

DOCTORAL THESES OF APPLIED PLANT SCIENCE: A BIBLIOMETRIC STUDY

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ABSTRACT

This paper represents a bibliometric Study of doctoral thesis awarded in Applied Plant Science at Babasaheb Bhimrao Ambedkar University, Lucknow. For this study data was collected and analysed through excel sheet. This study is based on various aspects like year- wise, supervisor –wise, gender-wise and discipline-wise number of theses awarded during the period of 2007 to 2014.

Key words: *Bibliometric, doctoral theses, Department of Applied Plant Science, Babasaheb Bhimrao Ambedkar University.*

INTRODUCTION

Bibliometric is a statistical study which is mostly used in Library and information Science. Bibliometric is an essential and effective study. The term bibliometric was first coined by Alan Pritchard in 1969, in a paper published, titled *Statistical Bibliography or Bibliometrics*, in which author define the term Bibliometric as 'the application of Mathematical and Statistical methods to book and other media of communication' (Pritchard, 1969).

The present study is based on doctoral theses awarded at Babasaheb Bhimrao Ambedkar University, Lucknow in the department of Applied Plant Science on various aspects i.e. Year-wise productivity, Supervisor–wise analysis, Gender-wise contribution and discipline –wise distribution from 2007 to 2014.

REVIEW OF LITERATURE

Jena (2006) in his paper- A Bibliometric analysis of the journal 'Indian Journal of Fibre and Textile Research, 1996-2004' made an extensive bibliometric study of the articles published during 1994-2004 on fibre and textile research. Sen (2010) conducted a study on 'Lotka's Law: A viewpoint' and found that the simple methods have been described to determine the value of c and a pertaining to the equation that fits in Lotka's Law. Patil (2010) in his paper 'Herald of Library Science: A bibliometric study' analysed the authorship pattern, geographical distribution and degree of collaboration. Matter collected from 249 articles during 1995-2005, published in a journal 'Herald of Library Science'. Study reveals that highest number of cited articles was contributed by single author. Most of the cited articles were from geographical area 'Nigeria' and maximum number of cited articles was published in 1995. Cronin and Sugimoto (2014) describe in their book 'Beyond Bibliometrics: Harnessing Multidimensional Indicators of Scholarly Impact' that

the modern research for theory and practical is now metric based and very useful for research scientists in the field of Information Science, Social science and some science streams. Authors also explore the range use of other metrics like infometrics, webometrics, scientometrics, etc. in multidisciplinary field for quality research. Nagarkar (2014) in his study on 'A bibliometric analysis of publications of the chemistry department' reveal that majority of the papers are published in the area of physical chemistry. Sahu and Swain (2014) in their study on two journals 'Advances in Physics' and 'Annual Review of Astronomy and Astrophysics' published from 2008 to 2013 which reveals the impact factor and immediacy index as well as citation counts of individual papers of both journals. Singh (2014) in his study 'Library Herald: A bibliometric Study (2003-2012)' found that 48.72% (114) articles were contributed by single authors. Study also reveals the length of articles and average number of references in the articles.

OBJECTIVE OF THE STUDY

The key objectives of the study are:

- To find out the growth of theses awarded in the Department of Applied Plant Science.
- To identify supervisor wise numbers of doctoral degrees awarded.
- To find out the most common discipline in topics of theses.

- To find out percentage of doctoral degrees awarded to male and female.

METHODOLOGY

The data (doctoral theses) collected during 2007 to 2014 for this study from office and library. Keeping objectives in mind, each thesis was feed on excel sheet for analysis and after that interpretation has been done.

SIGNIFICANCE OF THE STUDY

Bibliometric study on the doctoral thesis possesses a significance of itself. A study on such theses would definitely help researchers and students in their respective research and work. This study covers bibliometric analysis in the form of year wise growth of the research studies, male and female wise contribution, supervisor wise contribution and subject wise distribution.

DATA ANALYSIS AND INTERPRETATIONS

Year wise Analysis

Year has been selected as an indicator to achieve the research output. In the Department of Applied Plant Science, 1st doctoral thesis was submitted and awarded in October 2007. Table below shows the year wise award of doctoral theses in the Department of Applied Plant Science.

Table 1: Year-wise growth of theses

Sl.No.	Years	Number of theses	Cumulative count	Percentage of theses	Cumulative theses
1	2007	2	2	9.52	9.52
2	2008	3	5	14.29	23.81
3	2009	1	6	4.76	28.57
4	2010	2	8	9.52	38.10

5	2011	2	10	9.52	47.62
6	2012	3	13	14.29	61.90
7	2013	1	14	4.76	66.67
8	2014	7	21	33.33	100.00
	Total	21		100.00	

Figure 1.: Year-wise growth of theses.

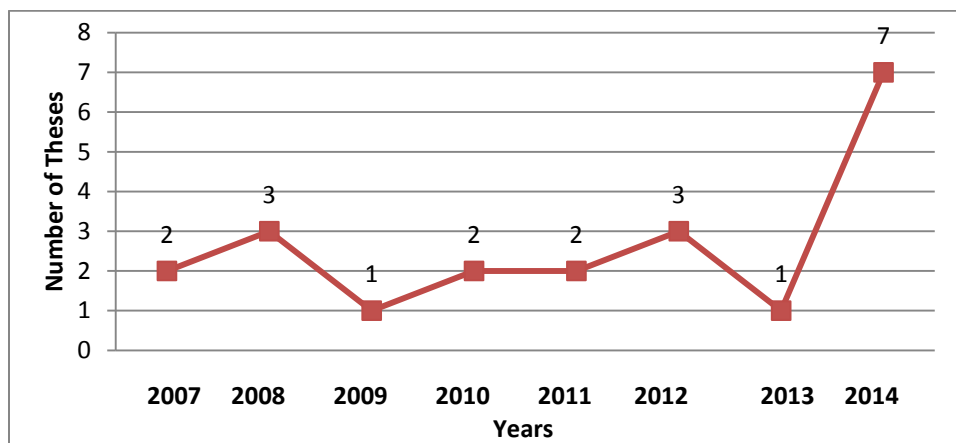


Table and figure indicate that research outputs of theses are less in the following years i.e. 2009 and 2013 respectively i.e. 4.76% each year. The next productive years are 2007, 2010 and 2011 respectively 9.52% each years, followed by the years 2008 & 2012, The research output during these years are 14.29% and the highest percentage of research output in the year 2014 showing 33.33% of

total research output in the Department of Applied Plant Science.

Supervisor-wise contribution

Supervisor of any research scholar plays an important role in carrying out the research in any field; therefore, supervisor has been taken as an indicator to assess the status of research output in the form of doctoral theses.

Table 2: Supervisor-wise contribution

S.No.	Supervisor	Number of theses count	Cumulative count	Percent of theses	Cumulative count
1	R.B.Ram	14	14	66.67	66.67
2	Sanjay Kumar	3	17	14.29	80.95
3	Deepa H. Dwivedi	4	21	19.05	100.00
	Total	21		100.00	

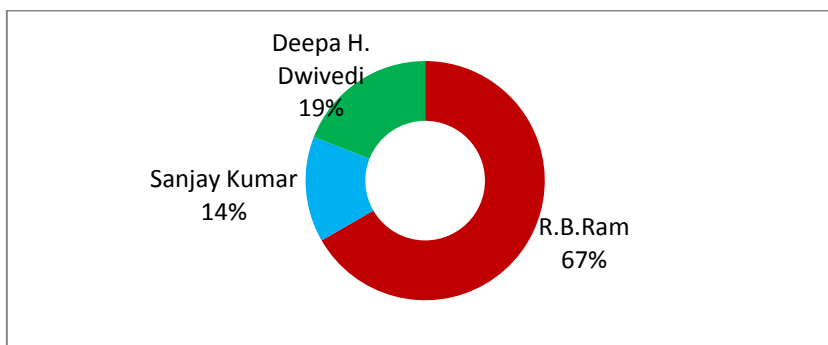
Figure 2 : Supervisor-wise contribution

Table and figure depict that out of 21 theses, Professor Sanjay Kumar supervised/ guided 14% Doctoral theses, followed by Professor Deepa H. Dwivedi 19% and Professor R.B. Ram supervised/ guided 67% of total theses awarded in the Department of Applied Plant Science.

Gender has been taken as an indicator to assess the status of research analysis carried out in the Department of Applied Plant Science during the study period. Status of Gender (male or female) indicated in the table below.

Gender-wise contribution

Table 3 : Gender-wise contribution of doctoral theses

Sl.No.	Gender	Number of theses count	Cumulative count	Percentage of theses	Cumulative count
1	Male	14	14	66.67	66.67
2	Female	7	21	33.33	100.00
	Total	21		100.00	

Figure 3 : Gender-wise contribution of doctoral theses

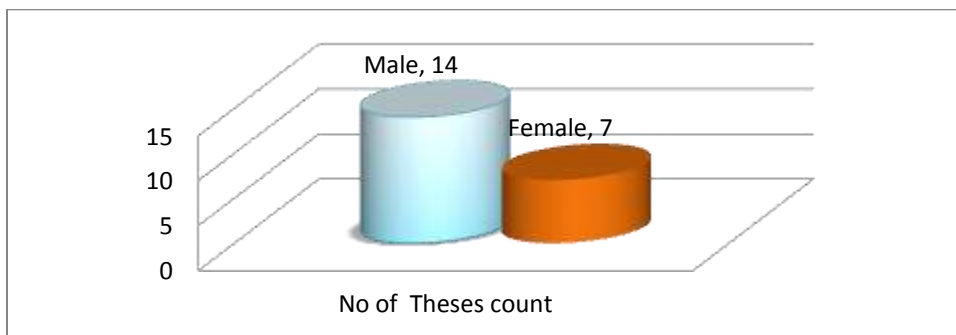


Table and figure above indicate that males are taking more interest in research than females. Male percentage of research output of doctoral theses is 14 i.e 66.67% while female is 07 i.e. 33.33% of total research output in the Department of Applied Plant Science.

Discipline-wise distribution

Discipline plays an important role in every subject while selection of topic for research. So discipline has been selected as an indicator in the Department of Applied Plant Science.

Table 4: Discipline-wise distribution

S.No.	Discipline/ Subject	No. of theses	% of theses	DDC No.
1	Garden crops (Horticulture)	8	38.10	635
2	Field and plantation crops	5	23.81	633
3	Orchards, fruits & forestry	4	19.05	634
4	Microorganisms, fungi & algae	2	9.52	579
5	Plants noted for characteristics & flowers	2	9.52	582

	Total	21	100.00	
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Figure 4: Subject-wise distribution

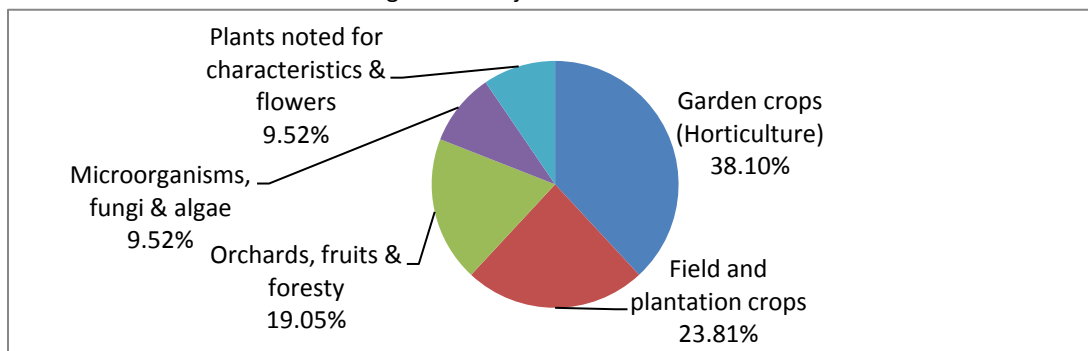


Table and Figure 4, indicate that larger portion of research is carried out in discipline 'Garden crops (Horticulture)' i.e. 38.10% with DDC number 635, followed by 'Field and plantation crops' 23.81% with DDC number 633. Discipline 'Orchards, fruits & forestry' 19.05% with DDC number is 634. Disciplines 'Microorganisms, fungi & algae' with DDC Number 579 and 'Plants noted for characteristics & flowers' with DDC number 582 is respectively 9.52% each in the Department of Applied Plant Science.

FINDING AND CONCLUSION

The study shows that the highest percentage of research output in the year 2014 showing 33.33% followed by the years 2008 & 2012. Supervisor-wise contribution shows that Professor R.B. Ram supervised/ guided 67% of total theses awarded during the study period in the Department of Applied Plant Science. Male percentage of research output of doctoral theses is 14 i.e. 66.67% while female is 07 i.e. 33.33% of total research output in the Department which indicates that males are taking more interest in research rather than females. Larger portion of research is carried out in discipline 'Garden crops (Horticulture)' i.e. 38.10% followed by 'Field and plantation crops' i.e. 23.81%, next discipline which is used for research purpose is

'Orchards, fruits & forestry' i.e. 19.05% and disciplines 'Microorganisms, fungi & algae' and 'Plants noted for characteristics & flowers', respectively 9.52% each. This type of study is helpful for students and researchers for selection of appropriate discipline for their research topic; there is also a need to encourage females for research.

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