IMPACT OF ADOPTING CLIMATE-SMART AGRICULTURAL PRACTICES ON HOUSEHOLD FOOD SECURITY IN MIXED CROPPING SYSTEMS

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Inhospitable climate change around the world negatively influences agricultural production, leading to food insecurity. Adopting Climate-Smart Agricultural (CSA) practices is essential to achieve better agricultural productivity and food security. This study evaluated the impact of the adoption of CSA practices on household food security in mixed farming systems. A pre-tested structured questionnaire survey instrument was employed to gather primary data from 100 randomly selected farmers in *Mahaweli* system H. Annual rainfall data for 1970-2017 were collected from the Department of Meteorology. Standardized rainfall anomalies explained the rainfall variation, while 5-points Likert scale was used to measure the level of adoption of CSA practices among the respondents. Food Consumption Score (FCS) and Household Food Insecurity Access Score (HFIAS) were calculated to measure the food security status. Multiple-linear regression analysed the relationship between food security status and the level of adoption of CSA practices. Mixed cropping (90%), crop rotation (88%), adding compost (88%), and use of quality seeds and planting materials (87%) were the highly adopted practices among the respondents. In comparison, the less adopted practices were rainwater harvesting (95%) and minimum tillage (65%). The mean standardized rainfall anomalies varied in considered periods; 1970-1980 (4.470±1.36), 1981-1990 (2.954±1.53), 1991-2000 (3.435±2.08), 2001-2010 (5.333±1.69) and 2011-2017 (2.916±1.69), respectively. About 12% of respondents were borderline food consumers and 88% were acceptable food consumers in terms of FCS. Regarding HFIAS, the respondents were 8% very food insecure and 92% less food insecure. The level of adoption of CSA practices, household income, and family size were the positively significant ($p<0.05$) factors influencing food security. The results conclude that adopting CSA practices ensures household food security among mixed cropping farmers in *Mahaweli* system H.

Keywords: Climate-smart agricultural practices, Climate change, Food consumption score, Food security, Mixed farming