

Estimation of the size of the stray dog population, case study for the Dickwella divisional secretariat, Matara, Sri Lanka

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Stray dogs have become a huge social and health problem in Sri Lanka. An accurate estimate of stray dog population size can be used in conducting investigations, planning control programmes for the stray dog population, estimating the amount of money to be allocated for these programmes and ensuring their success. Limited methods are used to estimate stray dog population size in the literature. Mark and recapture method is the most commonly used method. In the present study, the size of the stray dog population in Dickwella divisional secretariat, Matara, Sri Lanka was estimated using the maximum likelihood method. There are 48 Grama Niladhari (GN) divisions in Dickwella divisional secretariat and five of them were randomly selected for this study.

The size of the stray dog population was estimated and there were 3465 (95 % Confidence interval: 2312-4618) stray dogs in Dickwella. The stray dog population density and the estimated ratio of the human to stray dog population were 69.31 km^{-2} and 15.8:1 respectively.

According to the literature, the ratio of the human to the dog population and human to the domestic dog population in Sri Lanka are 6.7:1 and 9.6:1, respectively. According to these ratios and the human population in Dickwella, there should be approximately 2465 stray dogs in Dickwella. Further this value is within the estimated confidence interval (95 % Confidence interval: 2312-4618). Therefore, the maximum likelihood method is applicable to estimate the stray dog population in Dickwella. The accuracy of the result can be further enhanced by increasing the sample size.

Keywords: stray dogs, population size and maximum likelihood method

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