STATUS OF KNOWLEDGE ON MANGROVE IN SRI LANKA: A COMPREHENSIVE ANALYSIS ON TWITTER™ SOCIAL MEDIA PLATFORM AND SCOPUS® DATABASE AND DEVELOMENT OF MANGROVE IDENTIFICATION GUIDE

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ABSTRACT

Mangroves are one of the important ecosystems found in many tropical and subtropical areas. The importance of mangrove ecosystems in Sri Lanka has highlighted in numerous scientific studies and the findings of these studies are disseminated through various publications indexed in popular scholar databases. Moreover, with the advancement of new technologies, knowledge of mangrove is also disseminated on popular social media platforms. Quantification of this information is important in determining the status of knowledge on mangrove and related science communication. In this backdrop, the present study focused on determining the status of knowledge on mangroves using the popular social media platform; Twitter™ and scholarly database; SCOPUS®. In social media analysis, 475 twitter messages/tweets related to the keyword '*Mangrove*' was extracted from the Twitter™ database. R programing language and various other packages (*TwitteR, tm, word cloud* etc.) were used in analyzing the textual data. Topic modeling was employed to identify the latent topics in mangrove-related tweets. Scientometric analysis of mangrove-related studies in Sri Lanka was carried out using the Scopus® database. Results of the Twitter™ analysis showed the existence of various subthemes in mangrove research (e.g. conservation and mangrove rehabilitation etc). Word cloud analysis has indicated that *forests*, *restoration*, *blue carbon*, *coastal* and *communities* were dominant keywords. Results of the scientometric analyses of Sri Lankan mangrove studies indicated an increment in mangrove-related publications (p = 0.001, R^2= **0.85**). The relationship between annual Gross Domestic Production (GDP) and the number of publications was positive (p = 0.001, R^2 = **0.83**). In contrast to that, a few Sri Lankan authors and institutes/universities dominated in mangrove-related publications. To effectively disseminate the scientific knowledge on mangroves, the present study also focuses on developing a web-based database for easy identification of these mangrove species.

Keywords: Twitter™; Scopus®; Mangroves; Data mining; Topic modeling; R Programming