

## AGRO CLIMATIC RISK ASSESSMENT IN HAMBANTOTA REGION

M H J P Gunarathna, C M Navaratne and K D N Weerasinghe  
Dept. of Agric. Engineering, Faculty of Agriculture,  
University of Ruhuna

In order to eliminate the risk on crop production in Hambantota region, spatial and temporal variation of rainfall were analyzed based on rainfall magnitude, duration, risk and onset. The rainfall data over 42 years (1960-2002) in six rain gauge stations in Hambantota region was assessed.

10 mm weekly rainfall at 75% probability level method was used to find the wet weeks in each station throughout the year. 10 mm weekly rainfall at 50% probability level was used for rainfall onset identification. Farmer survey was conducted to find the existing cropping calendar. The amount of rainfall, which accumulated on the date of crop commencement, was identified using Forward accumulation method.

The results revealed that mean annual rainfall is decreasing in Hambantota region. All stations were recorded less than 20% wet weeks. It reveals that the high risk involves with rain fed crop cultivation in Hambantota region. Based on the 10 mm weekly rainfall at 50% probability level, rainfall onset for *yala* and *maha* seasons varies from 11<sup>th</sup> to 16<sup>th</sup> week and from 37<sup>th</sup> to 42<sup>nd</sup> week respectively. The farmers could be able to minimize the irrigation need using these rainfall onset weeks as their crop commencement weeks. Based on the farmer survey, crop commencement week in *maha* season varies between 39<sup>th</sup> and 41<sup>st</sup> week and farmers rarely cultivate during *yala* season. According to the forward accumulation method at 75% probability level the amount of water accumulated at crop commencement time was 75mm. The results indicate that the crop commencement week based on farmer survey coincided with calculated rainfall onset during *maha* season.