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**A FEASIBILITY STUDY OF COMPOST PREPARATION BY USING HOUSEHOLD WASTE (KITCHEN WASTE AND GARDEN WASTE) (A CASE STUDY IN KOPAY DS DIVISION, JAFFNA DISTRICT)**

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**ABSTRACT**

Home composting is a simple, cost effective and environmentally friendly method to manage the household biodegradable waste. The objectives of the study were to investigate the domestic waste management at household level, identify the different types of compost making unit and assess the feasibility of barrel composting by using biodegradable household waste. Primary data were obtained from 150 randomly selected householders through questionnaire survey. The compost was prepared using kitchen waste and garden waste in different proportions, namely 1:1 (C1), 1:2 (C2), 1:3 (C3), 1:4 (C4), 1:0 (C5) and 0:1 (C6). The pH, EC, Carbon Nitrogen ratio and primary macro-nutrients were analyzed. The collected data were analyzed using Minitab 17. Around 70% of households prepared the compost but remaining were not engaged. The householders used different types of composting unit as heap method (30%), pit (30%) and cage method (10%). C1 to C6 proportions of compost showed a pH of 7.6 to 8.8, EC 2.4 to 4.5, nitrogen 1.3 to 2.3%, phosphorous 1.7 to 4.7% and potassium 2.8 to 7.9%, all the ranges within the reference limits Sri Lanka standard 1246: 2003. C/N ratio of composts were varied from 19 to 31 but the Sri Lanka Standard was 10 to 25. The C3 (1:3) compost has the C/N ratio 20.3 which was within the reference limit of SLS 1246: 2003. This study is recommended that household waste could be used to prepare the nutrient rich compost. Further study is required to ensure the efficiency of crop growth and yields.

Keywords: Barrel Composting, Kitchen and Garden Waste, Nutrition Value