## **Doctoral Theses in Environmental Science: An Obsolescence Study**

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### **ABSTRACT**

The result of this study is an original research work with application of Bradford's law and an obsolescence study of environmental science literature. The article represents the availability of information and information used by the researchers in the field of environmental science for their research work. The research design adopted was a descriptive study. Data was collected from 66 doctoral theses submitted to the Kuvempu University in the field of Environmental Science during 1998-2012 have been taken as the source of data for the present study; these doctoral theses generated 14,668 total citations. The study is based on the analysis of bibliographic references appended at the end of each chapter and footnotes, if any. Each thesis was manually examined and references appended at the end of each chapter were extracted. All the references were noted. Later, the data were fed into the computer using MS-Excel and separate sheets and columns were created to enter data. Finally, the data was transferred to SPSS software to generate the tables, graphs and results. The present article reveals that journals have the highest number of citations accounting to 72.25% of the total citations. The Journal of Hydrobiologia from the Netherlands occupies the first rank as the most preferred journal having been cited 546 (5.15%) times. Further, Bradford's law was applied and studied the obsolescence of journal literature. Finally half-life of journal citations was found 14 years old in the field of Environmental Science.

### **KEYWORDS**

Bibliometric Study, Bradfords Law, Doctoral Theses, Environmental Science, Half-Life, Obsolescence

### INTRODUCTION

Environmental Science is the field of science that studies the interactions of the physical, chemical, and biological components of the environment and also the relationships and effects of these components with the organisms in the environment (Environmental Science: Definitions, n.d.). Environmental Science is also referred to as an interdisciplinary field because it incorporates information and ideas from multiple disciplines. Within the natural sciences, such fields as biology, chemistry and geology are included in environmental science. When most people think of environmental science, they think of these natural science aspects, but what makes environmental science, such a complex and broad field is that it also includes fields from the social sciences and the humanities (Margaret Cunningham, n.d.).

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Obsolescence has become one of the important characteristics of scientific literature. Growth and obsolescence are usually considered together, because they represent the initial and final stages of the information cycle. An obsolescence study could be treated as an aspect of citation analysis for journals. The study is useful for the practical librarians who administer growing collections infinite space look to research on obsolescence to help them decide which item to keep and which to store for discard in order to make room for the new acquisitions (Biradar, & Sampath, 2003).

### **OBJECTIVES OF THE STUDY**

The following are the main objectives of the study.

- To determine the use of different forms of documents like books, journals, conference proceedings, theses etc.
- 2. To study the chronological and language wise distribution of citations
- 3. To study the obsolescence and half-life of Environmental Science journal literature
- 4. To compile a rank list of core journals
- 5. To find out the availability of cited journals in the Kuvempu University Library
- 6. To apply Bradford's law to the journal citations

### **METHODOLOGY**

The methodology preferred for this study is based on the analysis of bibliographic references appended at the end of each chapter and footnotes, if any. The research design adopted was a descriptive study. Each thesis was manually examined and references were extracted from each of the thesis. All the references were noted down on 3"x 5" size standard catalogue card. Later the data were fed into the computer using MS-Excel software and data has been transferred to SPSS software to generate the tables, graphs and results.

66 doctoral theses submitted to the Kuvempu University in the field of Environmental Science during 1998-2012 have been taken as the source of data for the present study; these doctoral theses generated 14,668 total citations. Separate sheets and columns were created to enter data such as, number of theses submitted. Further, all the references cited in the collected theses were examined to enter the bibliographic data which include chronological wise, bibliographical form of cited documents and so on. Duplicate citations were removed from the data set. But the 'Ibid' and 'Opcit' references were considered while entering the data.

The form of documents entered to the MS-Excel includes journals, books, conferences proceedings and reports etc. The date on journal citations were separated and used to create ranking list of journals, country-wise distribution of journals, and language of journals. Further, to know the availability of cited journals in the library.

The study attempted to rank the documents, particularly journals on the basis of their usage and list the most productive journals. If the citation is from a journal, the information regarding the country of publication, language in which it is published is obtained from 'Ulrich's Periodicals Directory'. After entering all above mentioned attributes to MS-Excel necessary tables have been generated to meet the objectives of the study.

### YEAR -WISE DISTRIBUTION OF THESES

Table 1 shows that the highest number of doctoratesi.e. 16 (24.24%) was awarded in the year 2007, followed by 2006 and 2009 (each 9 theses). Overall results clearly represent that highest number of theses were submitted during 2006 to 2012 (51 theses), which accounts 77.28% of the total

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