

CONTRIBUTION OF MODEL HOME GARDENING ON IMPROVING SOIL PRODUCTIVITY AND HOUSEHOLD INCOME OF RURAL COMMUNITIES IN *ELAYAPATHTHUWA*, SRI LANKA

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Home gardens are dynamic and sustainable food production systems. Considering its potential, a model home garden (MHG) was introduced to farmers in *Elayapaththuwa*, Anuradhapura. This study evaluated the impact of these MHGs on enhancing soil productivity and household income generation in rural communities. Twenty (20) farmers each from MHG and regular home garden (RHG) were randomly selected in the *Elayapaththuwa* area. A structured questionnaire was used in primary data collection and soil samples were taken from selected MHGs and RHGs to analyse soil properties such as soil pH, electrical conductivity, organic matter, colour, and soil bulk density. Data were analysed qualitatively and quantitatively using descriptive statistics, one-way ANOVA, and paired t-tests. Application of animal manure (50%), compost (50%), and harvesting at the proper stage of maturity (40%) were the highly adopted practices while proper storage was the least adopted practice by the farmers in MHGs. The soil organic matter was significantly ($p=0.009$) improved in MHGs compared to the initial status indicating MHG practices have contributed positively towards the improvement of soil productivity. However, soil properties such as soil pH ($p=0.753$), electrical conductivity ($p=0.672$), bulk density ($p=0.383$), and soil organic matter ($p=0.226$) were not significantly varied between MHGs and RHGs. The contribution from MHGs to the average household income was LKR 10,800.00 (6.85%) while it was LKR 6,300 in RHGs. Availability of farmer markets, continuous monitoring of cultivation practices by the responsible officers, and product certification were the approaches that caused higher income generation in MHGs against RHGs. Therefore, there is a great potential for uplifting the productivity of RHGs inculcating beneficial strategies from MHGs.

Keywords: Home gardening, Product certification, Soil organic matter, Soil productivity