

Climate Smart Agriculture (CSA) as a Strategy to Minimize Climate Change Impacts: Farmer Perceptions, Adaptations, and Challenges

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Abstract

Climate Change impacts on agricultural systems and smallholder farmers are vulnerable to it. Climate-Smart Agriculture (CSA) is an adaptive measure to climate change. Yet, efforts to support farmer adaptation are hindered by the lack of information on how they are experiencing and responding to climate change. This study aims to assess farmer perceptions, level of awareness, and the level of adaptation. A sample of 116 vegetable farmers in Nuwara-Eliya District was interviewed using a pre-tested questionnaire. Data were analysed in descriptive methods and the Ordinal Logistic Regression. Results indicate that 85% of farmers perceived changes in rainfall. Uncertainty in rainfall intensity and frequency are the most common impacts experienced by farmers. Sixteen climate-smart strategies have been introduced. Mixed cropping (89%), crop rotation (70%) and soil conservation (53%) are adopted by the majority of farmers. Farmer awareness and adoption of CSA practices were estimated by calculating the awareness and usage scores. The mean awareness score is five and the mean usage score is three. Results describe that 10% of farmers have adapted to 4 or more CSA practices and 60% of them have adapted to less than 3 practices. Ordinal Logistic Regression (OLR) model explores the factors which affect farmer adoption. Awareness of adaptation strategies and resource availability cause to adopt CSA. Lack of financial resources, poor knowledge on CSA strategies and inadequate extension service are the limitations to adapt CSA practices. Hence, this study recommends encouraging farmers by providing facilities to adopt climate-smart agricultural practices.

Keywords: Acclimatization, Agriculture, Challenge, Climate, Effects, Insights

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