# ANALYSIS OF THE SPATIAL DISTRIBUTION OF COMPOSITE DROUGHT HAZARD IN THE NORTH CENTRAL PROVINCE OF SRI LANKA

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Drought is an inevitable recurrent feature of any climate, different from other environmental hazards. The occurrence of drought can create many issues. North Central Province (NCP) of Sri Lanka is highly prone to frequent drought. A plethora of research is conducted using different dimensions, but more research on drought hazard assessment and visualization needs to be done. The main objective of this research was to create a composite drought hazard map including four types of droughts: i.e. Meteorological, Agricultural, Hydrological, and Socio-economic droughts. The multi-criteria decision-making (MCDM) method and the Analytic Hierarchy Process (AHP) were used to develop the hierarchical structure and weigh the selected eight factors. Twenty experts, including academic and drought managers, were selected to collect the views. Eight thematic map layers were created using Geographic Information System (GIS) Arc map 10.8 software. The weighted Overlay Technique was applied to create the final drought hazard map, and the results were classified into five classes: very low, low, moderate, high, and very high. The results show that 16%, 17%, 29%, 18%, and 20 % belong to the very low, low, moderate, high, and very high categories of the total land area of the NCP, respectively. Very low and low drought hazard areas are situated around the city areas of Anuradhapura and Polonnaruwa. Northern parts of the NCP have undergone high and very high drought hazard zones. Anuradhapura district has undergone high and very high drought hazard zones compared to Polonnaruwa districts. The larger portions of Mahawillachiya, Medawachhciya, Kebithigollewa, and Horowpothana Divisional Secretariat (DS) areas of Anuradhapura district have been subjected to very high drought category, and the Wlikanda DS area of Polonnaruwa district belong entirely to high and very categories. Some DS areas belong to one category, and some DS has several drought hazard categories. The results will help policymakers.

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