



## **THE INFLUENCE OF RAINFALL VARIABILITY ON PADDY PRODUCTION; A CASE STUDY IN BATTICALOA DISTRICT, SRI LANKA**

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### **ABSTRACT**

Climate change has become a major concern to human society because of its potentially deleterious impact worldwide. The degree to which rainfall amounts vary across an area or through time is an important characteristic of the climate of an area. This subject area in meteorology is called “rainfall variability”. Changes in amount, intensity and frequency affect the environment and society. The annual rainfall varies from 864 mm to 3081 mm (146 years data) distribution, which has slight variation throughout the district. The study purposes to examine the relationship between rainfall and paddy production. Samplings from 100 households have been gathered by questionnaire survey as primary data and the secondary data has been collected Meteorological Department, Department of Agriculture and published research reports. 146 years rainfall data and 34 years paddy cultivation data has been utilized to analyse the result. Accurate statistical methods have been used to find the variability that includes correlation and trend analysis of 3, 5 years moving average of standard deviation. As the result, the study finds that through the 3, 5 years moving average had shown high drier seasons of the years. The paddy production was very high in Maha season but this was very low in Yala season because of the rainfall variability. By the correlation between rainfall and paddy production, the significant value is positive in Maha season and this is negative in Yala season. However, both are having the different significance each other. Thus, even the rainfall was highly influenced to the higher production, this is impossible in each time. Therefore, the development of irrigation tanks and channels, rainwater harvesting and proper management would be supported to more production in Yala season.

**KEY WORDS:** Agriculture, Meteorology, Paddy production, Rainfall variability