

A COMPARATIVE STUDY OF DETERMINANTS AND ECONOMIC VIABILITY OF DIFFERENT CROPPING INTENSITY MODELS IN SELECTED CASCADE AREAS IN SRI LANKA

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Evaluating the economic viability of the cropping intensity (CI) models will help farmers identify the economically effective ones for higher economic returns. Therefore, this investigation was made to identify the economic viability of three cropping intensity models [Paddy-Paddy (PP), Paddy-Paddy+ Other field crops (OFC) (PPO), and Paddy-OFC (PO)] in selected cascade-based farming systems. Primary data were collected through a questionnaire survey using randomly selected 150 farmers in 5 districts: Anuradhapura, Vavuniya, Trincomalee, Puttalam, and Kurunegala representing 5 cascades and 10 village irrigation systems. The data was analysed by descriptive analysis, Multiple regression technique, ANOVA, and cost-benefit ratio. Results showed that the input cost for agriculture [Anuradhapura ($p=0.00$), Vavuniya ($p=0.01$), Trincomalee ($p=0.03$), Puttalam ($p=0.02$)] and land extent [Anuradhapura ($p=0.00$), Puttalam ($p<0.00$), Kurunegala ($p=0.01$)] were key determinants for CI model. Considering the average annual yield (1.93–6.36 mt), average annual income (Rs.164,294.00–Rs.494,287.00), and cultivated land extent (1.4–3.6 acres), the PPO model was the most popular model. Further, four out of five districts yield showed a significant contribution from the PPO model [Anuradhapura ($p<0.00$), Vavuniya ($p=0.00$), Trincomalee ($p=0.02$), and Kurunegala ($p=0.00$)]. However, as stated by the cost-benefit ratio, the PO model was the most economically viable CI model. According to the result, integration of OFC into paddy cultivation could offer a various advantage while leading toward low-input agriculture. Therefore, necessary financial and technical support should be provided to farmers to popularize the cultivation of OFC as a third season crop for higher economic returns.

Keywords: Cascade, Cropping Intensity, Economic viability, Other Field Crops