

Water quality in Northern Province of Sri Lanka: Bibliometric analysis of Scholarly publications 1960-2021

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Abstract

This study aimed to assess the research output focusing on water quality in Northern Province, Sri Lanka and identify the bibliometric indicators to study the direction of water quality research. A literature search was conducted in January 2022 covering four electronic databases, namely Scopus, PubMed, Web of Science and Google Scholar.

In this study, scholarly publications such as, peer reviewed journal articles, conference papers in proceedings, and book chapters related to water quality in Northern Province, were considered. Gray literature such as Government and Non-governmental publications as well as theses and dissertations were excluded. The 118 scholarly publications were subject to the common set of criteria in any bibliometric study, namely publication distribution and types, authorship pattern, institutional collaboration, contributing countries, thematic distribution, and keyword analysis.

Close examination of the progression of the publications in 10-year blocks reveals low productivity observed in the first 30 years (1969-1999) compared to, subsequent 20 years when publication rate showed a substantial increase. Journal articles and conference papers were the dominant types. Among the journal articles, 48 were published in 41 different international journals, whereas the remaining 26 articles appeared in 13 different national journals. Out of the conference papers, 13 were presented at 11 international conferences and 28 in 17 national conferences. Further, out of these 118 publications, Thushanthi, M. has been identified as the leading author in the field with 28 publications, followed by Saravanan, S. with 14 publications. University of Jaffna, which was the only state university situated in the Northern Province during the study period is in the lead position in numeric terms (n=81). This is followed by the University of Peradeniya. Except two, all other publications included in the study were from Sri Lanka. The publications

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within the dominant theme of water contamination in quality-related research consisted of papers on the physical, chemical as well as biological parameters of the water. Keyword analysis showed that the groundwater quality was the prominent issue studied in Jaffna peninsula during the study period.

This bibliometric study identified that research has been focused much on knowledge generation in relation to water quality in the region. However, this knowledge and awareness of health risks due to poor water quality has to be translated into actionable measures to mitigate the above risk through appropriate policy. New and persistent organic pollutants and their impact remains an area of research within water quality yet to be undertaken in the Northern Province.

Keywords: *Bibliometric study, Water quality, Northern Province, Sri Lanka, VOS viewer.*