

ASSESSING DROUGHT RISK MANAGEMENT BEHAVIOR AMONG MINOR IRRIGATION AND RAIN-FED FARMERS IN THE NORTH CENTRAL PROVINCE OF SRI LANKA

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Abstract: Drought is one of the inevitable recurrent phenomena of the climate. Farmers in Sri Lanka are exposed to severe droughts, resulting in many socioeconomic and environmental losses. Minor irrigation and rain-fed farmers in the North Central Province (NCP) are mainly more vulnerable than those in major irrigated areas. There is still a lack of understanding of how farmers think and behave to mitigate drought impacts in Sri Lanka. The primary objective of this research was to apply the Protection Motivation Theory (PMT) to assess the farmers' drought risk management behaviour and the determinants influence on Farmers' Drought Risk Management Behaviour (FDRMB). A survey was conducted using a 5-point Likert scale questionnaire for collecting the data, including all PMT variables of Perceived Vulnerability (PV), Perceived Severity (PS), Self-Efficacy, Response Efficacy (RE), Response Cost (RC), Intention (IN) and FDRMB in the NCP of Sri Lanka. Minor irrigation and rain-fed farming households were the population (N=3163). The sample size was determined using Slovin's formula ($n=356$), and the sample was selected using the stratified random sampling method. This research applied descriptive-correlational and casual relationships, and path analysis was performed using the multiple linear regression method. The Pearson correlation coefficient was used to find the association between variables. The results highlighted a positive correlation between IN, PV, PS, SE, and FDRMB, while a negative correlation exists between RE, RC, and FDRMB. The results pointed out that both threat appraisal and coping appraisal variables i.e., PV, PS, SE, RE, and RC have significant effects on FDRMB and IN. The path analysis revealed that the causal model of the research explains significant variance in FDRMB ($R^2_{Adj}=0.610$) and IN ($R^2_{Adj}=0.418$). It was found that IN, PV, and PS motivate the farmers to take various adaptation and mitigation strategies to reduce drought impacts. Further, results showed that farmers have low coping capacity. Hence, it is essential to develop the capacity of the farmers in the area. Policy-makers and drought planners may consider these findings when making policy decisions.

Keywords: Drought; Farmers; Protection motivation theory; Vulnerability