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Assessing The Sustainability of Climate-Smart Agriculture Techniques and Practices In Traditional Farming Communities

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Climate change poses significant challenges to global agriculture, necessitating the adoption of innovative strategies such as Climate-Smart Agriculture (CSA). This research investigates the sustainability of CSA techniques and practices within traditional farming communities, with a specific focus on the Samanalabedda Grama Niladhari Division (GND) in the Siyabalanduwa Divisional Secretariat Division (DSD) of the Monaragala District, Sri Lanka. Moreover, the study explores how CSA practices promote environmental stewardship, resilience, and shared community values that align with the ethical foundations of sustainable development. The primary objective of this study is to comprehensively assess the long-term viability and multi-dimensional impacts of CSA practices on traditional farming systems. To achieve this objective, a mixed-method research approach is employed, combining both primary and secondary data collection methods. Primary data are gathered through field observations, semi-structured interviews, and in-depth interviews with selected cases from the study area. Secondary data are sourced from various literature sources, including books, research papers, magazines, and online resources. The research focuses on key indicators of sustainability within the context of traditional farming communities. It examines the effects of CSA practices on crop yields, income stability, and household food security among participating farmers. Furthermore, the research assesses the environmental implications of CSA, including its impact on soil health, biodiversity, and the reduction of carbon emissions. Additionally, social dimensions such as community acceptance and collaboration are explored to gauge the holistic sustainability of CSA practices. Preliminary findings indicate that the implementation of CSA techniques has resulted in increased crop yields and income, a reduction in environmental harm, expanded cultivation, decreased post-harvest losses, and enhanced food security among traditional farming households. These outcomes underscore the potential of CSA practices to address the challenges posed by climate change while simultaneously improving the livelihoods of traditional farmers. By identifying the dimensions of sustainability associated with CSA techniques and practices, this research offers valuable insights for policymakers, agricultural extension services, and development agencies seeking to support and scale up climate-resilient agriculture in traditional farming communities. Ultimately, this study contributes to our understanding of how CSA can foster sustainable agricultural systems in the face of a changing climate. By highlighting how CSA practices not only enhance agricultural sustainability but also foster life values such as responsibility, collaboration, and environmental ethics within traditional farming communities, this study aligns with the broader goal of cultivating values essential for excellent professional and personal development.

Keywords: Climate change, climate-smart agriculture, climate-smart agriculture techniques and practices, sustainability, traditional farming communities.



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