

Changes in mammal abundance due to small tank renovation – A Case Study from the Dry Zone of Sri Lanka

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Abstract

The tank renovation programs in Sri Lanka were implemented with the sole objective of increasing agricultural productivity without considering the possible impacts on the environments. A study was conducted to assess the impact of tank renovation on mammal diversity around renovated tanks. Twelve small tanks from Galgamuwa D.S. Division were selected using stratified random sampling technique. The questionnaire survey was responded by 150 randomly selected farmers while 400 farmers were engaged in the 12 PRA surveys covering each study tank. Results from these surveys were assessed to evaluate the abundance of mammals before and after the tank renovation.

According to the questionnaire survey deer, mongoose species and sambur populations have decreased with tank renovation. Twelve percent of the respondents are with the opinion that many deers (*Axis axis ceylonesis*) could be seen before the tank renovation but 79 % of them reported that deer could not be seen abundantly after the renovation. According to the farmers responses, Sambur (*Cervus unicolor unicolor*) could not be seen after the tank renovation. The PRA analysis identified an increase in mammal species in Monnankulama tank while a decrease in Ihalagama tank. The other tanks did not show any changes in the overall mammal populations. The reduction in the population of these mammals could be due to the increased human, vehicular and machinery movements due to the tank renovation. In additions, regular removals of vegetation cover from the tank surroundings, increased crop cultivation and settlements could have contributed to the changes in mammal diversity. According to the PRA survey, least mammal density is reported from Pahala Pulanchiya, Inhale and Pahala Palukandawa, Kurundankulama and Diwullawa tanks. The main reason for the least population could be linked to the closeness to the main roads and the settlements.