

A BIBLIOMETRIC ANALYSIS OF THE TANK CASCADE SYSTEM IN SRI LANKA DURING 2000-2023: AN OVERVIEW BASED ON THE SCIENCE DIRECT DATABASE

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Abstract: The Tank Cascade Systems (TCSs) is found in dry and intermediate climatic zones in Sri Lanka. Numerous professionals and researchers, both local and international, have devoted considerable efforts to investigate and evaluate these systems. This study presents, comprehensive bibliometric performance analysis and visual scientific mapping of research trends related to TCSs in Sri Lanka, based on the science direct database. Among 22 articles retrieved, 17 that were related to the TCSs in Sri Lanka published in 2000-2023 period were selected for data analysis. The analysis was conducted using Excel and VOSviewer software, focusing on aspects such as the country-wise contribution of international authorship, year-wise citations of articles on TCSs in Sri Lanka, and the most commonly used keywords in the selected articles. The Key words used for this study were “tank cascade system”, “cascade system” and “Sri Lanka”. The results revealed a significant international collaboration, with contributions from 19 international authors and 38 national authors in the field of TCSs. Notably, the highest levels of international authorship collaborations occurred in 2017 and 2023. Australia made the most substantial international contribution (36.84%). The most cited year among the selected articles was 2003. “A simple water balance modeling approach for determining water availability in an irrigation tank cascade system” written by C.J. Jayatilaka, R. Sakthivadivel, Y. Shinogi, I.W. Makin, and P. Witharana in 2003, was the most cited article in the field of TCSs in Sri Lanka during the 2000–2023 period. Based on the analysis the most total link strength keywords were ‘system’ (161) and ‘tank’ (119). These findings advance our knowledge of TCSs research and may be useful in guiding future research for scholars and practitioners.

Keywords: Bibliometric analysis; Science direct database; Tank cascade systems; Sri Lanka; VOSviewer