FARMERS' PERCEPTION OF WEATHER FORECASTING ON CROP PRODUCTION AND ITS RELIABILITY OF *ANGURUWELLA* TANK CASCADE SYSTEM, SRI LANKA

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Weather is the vital production factor for crop production, and its forecasting helps farmers to plan their crops. This study investigated the farmers' perception and reliability of weather forecasts offered by the Natural Resource Management Center in collaboration with the Meteorological Department at *Anguruwella* Tank Cascade System located in *Mee Oya* river basin *Kurunegala* district. A pre-tested questionnaire was used to gather information on the perception of the forecast on crop production, and logistic regression was used to identify the factors affecting the adoption of the weather forecast. Out of all households, 60 were purposefully selected, representing the entire cascade. The reliability of the weather forecast was also tested using past rainfall forecast reports and *Thiessen* polygon average observed rainfall for the district. Before introducing agro-met advisory, most respondents planned crop production activities using experience gained from previous growing seasons. With the introduction of agro-met advisory, 53% of respondents have changed their crop production activities according to the agro-met advisory. By adopting the agro-met advisory, 61% of farmers believe that there are positive changes such as effectively use water in irrigation systems, ability to get a good harvest and the reduction of cost for crop cultivation and 33% suspect to have a negative impact such as getting lower yield to their crops. Binary logistic regression results showed that Age ($p<0.005$) and cultivated land extent ($p<0.005$) are significant predictors of the probability of farmers' adaptation to weather forecasts. The percent bias (PBIAS) and Bias error (B) results indicate rainfall prediction for *Kurunegala* district was slightly underestimated (PBIAS= -4.06%, B=15.69). Moreover, there was a significant positive correlation ($p<0.01$) between forecasted and observed rainfall of *Kurunegala* district. The results of this study would be useful to enhance the adaptive capability of farmers for the weather forecast and improve its reliability.

Keywords: Adaptation, Agro-met advisory, Crop production, *Kurunegala* district, *Mee Oya*