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Estimation of the per capita Ecological Footprint for Madurawela DS Division, Kaluthara District

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The Ecological Footprint calculates the combined demand for ecological resources and presents them as the global average area needed to support a specific human activity. This quantity is expressed in units of global hectares. It is an indicator to what extent a nation uses more (or less) than what is available within its territory. The present resource utilization expressed by such indicators will be helpful to recognize the future trends. This study intends to apply this novel analytical tool to calculate the Ecological Footprint per person in the Madurawala Divisional Secretariat area under two major land-use types which are crop land and built up land.

Madurawala Divisional Secretariat area in the Kaluthara district was selected for the study. The stratified random sampling method was used based on the income levels of the households. To collect primary data, two surveys were carried out. The first survey involved a diary which was prepared to obtain actual daily consumption data on food consumption to derive the foot print of crop lands. The diaries were distributed among 50 households and were recollected after a month. The second survey involved a questionnaire survey of 99 households focusing on consumption data of a sample both on crop land and built up land. The crop consumption data was converted into tones using the consumption of each of the items. This value is converted into hectares by dividing from the national yield. The resultant hectare values were converted into global hectares (gha) by multiplying the yield factor and equivalence factor for each criterion. With regard to human settlement, the area allocated for settlement is converted into hectares and then converted to global hectares by multiplying the yield factor and equivalence factor for each criterion.

The estimated foot print per person for cropland for food items is 0.1325 gha. Foot print for built up land is 0.0000723 gha. These figures are rather low compared to the estimates available worldwide. However, the estimates are for a rural community and further estimates for more urban areas would be necessary to provide an indication of the overall trend of the country.