

Assessing the Impact of Agricultural Schemes on Paddy Yield in the Maha Season in Sri Lanka: A Comprehensive Analysis of Major, Minor and Rainfed Schemes from the year 2020 to 2023

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This research aims to provide a comprehensive analysis and deep understanding of the Agricultural Schemes; Minor, Major, and Rainfed impact on the paddy cultivation and paddy harvest across different districts during the Maha Season in Sri Lanka during the period of the years 2020 to 2023. The primary objective of this study was to analyze and evaluate how these main schemes alongside the varying weather, influence the paddy cultivation annually. Quantitative methods such as comparative analysis, correlation analysis, time series analysis, and K-Means clustering algorithms were used for data exploration and investigation of the relationship between agricultural schemes (Minor, Major, Rainfed) and their impact on the paddy yield. The results provide insights into how these strategies represent in Sri Lanka's agriculture industry specifically paddy cultivation by explaining the effects of these schemes on the growth of the annual paddy yield. They also provides more insights into the yield variation of paddy throughout the period among the different agricultural schemes highlighting the highest and the lowest yield proportions with a detailed understanding of the contribution of paddy harvesting to the overall agricultural sector in Sri Lanka.

Keywords: *paddy cultivation, quantitative approach, agricultural schemes, Maha Season.*