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Climate Change Vulnerability and Adaptive Capacity of Small-Scale Farmers in Imbulpe District Secretariat Division, Belihuloya

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Abstract

Climate change has caused a significant threat to various economic sectors worldwide, with the notable impact on agriculture. Sri Lanka is one of the countries negatively affected by climate change due to its high exposure to extreme events and low adaptive capacity. Particularly vulnerable is the agriculture sector which is pivotal for the livelihood of smallholder farmers engaged in paddy and vegetable cultivation. The objectives of this study were to examine how climate change was perceived by farmers and how their farming practices were adapted in response to perceived changes in climate. Data was gathered from 100 small-scale paddy and vegetable farmers residing in seven Grama Niladari (GN) divisions within the Imbulpe Divisional Secretariat (DS) division of Rathnapura District. A structured questionnaire and in-depth interviews were key data collection tools. The findings of the study revealed a widespread awareness of climate change among the farming community in the study area and adjustments were made by farm households to adapt their agricultural practices in response to climatic change. Within the sampled group, 60% of farmers possess land holdings of one acre or less for their agricultural practices. Of the sample, 62% reported encountering variations in rainfall patterns during both the Yala and Maha seasons. These climate changes typically resulted in decreased yields, increased occurrences of pests and diseases, and water shortages. Adaptation methods, such as Changing crop types, changing planting dates, and changing fertilizers, were commonly employed in response to climatic change. However, 42% of farmers had no strategies to cope with climate change. Additionally, the study identified several constraints that hindered the process of adaptation to climate change. These limitations included insufficient access to information, financial constraints, and a lack of knowledge regarding effective climate change adaptation methods in the study area. Based on these results, it is evident that there is a pressing need for increased investment in farmer education and the establishment of more robust institutional support systems for climate change adaptation.

Keywords: Climate change, Adaptation strategies, Small scale farmers, Perceived awareness