

**B-120: Rain water harvesting for risk elimination in different agro-ecological regions of Matara District**

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A detailed analysis was conducted to assess the accumulated runoff excess from an average roof of a farmer to assess the rain water harvest which could be used efficiently to eliminate the risk of water scarcity for crop production in the home garden sector. Daily rainfall data in seven locations of the different agro-ecological regions in Matara District viz.: Denagama, Ellewela, Kamburupitiya, Kekanadura, Mapalana, Mawarala and Thihagoda, for 35 consecutive years were used for the analysis. Pan evaporation of Mapalana meteorological station is used for evapotranspiration analysis.

It was revealed that the forward accumulation of 100 mm rainfall at 75% probability commencing from 1<sup>st</sup> March occurs during 12<sup>th</sup> and 18<sup>th</sup> standard weeks in above locations. The maximum tank capacity to catch the entire runoff differed from 12 to 49 m<sup>3</sup>; the lowest and the highest capacity were observed in Kekanadura and Mawarala respectively.

It was found that the ratio of roof to cultivable homegarden area could be 1:3 at onset time in all locations. If the storage tank is filled to its maximum capacity, the highest land area which could be irrigated by roof runoff, observed as 49, 28, 26, 25, 24, 14 and 14 times of roof area in Mawarala, Mapalana, Thihagoda, Ellewela, Kamburupitiya, Denagama and Kekanadura respectively.