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Urban Parks and Urban Gardening for Sustainable Urban Development and Conservation; A Case Study from Sri Lanka

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Abstract

Urban parks and urban gardening are globally emerging concepts to offer recreation and green space for concentrating urban human populations while providing safe and suitable feeding, breeding and residing habitats for urban wildlife. For a concept to be sustainable, it should have socio-economic benefits as well as environment friendly perception. Most of the urban parks in Sri Lanka are developed on wetlands, on their own are not identified as of much use to general public. However, after the implementation of urban parks, they were able to attract people, which would increase the socio-economic aspects such as mental well-being and income for the government. Simultaneously, urban gardening also an important concept, which improves the well-being by improving the mental stability of individuals by means of relaxation. However, observing and assessing the socio-economic benefits and environmental benefits of such concepts are a vital requirement to improve sustainable development plans in future. Therefore, this study was conducted with the objective of determining the environmental prosperities of such concepts. This case study was carried out in two different urban habitats, 'Diyasaru' Wetland Park of Thalawathugoda (urban park) and a home garden of Pelawatha (Urban garden), from June to August 2018. Butterflies were used as indicator species for this study, mainly because they represent an important position in ecological food webs in urban wildlife. Butterfly data was collected at each location using plot sampling method in an area of same extent. The Simpson's and Shanon Diversity Indices for Diyasaru and home garden in different time intervals were 8.00-8.15 a.m. [(1.944/0.7911) and (2.226/0.8707)], 10.00-10.15 a.m. [(2.179/0.8122) and (2.117/0.8207)], 12.00-12.15 p.m. [(2.411/0.8823) and (2.468/0.8826)], 2.00-2.15 p.m. [(2.33/0.8074) and (2.069/0.8336)], 4.00-4.15 p.m. [(2.076/0.8432) and (2.059/0.8252)] respectively. The results indicate that the butterfly diversity at Diyasaru and the home garden are similar and high. According to several studies, which butterflies were used as indicator species, the diversity of urban butterflies in these urban habitats are comparatively higher than other urban habitats and several other similar suburbs. Therefore, this study concludes that, concept of urban gardening and development of urban parks are a strategic approach in sustainable urban development.

Keywords: Sustainable, Urban parks, Urban gardening, Butterflies, Conservation,