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Directory of Open Access Journals with Special Reference to Agriculture: A Study

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ABSTRACT: *The research papers can be easily accessed from the publisher website by the different scientific community. Furthermore, this accessibility can be done through the journal subscription paid by individual/institutions or open access. In order to get more citations and updating knowledge on a particular research field, the accessibility of the paper by researchers in the same field is playing an important role. However, it is not possible to provide the accessibility of all journals available in the same research area to the scientists due to huge money spent on subscription fees and also constraints use of limited library funds. Recently, the open accessed paper introduced by many journals to overcome this subscription barrier to the user group and provides easy accessibility. This study explores the research output in the field of agriculture as reflected from the directory of open access journals available on the worldwide web. This paper investigates to find out the year wise output, topmost categories (subject, journals, country) and peer review in the research. The worldwide web analysis has also been taken up to identify the research output of agriculture of Directory of Open Access Journals available. The present study analyzes the data collected using string "agriculture" in DOAJ database for the period 2003-2018. Results show that "Agriculture (General)" was ranked first for subject wise documents with records of 59 journals and 21177 articles. Indonesia have ranked first based on maximum journals published in the agricultural field. Out of 173 journals, Sciendo group has published the highest number of journals. The maximum percentage of the reviewing process was found for double-blind peer review (45.09 %).*

Keywords: DOAJ, importance of DOAJ

Introduction:

India is an agriculture-based country, and its agricultural sector provides almost all the food requirements of the country. The agricultural sector contributes about 18 percent of India's gross domestic product and also shows the world's largest producer for pulses, rice, wheat, spices and spice products (Madhusudhan, 2015). Furthermore, agriculture sector offers employment opportunities directly or indirectly for totally one-third of the population through its agricultural activities. Recently, the agricultural sector faces many hurdles to make sustainable and more profitable sector. Nowadays agriculture sector development is



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prolonged as compared with other sectors. There is a need to increase food productivity/production to meet out the demands from the increased global population. To overcome these issues, agricultural scientists focusing research on developing different technologies for improvement in productivity. The recent and advanced research in the field of agriculture is available in the form of research papers. Due to the digitalization of libraries, the research papers are published through online journals, and it makes it easy to access by searching proper keywords.

Directory of Open Access Journals (DOAJ)

DOAJ is one of the largest online open access resources website. This directory contains 12074 journals and 3331161 articles, collaboration with 128 countries and 9021 searchable article level in the categories. DOAJ is covering different subjects such as science, technology, medicine, social sciences, arts, and humanities. Most of the documents are published in the English language as compared with other languages.

Importance of DOAJ:

Generally, Open Access Information is an online resource and provides access for research paper available at free of cost, which is boon for researchers to make use of this facility without any financial commitment. The peer-reviewed journal articles also include the unreviewed preprints that they might wish to put online for comment or to alert colleagues to significant research findings. There are many degrees and kinds of wider and easier access to this literature. "open access" literature is freely available on the public domain and readers allowed to store, print, use and distribution without any financial or legal issues for DOAJ papers. Open access movement in the agriculture sector will support for significant development in online scholarly information sources. The advantage of open access are i) easy accessibility and ii) quickly reaches the targeted groups iii) immediate accessibility after online publishing. There is an urgent need for start-up open access for all the agriculture sector information providers to support and quick dissemination of technologies, which will help the farmers to increase the income.



OBJECTIVES OF THE STUDY:

- To identify the year wise distribution of research output of agriculture.
- To identify the frequency of topmost subjects distribution in agriculture.
- To identify the frequency of topmost journal distribution in agriculture.
- To identify the frequency of published country wise distribution in agriculture.
- To identify the frequency of peer review type wise in agriculture.

METHODOLOGY:

In this study, the necessary information of secondary sources available from the <https://doaj.org/subjects> website was collected and analyzed in details. The search string was ("Agriculture") used in online database and data created based downloaded the records based on this string. For this study, data collection for the records available in online was restricted to sixteen years starting from 2003 to 2018. For the selected study period, it was found that a total number of 53122 records, 52949 articles and 173 journals of agriculture subject search and the collected information were used for further analysis as per the objectives of the study.

RESULTS AND DISCUSSION:

A totally 173 number of journals was found in DOAJ database for the study period (Table 1). There are variations in the number of articles published during the period taken for study. It is interesting to note that the number of journals appeared for the period starting from 2015 to 2018 period was found in the range of 20 to 43, whereas it was found minimum number journals (<10 journals per year) appeared for the period 2003 to 2011, 2013 and 2014. The reasons for a several-fold increase in journals appeared in DOAJ for the recent period due to rapid growth of digitalization sector, fast and easy accessibility through worldwide web and increased internet user groups. In terms of percentage level, the journals published during the 2015 - 2018 period are contributing a significant share (70.5%) than other years. In other words, the percentage of journals pertaining to 2017, 2018, 2016 and 2015 was found as 17.91, 24.85, 11.56, and 16.18 respectively.



Table 1. Details of year wise journals under the agriculture field in DOAJ during 2003-2018

Sl. No	Publication year	Number of journals	Percentage
1	2018	31	17.91
2	2017	43	24.85
3	2016	20	11.56
4	2015	28	16.18
5	2014	3	1.73
6	2013	9	5.20
7	2012	10	5.78
8	2011	5	2.91
9	2010	6	3.47
10	2009	3	1.73
11	2008	4	2.32
12	2007	2	1.16
13	2006	2	1.16
14	2005	3	1.73
15	2004	3	1.73
16	2003	1	0.58
	Total	173	100

The collected data analyzed to identify the topmost subject distribution in agriculture field. The ranking of subject wise data categorized based on the number of journals appeared in DOAJ database, and results are presented in table 2. The results of top ten subjects under agriculture field, Agriculture (General) subject has published the maximum number of journals (59 nos.) and also highest research articles under this category (21177 nos.). The descending order of top ten agriculture subjects (based number of journals published) is Agriculture (General) (59 nos.), Environmental Sciences (9 nos.), Animal culture (9 nos.), Science (7 nos.), Plant culture (7 nos.), Technology (5 nos.), Forestry (5 nos.), Biology (General) (5 nos.), Botany (4 nos.) and Veterinary Medicine (others Tech) (3 nos.).

Table 2. Details of subject wise journals distribution and articles published under the agriculture field in DOAJ during 2003-2018.

S. No.	Subject	No of Journals	Articles
1.	Agriculture (General)	59	21177
2.	Environmental Sciences	9	2072
3.	Animal culture	9	3149
4.	Science	7	2731
5.	Plant culture	7	2374



6.	Technology	5	2456
7.	Forestry	5	2818
8.	Biology (General)	5	4344
9.	Botany	4	2038
10.	Veterinary Medicine (others Tech)	3	1038

The descending order of top ten publishers in agriculture subject (based number of journals owned by publisher) is Sciendo (7 nos.), Czech Academy of Agricultural Sciences (3 nos.), University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca (2 nos.), Universitas Lancang Kuning (2 nos.), Universidade Federal de Santa Maria (2 nos.), Universidad de Costa Rica (2 nos.), Universidad Nacional de Colombia (2 nos.), Springer (2 nos.), Pusat Penelitian dan Pengembangan Peternakan (2 nos.) and PAGE Press Publications (2 nos.). Out of 173 journals, Sciendo has published the highest number of journals and followed by Czech Academy of Agricultural Sciences (Table 3). The remaining eight publishers had owned two journals each.

Table 3. Details of top 10 publishers in Agriculture journal in DOAJ during 2003-2018

S. No.	Publisher name	Number of journals
1.	Sciendo	7
2.	Czech Academy of Agricultural Sciences	3
3.	University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca	2
4.	Universitas Lancang Kuning	2
5.	Universidade Federal de Santa Maria	2
6.	Universidad de Costa Rica	2
7.	Universidad Nacional de Colombia	2
8.	Springer	2
9.	Pusat Penelitian dan Pengembangan Peternakan	2
10.	PAGEPress Publications	2

The collected data was further analyzed to determine the top 10 publishing countries based on journals published in the agriculture field. The descending order of top ten publishers in agriculture subject (based number of journals) is as follows: Indonesia (25 nos.), Brazil (17 nos.), Iran (10 nos.), Colombia (10 nos.), Turkey (9 nos.), Poland (8 nos.), Russian Federation (6 nos.), Argentina (6 nos.), Romania (5 nos.) and Czech Republic (5 nos.).



Indonesia had contributed a significant share of 25 journal documents in the agricultural field. Brazil holds the second position with 17 journal documents (Table 4). Iran and Columbia are holding third and fourth ranking positions by contributing each ten journals.

Table 4. Details of top 10 countries publishing the agricultural journals in DOAJ during 2003-2018

S. No.	Name of the country	Number of journals
1.	Indonesia	25
2.	Brazil	17
3.	Iran	10
4.	Colombia	10
5.	Turkey	9
6.	Poland	8
7.	Russian Federation	6
8.	Argentina	6
9.	Romania	5
10.	Czech Republic	5

The collected information was analyzed to find out the different reviewing process followed by 173 journals in agriculture subject. For this analysis, the journals categorized according to four different reviewing processes such as double-blind peer review, peer review, blind peer review and editorial review (Table 5). The maximum and minimum percentage of the reviewing process was found for double-blind peer review (45.09 %) and editorial review (1.73 %). The peer review and blind peer review contributing to equal weight age (26.59 %).

Table 5. Information on the reviewing method followed in the journals under agriculture research area during the study period

S. No.	Reviewing method	Number of journals (%)
1	Double-blind peer review	78 (45.09)
2	Peer review	46 (26.59)
3	Blind peer review	46 (26.59)
4	Editorial review	3 (1.73)



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Conclusion:

Directory of Open Access Journals is providing a platform for accessing research articles at free of cost and it getting more popular among the researchers. The present study analyzes the data collected using string "agriculture" in DOAJ database for the period 2003-2018. The journals published during the 2015 - 2018 period are contributing a major share of 70.5 percent. Results show that "Agriculture (General)" was ranked first for subject wise documents with records of 59 journals and 21177 articles. Indonesia and Brazil have contributed 25 and 17 number of journal documents respectively in the agricultural field. Out of 173 journals, Sciendo group has published the highest number of journals. The maximum and minimum percentage of the reviewing process was found for double-blind peer review (45.09 %) and editorial review (1.73 %).

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