

CLIMATIC CHANGES AND RICE YIELDS - A CASE STUDY FOR THE BATTICALOA DISTRICT

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Rice is the most important food crop grown in Sri Lanka. Thus over 40% of the population gainfully employed in agriculture is involved in the rice industry. Most of the rice fields in Sri Lanka are located in the dry zone, and are cultivated under rainfed conditions in the maha season and irrigated conditions in the yala seasons (maha = > wet season, yala = > dry season).

A principal factor determining rice yields is the rainfall, which is likely to change with the increased impact of global warming. Thus, this study evaluated the impact of rainfall and temperature of the last three decades on rice yield of the Batticaloa District. In addition the impact of socio-economic factors was also evaluated.

This study is a diagnostic of the climatic constraints in paddy production in the Batticaloa District. Climate changes are possibly caused by global warming through the release of green house gases into the atmosphere. The effect of change in climate on rice production has been of special interest in most tropical region.

In the Batticaloa District mean monthly temperature across the paddy growing seasons ranges from 24°C to 29°C and this range in temperature is well within the favourable limits for rice production. Rainfall is the ultimate source of water for rice, regardless of whether fields are rainfed or irrigated.

The results illustrate that the impact of climatic factors on rice yields was low, measured in terms of regression coefficients from the appropriate regression model. In contrast, the effects of socio-economic factors, especially fertilizer and irrigation had a significant impact and credit facilities did not show much impact on rice yield in the Batticaloa district.