FARMERS' AWARENESS AND ADAPTATION TO CLIMATE CHANGE IN RUBBER CULTIVATION, MONARAGALA DISTRICT

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Chenkalady

2025

ABSTRACT

Climate change has a significant impact on the agricultural sector, affecting various crops, including rubber. Changes in temperature, rainfall patterns, and extreme weather events influence rubber production, growth, and yield, posing challenges to sustainability and economic stability in rubber-producing regions. This study examines smallholder rubber farmers' awareness and adaptation strategies in response to climate change in Monaragala District. The structured questionnaire was developed using interviews with stakeholders and adapting scales from the literature. The data was collected from 100 farmers using a pre-tested questionnaire. The study found that most rubber farmers in the Monaragala District are aware of climate change, with 57% acknowledging its impact on agriculture. About 63% stated they could recognise visible climate changes, such as irregular rainfall and rising temperatures, which they believed were affecting rubber cultivation. However, 76% reported that financial difficulties were the main obstacle to adopting adaptation strategies. Other major challenges included limited access to climate-related information (75%), insufficient government support (84%), and poor access to modern farming technologies (82%). The analysis showed that 32% of the variation in farmers' adaptation behaviours could be explained by the identified influencing factors ($R^2 = 0.319$). Three key factors were statistically significant: access to climate adaptation training ($p = 0.001$), education level ($p = 0.047$), and financial losses from climate events ($p = 0.029$). Farmers who had received useful training, had higher education, or experienced financial losses due to climate extremes were more likely to act. The findings emphasise the crucial role of knowledge, experience, and institutional support in facilitating climate adaptation. To ensure the long-term sustainability of rubber farming in Sri Lanka, targeted policies, farmer education programs, and improved financial access are essential. These insights are valuable for policymakers, researchers, and agricultural extension officers in developing adaptation strategies tailored to smallholder farmers. Strengthening institutional frameworks and integrating scientific advancements with traditional practices can enhance the resilience of Sri Lanka's rubber industry against future climate challenges.

Keywords: Adaptive strategies, Climate adaptation, Climate change, Rubber cultivation, Sustainability.

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