

The pressure of population on avifaunal species utilising rice fields

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Much has been written both at global and local level on paddy cultivation, rice production and associated problems, the impact of land-use changes, and biodiversity in rice fields. However, an area that has received little attention in the Sri Lankan context is the avifaunal species utilising rice fields. As a consequence of rapid urbanisation, the extent of paddy lands is decreasing year by year. Thus, this study presents part of an ongoing study with the objective of investigating the pressure of urbanisation on avifaunal species utilising rice field ecosystems in a sub-urban area. The primary data were obtained through a bird survey carried out in rice fields located in randomly selected ten Grama Niladari Divisions (GNDs) in the Kaduwela DSD. The bird survey was carried out using Point Count Method (PCM). Accordingly, five-point counts were placed at each site within a 50-meter radius. Population data for 2001 and 2012 was obtained as secondary data. Arc GIS was used to prepare density maps to distinguish population and bird distribution. A total of 13,320 avian species has enumerated for a period of six months in 2019 while the number of species has significantly reduced from 4994 compared to the avian data for the year 2009. Among the species identified, water birds were dominant. *Ardea alba*, *Ardea cinerea*, *Ardea intermedia*, *Ardeola grayii* and *Bubulcus ibis* were dominant water birds utilising rice fields in the study area. Aranagala and Malabe-East have reported the highest avifaunal density in 2012 where the population was 5506 and 5919, demonstrating the 7th and 6th positions in descending order which were illustrated by the density maps. The correlation between bird count and population shows a considerable relationship in 2012 (0.70). The projected population data for the year 2022 shows a weighty decrease of bird density in relation to population density. Therefore, the future vulnerability of avifaunal species in rice fields has to be considered in order to conserve them.

Keywords: *avifauna, population, rice field, urbanisation, water birds*