



**Assessment of per capita Carbon footprint: A case study, Faculty of Agriculture, University of Ruhuna**

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With the current focus on our climate change impacts, the embodied green house gas emission or “Carbon footprint (CFP)” is often used as an environmental performance indicator for a person, an organization or a product. This paper reports on research undertaken to assess the per capita CFP and to estimate the relationship between socioeconomic parameters of people and their footprints. A questionnaire survey of 100 people in the Faculty of Agriculture, University of Ruhuna, selected from stratified random sampling method, was used to determine per capita CFP. In order to calculate primary CFP, activity data on electricity and water consumption, private and public transportation and other energy consumption sources were multiplied by emission factors, obtained from Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories, 2006. The most relevant and appropriate emission factors (EF) for Sri Lankan conditions were selected by assumptions to increase the transparency of that study. Secondary per capita CFP was calculated using calculator developed by CFP Ltd 2010 in UK that includes calculated EFs according to previous research values. The results show that average per capita CFP is 0.4tCO<sub>2</sub>-e /yr in household with a range of 0.09 t CO<sub>2</sub>-e/yr and 2.94tCO<sub>2</sub>-e/yr. Income was positively related with the primary per capita CFP ( $r = 0.685$ ,  $P < 0.05$ ). The average is lower than the Sri Lankan average (0.61tCO<sub>2</sub>-e /yr) and rather lower than world average (4tCO<sub>2</sub>-e /yr). Average secondary CFP of person in household is 3.26 t CO<sub>2</sub>-e/yr. 54% and 56% of the females contribute to reduce their secondary CFP by buying organic foods and waste recycling respectively when compared to males. The 65% of the people who lived in rural areas contribute to reduce their secondary CFP by buying or growing the seasonal food, with compared to people who live in urban areas.

**Keywords:** Carbon footprint, emission factors, global warming, GHGs, climate change