Rainfall and Temperature Trends in Ampara District and Its Impact on Paddy Crop

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Abstract

Rainfall and temperature extremes have adverse impacts on the society and environment of Sri Lanka. Mainly rainfall and temperature are impacts on agriculture. This research describes about Rainfall and temperature trends that impact on paddy cultivation in Ampara district. The objectives of the research are finding the Rainfall trend in Ampara district, the temperature trend in Ampara district and Rainfall and temperature impacts on paddy crop in Ampara. In this research using monthly Rainfall and temperature data were collected at the 2 rainfall stations provided by the Department of Meteorology, Sri Lanka. Paddy cultivation data were collected at the Department of Census and Statistics. This research identifies temporal trends of Rainfall and temperature during years, seasons, and months. During the period 1985 – 2014 Rainfall and temperature are impacts on paddy cultivation in Maha and Yala seasons. Mean deviation, 3 year and 5 year moving average, and Pearson correlation had been analyzed by using SPSS, Excel and Geographical Information Technique (GIS) software’s. The study finds annual rainfall trend is increase since 1986. In the first intermonsoon period rainfall trend has increased in two stations. At the same time south west monsoon period trend has decreased in Ampara station except the Poththuvil stations. While second intermonsoon period trend has increased in two stations. As well as north east monsoon period trend has increased in Poththuvil station except for the Ampara station. Annual temperature trend is increasing in Ampara district. Seasonal temperature trend in first intermonsoon period has decreased, while south west monsoon period and second inter monsoon has increased. In other hand both north east monsoon period has decreased. In the research acreage dry zone and wet zone are alternately featured as the same time dryness is influenced in rainy season also. So, obviously there were changes in paddy production trend. Finally according to this research, final conclusion is that Rainfall and temperature are impacts on paddy cultivation in Ampara district.