Measuring Individual Carbon Footprint and Exploring Its Determinants: A Case Study of Galewela Divisional Secretariat in Matale District, Sri Lanka

D.M.M.G.J.M. Disanayaka

Department of Environmental Management, Faculty of Social Sciences and Humanities, Rajarata University of Sri Lanka, Mihintale 50300, Sri Lanka
janakimanjula1994@gmail.com

Carbon footprint (CFp) is the measure of the amount of carbon dioxide emission associated with all the activities of a person or other entity. The overall aim of this study was to measure the individual CFp and its determinants of selected samples in the Galewela Divisional Secretariat in the Matale District. The specific objectives were to measure individual CFp, to measure per capita CFp, to identify the factors affecting the individual CFp and to formulate guidelines to reduce CFp. In order to achieve these objectives, primary data were collected from questionnaire surveys and interviews. Secondary data were collected from the journal articles, reports and websites. Convenience sampling method was used and it consisted of 120 respondents in the Pattiwela, Pathkolagolla and Hombawa villages in the Galewela Divisional Secretariat Area. https://www.carbonfootprint.com website was used to calculate the individual CFp. Data were analyzed by using SPSS and MS Excel software. Multiple regression, correlation analysis and descriptive analysis were employed for data analysis. According to the result, the total individual CFp of the study sample is 13.43 tons /month. Of this, the male respondents produce 8.62 tons of CFp and Female respondents released 4.81 tons of CFp. The per capita CFp of the study area is 0.11 tons/ month. Household activities of the respondents produced 27% of CFp per month. Respondents public transportation produced 19% CFp and private transportation produced 15% of CFp. Furthermore, secondary consumption produced 39% of CFp in the study area. The statistical findings revealed that, gender (sig = 0.010), age (sig = 0.01) and monthly family income (sig = 0.000) of the respondents are significantly influenced for the individual CFp in this area. Therefore, this study recommends that people should adopt a sustainable and environmentally friendly lifestyle to reduce their CFp.

Keywords: Carbon footprint, Carbon dioxide, Household, Per capita, Individual