

Climate Change Adaptation by Small Scale Farmers Dealing with Water Scarcity in Moneragala and Hambantota Districts in Sri Lanka

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This study examines how small scale farmers dealing with water scarcity adopt improved water management practices to meet the challenges of climate change. This study was conducted in Moneragala and Hambantota Districts by assessing a sample of 1,000 beneficiaries chosen from a drip irrigation system which was introduced by the Ministry of Agriculture in Sri Lanka. A field survey was undertaken in collecting data where 'before and after analyses' of the treatment group were selected where indicators relative to a comparable sample of individuals outside the treatment were used. The socioeconomic impact on the beneficiaries of this intervention was assessed using paired "t" test to determine changing patterns and independent "t" tests to test differences in average annual income generated before and after using the drip irrigation system. The impact of the drip irrigation system on the housing condition and household facilities was assessed through field surveys which showed an impressive, quantifiable improvement both to the state of the structures as well as the facilities available therein. The source of household income and income generating activity, change in household expenditure and user perception on drip irrigation system were also assessed in order draw a better and clear picture of the change in livelihood of the farming families in the sample. The annual average income of the households shows about 30% increase in both districts which has led to a corresponding increase in expenditure and a higher standard of living with a more commercial outlook. However, it should be noted that some deficiencies, primarily in technology delivery and confidence building in rural communities are evident in the current phase of the drip irrigation system. Thus, it is concluded that there is an urgent need to enhance knowledge amongst all parties and to bridge the gap for the efficient application of the new techniques. It is believed that the lack of farmers' confidence in the modern techniques is due to the fear of their sophistication, the lack of knowledge on them, and their high cost.

Keywords: Climate adaptation, Drip irrigation, Livelihood, Small scale farming families, Sri Lanka