

Webometric Analysis of Institutions Involve in Environmental Science Related Research Publications in Sri Lanka (2003-2013)

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Abstract

Webometrics is a new field of bibliometrics, which originated in 2004. Webometrics mainly use bibliometric techniques in order study the relationship of different sites on the World Wide Web (www). Local and international online journals become very popular among scientists, as an effective place to publish their research articles. Therefore new technological and statistical approaches (such as Web Impact Factors) were introduced to evaluate these expanding online publication systems. In this study webometric concepts were applied to the World Wide Web, to analyse the quantity (number of papers) and impact (citation indexes) of Sri Lankan research institutions in environment science sector.

Environmental science is a multidisciplinary subject and, the definitions for environmental science depend on particular country, institutions and journals. For this research environment science was defined by using eighteen (18) key subjects. Based on those key words, online data collection of Google Scholar was done with “Harzing's Publish or Perish-version 4.0.12” software, using a ten (10) year time window (2003-2013). Data collection was done up to individual author level and for an each author, number of publications, number of citations, citation per paper, citation per year, citation per author, h-index, annual h-index were calculated. Self-citations were manually omitted from the system. Based on the results each institution was estimated quantitatively (using number of publications, authors) and qualitatively (using citation indexes, h- index).

The Study analysed 41 Sri Lankan research institutions, and 25 of them produced environment science related research publications. It included 867 scientists in 14 local universities and 220 scientists belong to other research institutions. According to the results 53.35% of Sri Lankan online research publications (2003-2013) belonged to Environment Science. The average number of environment science related research publications published by a Sri Lankan university was 25.03 papers per year. The annual citation of a university was 79.17. Average values for citation per paper and, citation per author were 2.23 and 5.76. Average annual h-index of a Sri Lankan university was 4.09. Other research institutions had comparatively lower values. Average number of environment science related research publications per institution per year was 4.92 papers and annual citation per institution was 19.60 papers. Average values for citation per paper and citation per author were 4.68 and 3.93. Obtained annual h-index value was 0.35

Highest contribution for the Sri Lankan online research publication sector was given by the universities rather than the other semi-government and non-government research institutions. Quantity and the quality of the research publications of particular institution depend on many factors; such as number of researchers, importance of their research field, number of online

journals published or contributed by the institution, reputation of the researchers and the institution, amount of annual investment allocating for research purposes and several other factors.

Keywords: Webometric analysis, Environment research