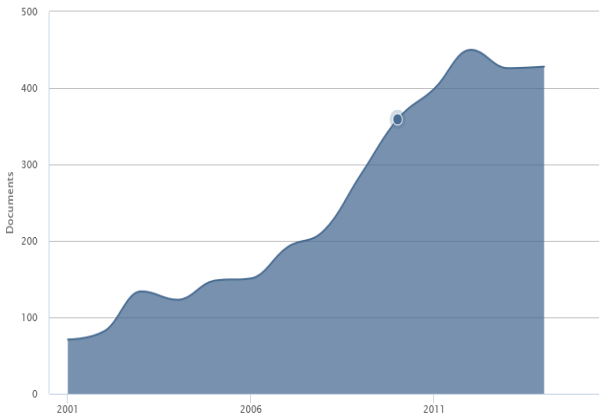
Figure – 1 Shows the Year wise Research Output of Green Economics

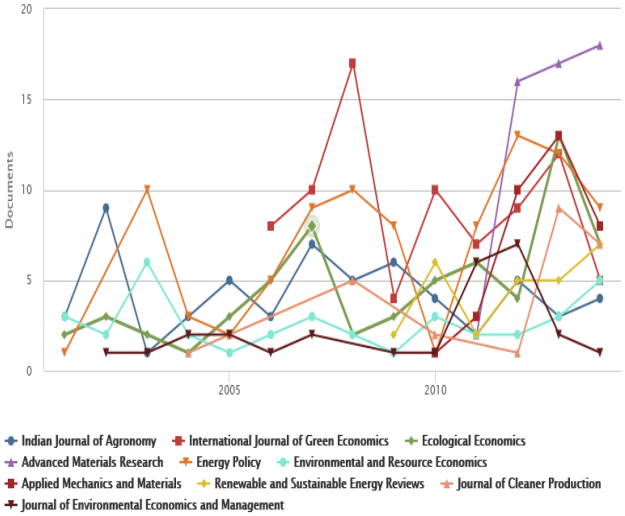


2. Source Wise Distribution of Green Economics Research Output

The table – 2 presents the top 10 source wise output of 3,464 for the study period of 2001 to 2014 found a total of 149 journals. Among them the "Energy Policy" has scored 91(2.63%) of documents and ranked at top; The "International Journal of Green" has occupied the second rank with 82(2.37%) of documents; the "Ecological Economics" has occupied third rank with 64(1.85%) of documents and followed by other sources. The Figure-2also shows the Documents per year by Source- top 10 Journals analyzed and graphically presented below.

Table – 2 & Figure – 2 shows the Top 10 Source Output of Green Economics

Source	Recs	%
Energy policy	91	2.63
International Journal of Green	82	2.37
Ecological Economics	64	1.85
Indian Journal of Agronomy	60	1.73
Advanced Materials Research	53	1.53
Environmental and Resource Economics	37	1.07
Applied Mechanics and Materials	35	1.01
Renewable and Sustainable Energy	27	0.78
Journal of Cleaner Production	27	0.78
Journal of Environmental Economics	27	0.78

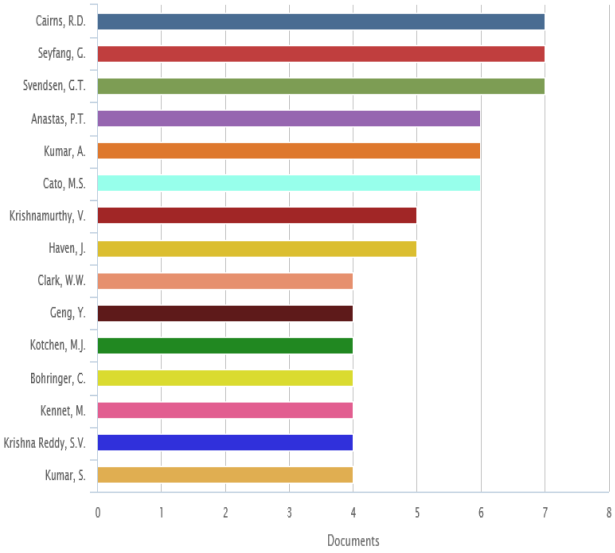


3. Author Wise Distribution of Green Economics Output

The table – 3 presents the top 15authors output of the total documents 3,464 for the study period of 2001 to 2014 found a total of 159 authors. Among the author wise analysis resulted "Cairns, R.D., Seyfang, G. and Svendsen, G.T." scored 7(0.20%) of documents each and shared the top position; the second rank also has shared by three authors "Anastas, P.T." "Kumar, A." and "Cato, M.S." with 6(0.17%) of documents each and followed by others in their respective places.

Table- 3 and Figure-3 shows the Top 15 Authors of Green Economics Output

Author	Recs	%	Rank
Cairns, R.D.	7	0.20	1
Seyfang, G.	7	0.20	1
Svendsen, G.T.	7	0.20	1
Anastas, P.T.	6	0.17	2
Kumar, A.	6	0.17	2
Cato, M.S.	6	0.17	2
Krishnamurthy, V.	5	0.14	3
Haven, J.	5	0.14	3
Clark, W.W.	4	0.12	4
Geng, Y.	4	0.12	4
Kotchen, M.J.	4	0.12	4
Bohringer, C.	4	0.12	4
Kennet, M.	4	0.12	4
Krishna Reddy, S.V.	4	0.12	4
Kumar, S.	4	0.12	4

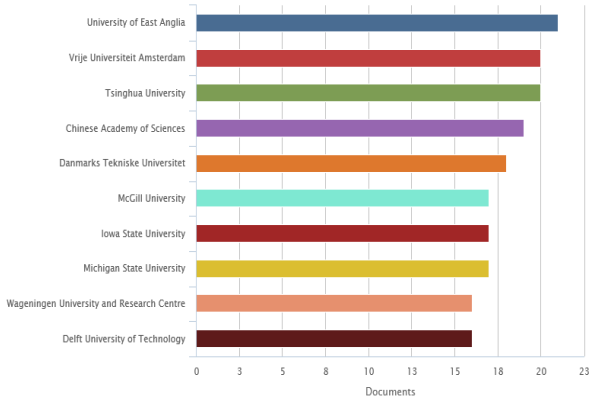


4. Affiliation Wise Collaboration Research Output of Green Economics

The table – 4 presents the top 10 affiliations wise collaboration output and found a total of 160 institutions out of the total 3464 documents during 2001 to 2014. Among them the "University of East Anglia" has scored with 21(0.61%) of documents and occupied the top rank; the second rank has shared by two institutions "VrijeUniversiteit Amsterdam" and "Tsinghua University" with 20(0.58%) of documents each and followed by others.

Table -4 &Figure-4 shows the Top 10 Affiliations of Green Economics Output

Affiliation	Docs	%
University of East Anglia	21	0.61
VrijeUniversiteit Amsterdam	20	0.58
Tsinghua University	20	0.58
Chinese Academy of Sciences	19	0.55
DanmarksTekniskeUniversitet	18	0.52
McGill University	17	0.49
Iowa State University	17	0.49
Michigan State University	17	0.49
Wageningen University and Research Centre	16	0.46
Delft University of Technology	16	0.46

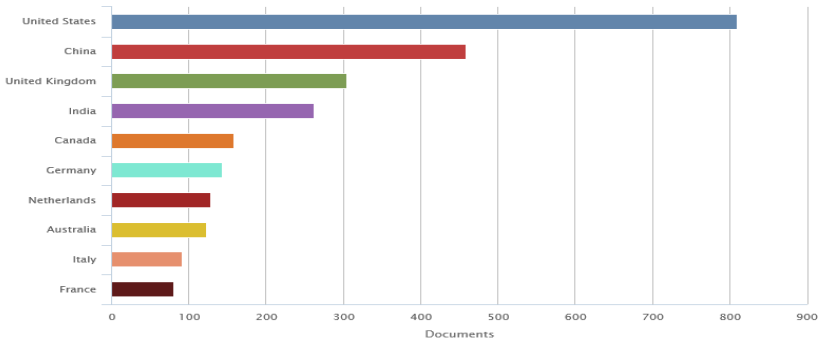


5. Country Wise Distribution of Research Output of Green Economics

The table – 5 presents the top 10 country wise output of green economics of 3,464 for the study period of 2001 to 2014 found that the country wise collaboration of green economics resulted 101 among them "United States" has found as 810(23.38%) of documents and ranked at first; the country "China" with 459(13.25%) of documents and stand at second rank and followed by others. The country "India" got the fourth rank with 262(7.56%) of documents.

Table- 5 and Figure – 5 Shows the Top 10 Country wise Output of Green Economics

Country	Recs	%
United States	810	23.38
China	459	13.25
United Kingdom	305	8.80
India	262	7.56
Canada	159	4.59
Germany	143	4.13
Netherlands	128	3.70
Australia	123	3.55
Italy	91	2.63
France	81	2.34

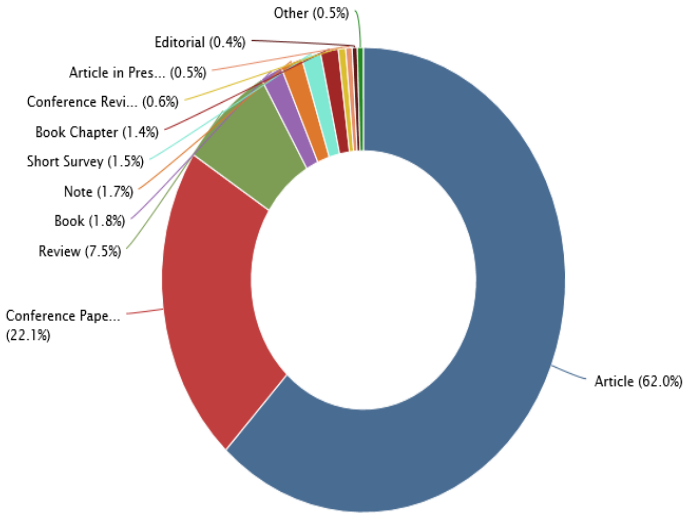


6. Document Types of Research Output of Green Economics

The table – 6 presents the various document types wise output of 3,464 for the study period of 2001 to 2014. Among the various types of documents analysis which resulted 14 which "Article" has scored with 2146 documents ranked at top; the "Conference Paper" has got the second rank with 766 documents and followed by others. The below figure illustrate by graphically with percentage of various types of documents.

Types	Recs
Article	2146
Conference Paper	766
Review	260
Book	61
Note	60
Short Survey	53
Book Chapter	49
Conference Review	20
Article in Press	18
Editorial	14
Letter	10
Business Article	5
Abstract Report	1
Erratum	1
Total	**3464**

Table -6 and figure-6 shows the Top 10 Types of documents of Green Economics Output

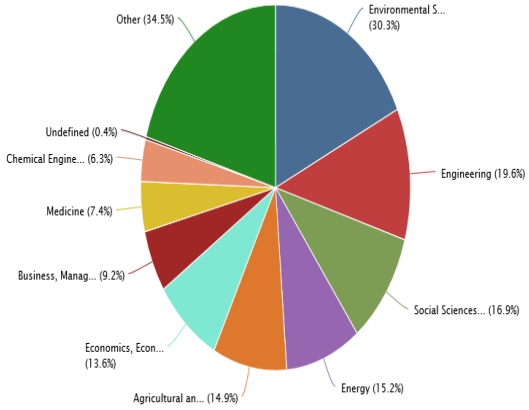


7. Subject Area Wise Distribution of Green Economics Output

The table – 7 presents the top 10 subject area wise output of Green economics a total of 3,464 for the study period of 2001 to 2014 found a total of 28 areas. Among the subject area wise analysis found as "Environmental Science" scored 1048 documents among the other areas with dominant position; the second highest position by "Engineering" subject area with 680 of records; the third rank has scored by the subject of "Social Sciences" with 587 publications and followed by other areas. The below figure also show the diagrammatic explanation of green economics output.

Table -7 and Figure-7 shows the Top 10 Subject Areas of Green Economics Output

Subject Area	Recs
Environmental Science	1048
Engineering	680
Social Sciences	587
Energy	526
Agricultural and Biological Sciences	517
Economics, Econometrics and Finance	472
Business, Management and Accounting	320
Medicine	258
Chemical Engineering	217
Computer Science	196



Conclusion

It is a branch of economics are concerned with the environment and believe that actions should be taken to protect nature and encourage the positive co-existence of both humans and nature and applied the scientometrics by Scopus database and analyses the3464 documents for this study which reveals that the year wise analysis shows the 2012 produced the highest number of output with 450 documents and ranked at first; the author wise analysis resulted 159 amongthem "Cairns, R.D., Seyfang, G. and Svendsen, G.T." scored 7 documents each and shared the top position ; the source wise analysis resulted 149in which "Energy Policy" scored the highest among the top 10 sources with 91 documents ; the affiliation wise resulted 160 among "University of East Anglia" has scored with 21 documents and occupied the top rank; the subject area wise analysis found that "Environmental Science" scored 1048 documents among the other areas and dominantly cached the first position; the various types of analysis which resulted 14 which Article has scored with 2146 documents ranked at top; whereas the country wise collaboration of green economics resulted 106 among the United States has found as 810 documents and ranked at first.

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