

**CLIMATE CHANGE RESILIENCE OF FARMING COMMUNITIES OF
MINOR IRRIGATION AREAS IN KURUNEGALA DISTRICT IN
SRI LANKA**

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Frequent droughts and floods have become the most important climate phenomena, which threaten the farming in traditional rain-fed lands in the most agricultural areas of the country. The irrigation potential of the minor tank systems and the stability of production have decreased significantly, especially in farming communities who have poor resilience. Adapting agricultural technology that helps to reduce the crop losses due to drought as well as reduce dependence by engaging in non-agricultural income generating activities are important to develop resilience. This study aims to find out the level of climate change resilience of the communities farming under minor irrigation in Kurunegala District, which has insignificant major irrigation facilities and heavily dependent on minor irrigation systems. How farmers respond to adverse effects of climate change was assessed by distributing a questionnaire among 60 farmers from three selected Divisions. In addition, Key informant discussions were held with higher level officers and leaders of the farmer organizations. The climatic condition of the studied area is tropical with showed slight variations in temperature but highly variable rainfall over the year. The agricultural activities of the area closely follow the rainfall pattern and supply of irrigation water from minor tanks, which are used mainly for the paddy cultivation. Due to the insufficiency of the seasonal rainfall, respondent farmers have not cultivated paddy successfully in last two years and some have used paddy fields for other field crops and non-farm activities. A composite index to measure the resilience was developed using 11 indicators related to economic, social and physical factors. The Mean resilience score was 56.3 out of a maximum potential of 131. The minimum and maximum scores obtained by the farmers were 29 and 91 respectively. There is no significant difference of mean resilience score among three Divisions. The level of education showed a significant relationship with the income generated from agriculture and savings. Total assets, total monthly income and potential income from encashable assets showed a significant positive relationship with the total resilience. It is recommended to initiate actions to improve the management of existing minor irrigation systems. Awareness programs and training programs should be used to introduce and promote sustainable adaptation practices to farmers.