

ROLE OF PSYCHOLOGICAL FACTORS IN RICE FARMERS' ADOPTION OF CLIMATE ADAPTATION PRACTICES IN THE ANURADHAPURA DISTRICT, SRI LANKA

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Adapting to climate change is essential for rice cultivation, especially in climate-vulnerable countries like Sri Lanka. While demographic, economic, and climate factors influencing agricultural adaptation are well-studied, psychological aspects remain underexplored. This study examined the psychological dimensions influencing climate adaptation among smallholder rice farmers in the *Horowpothana*, Divisional Secretariat Division using protection motivation theory. Five context-specific on-farm adaptation practices prioritized by field-level extension officers based on three effectiveness criteria as yield, quality, and adaptability, and later validated by farmers were considered for the analysis. Data were collected from 155 rice-farming households. Analytical methods included descriptive statistics and binary logistic regression. The five prioritized practices for minor irrigation and rain-fed rice cultivation in the region included quality seed paddy of climate-smart varieties, timely land preparation, integrated weed management, integrated pest management, and the parachute method. The findings revealed significant variations in farmers' evaluations of response efficacy, which refers to the perceived effectiveness of the adaptation practice; self-efficacy, which describes their confidence in successfully implementing the practice; and response cost, which relates to the perceived expenses or difficulties associated with the practice. Together, these factors significantly influenced their adoption decisions. For climate-smart seed varieties, response efficacy positively impacted adoption intentions ($p < 0.05$), while response cost had a significant negative effect ($p < 0.05$). Behavioral intentions for other practices were influenced by perceived severity, response efficacy, and self-efficacy, while social appraisal and concerns about maladaptation also shaped adoption intentions. Perceived severity and self-efficacy consistently emerged as positive influences across all practices, emphasizing the critical role of psychological preparedness in driving adaptation decisions. These results highlight the need to address psychological and economic barriers to enhance the adoption of identified practices. Tailored interventions that increase awareness, build confidence, and reduce perceived costs are recommended to promote sustainable rice farming under climate change.

Keywords: Binary logistic regression, Climate risks, Protection motivation theory, Psychological factors