Camera-trapping assessment of terrestrial mammals and birds in rehabilitated forest in INIKEA Project Area, Sabah, Malaysian Borneo

Abstract

The Innoprise-IKEA (INIKEA) Forest Rehabilitation Project in Kalabakan Forest Reserve, Sabah, was established to rehabilitate degraded forest affected by conventional logging and forest fires that occurred during an El-Nino event (1982–1983). The present study aimed to investigate the responses of ground-dwelling mammals and birds to the different rehabilitation practices in INIKEA: gap-cluster planting, line planting and liberation, where enrichment planting applied in both gap-cluster and line planting. A total of 74 camera traps were deployed at random locations across reforested INIKEA plots, including plots in control areas comprising naturally regenerated forest. A total of 6534 independent photographs of medium-to-large vertebrates from 7266 camera-trap nights representing 33 species from 14 families and 7 orders were obtained. Among the detected vertebrate species, 2 are listed as Critically endangered, 5 as Endangered, 8 as Vulnerable and 6 as Near threatened on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. Mousedeer was the most frequently photocaptured species, followed by muntjac, bearded pig, sambar deer, pig-tailed macaque and crested fireback. The present study demonstrates that the rehabilitation methods applied in INIKEA have aided forest recovery, providing habitat for the ground-dwelling mammals and birds in Sabah. General forest structure, species richness and species composition did not significantly differ between the areas subjected to rehabilitation treatment and the control area. The results suggest that the liberation method should be abandoned to ensure a variety of food resources for animal species. Provided major forest components remain after disturbance, disturbed forest areas should be left to undergo natural recovery.