Impact of Climate Change on Agriculture in Vadamaradchy South-West Divisional Secretariat Area in Jaffna District

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Climate change has had a significant impact on agriculture in the Vadamaradchy South-West Divisional Secretariat area of Jaffna District. This region has experienced a noticeable shift in temperature and precipitation patterns over recent years, profoundly affecting agricultural practices and productivity. This study mainly relies on both quantitative and qualitative methodologies. Primary data was collected through three focus group discussions with farming communities, including details of changes in rainfall patterns, temperature variations, impacts on crop yields, and the adaptive strategies being employed by farmers. Secondary data, such as annual rainfall and temperature patterns, was obtained from divisional secretariat annual reports. One of the most notable impacts of climate change in this area is the alteration of rainfall patterns. The traditionally reliable monsoon rains, crucial for crop cultivation, have become increasingly erratic. This unpredictability has led to challenges in timing planting and irrigation, affecting crop yields and quality. Farmers, who rely heavily on rainfed agriculture, now face heightened uncertainty and the risk of crop failure. Rising temperatures are another critical concern. Increased heat stress during critical growth stages can adversely affect crop development. Crops such as rice, a staple in the region, are particularly vulnerable to temperature extremes, impacting both yield and quality. In response to these challenges, local farmers are gradually adopting climate-resilient agricultural practices. Techniques such as rainwater harvesting, improved irrigation systems, and the cultivation of drought-resistant crop varieties are being promoted. Government and non-governmental organizations should provide support through training, access to weather information, and financial assistance for adaptation measures. Climate change poses significant threats to agriculture in this region. Addressing these challenges requires concerted efforts at local, national, and international levels to enhance resilience, ensure sustainable agricultural practices, and safeguard the livelihoods of farmers in this vulnerable region.

Key words: Climate Change, Water Scarcity, Rainfall Patterns, Rainfed Agriculture