

UNIVERSITY OF HOHENHEIM
INSTITUTE OF PLANT PRODUCTION AND AGROECOLOGY IN THE
TROPICS AND SUBTROPICS



**Assessing the potential of wildlife corridors as mitigation measures for
human-elephant conflicts in rubber-dominated landscapes**

MSc Thesis

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Submitted by

Alvaro Mañas Jiménez

Head of the Department: PD Dr. Frank Rasche

Supervisor: PD Dr. Anna Treydte

Second Supervisor: PD Dr. Frank Rasche

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Abstract

Changes in land use due to growth of human population and expansion of rubber plantations have dramatically reduced the natural habitat of Asian elephants (*Elephas maximus*), leading to direct competition for resources with humans. To mitigate progressing habitat fragmentation and prevent human-elephant conflicts, the design of wildlife corridors in the locations of Xishuangbanna (XB, China) and Tai Rom Yen (TRY, Thailand) is proposed in this study. Through field surveys, factors (e.g., slope, distance to crops, distance from the forest edge) potentially determining elephant presence were mapped between July and September 2014. None of the selected factors in TRY was significant, while in XB the factors elevation and height of undergrowth significantly explained elephant presence. Further, a map of habitat suitability was projected for TRY and its surroundings, based on the factors distance to natural forest, distance to human settlements and slope of the terrain. With the information collected, the literature regarding elephant ecology, and the habitat suitability maps created in this study, two potential locations for wildlife corridors were proposed. These corridors connect forest areas, minimizing the distance of travel for elephants, along shallow slopes and with human villages being > 5 km away. Wildlife linkage / corridors designed for TRY were compared with the design of those existing in XB. This study is the first one dealing with ecology and conservation of wild Asian elephants in Southern Thailand, and it will be helpful in generating new understanding and raising awareness for wildlife in both local communities and other institutions. The findings of this study may have future implications for developing predicting models of elephant habitat preferences and the use of wildlife corridors in tropical rubber-dominated landscapes.

Keywords: Wildlife corridor, elephant habitat preferences, human-elephant conflict (HEC), rubber, Tai Rom Yen, Xishuangbanna.