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ABSTRACTS

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QUANTIFICATION OF HABITAT REGENERATION AFTER REMOVING INVASIVE PLANT *Lantana camara* IN UDAWALAWE NATIONAL PARK

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Lantana camara being among the ten worst invasive alien plant species of the world, is the dominant terrestrial invasive in Udawlawe National Park (UNP). The UNP is one of the most important among protected areas designated specially for the conservation and management of the southern elephant population of Sri Lanka. Grazing lands available for the elephants have been drastically reduced due to Lantana invasion. There is an ongoing project to remove Lantana from the UNP involving manual and mechanical methods of removal. Further, those land blocks could be categorized into two types based on the time since the last removal of Lantana, whether three or six months ago. This study intended to assess the natural habitat regeneration after removing bushes of invasive Lantana and to see whether there is any impact from the removal method on their regeneration. The study was conducted through the ground survey method, with six Lantana removal plots in the UNP, selected considering the removal method and the time since last removal. Ten 5 m × 5 m sub plots were established in each plot, in which visual encounter method was used to count all regenerated invasive and native plants. The invasive alien plant *Chromolaena odorata* were the most dominant in Lantana removed plots, while *Galinsoga paviflora* and *Sida acuta* were the most abundant among native species. Lantana regeneration was reported to increase with the time since last removal as there was a significant difference between the Lantana regeneration between the plots from which Lantana was removed at different times (paired t-test; $p = 0.034$), regeneration being rigorous after six months. Cluster analysis supported with dissimilar associations of regenerating species between two types of plots with different time since last removal. Therefore the study confirms the need for continued removal programs for the success of controlling Lantana, where there is no significant difference in regeneration in plots with different Lantana removal method, whether manual or mechanical (paired t-test; $p = 0.390$). Several native species have shown the ability in well establishing in Lantana removed plots, indicating that the repeated removals better be done with the manual method at least in six month intervals, while it is recommended to use the mechanical removal for the initial attempt.

Keywords: *Regeneration, Visual encounter, UNP*