

Mapping of potential sites for beekeeping in the Province of La Union, Philippines using GIS and RS

Ronald Estoque^{1*}, Leonard C. Cachero²

¹SIS, Tsukuba University & DMMMSU, Phils., ²DENR, Philippines

This study was set out to map potential areas for beekeeping using Geographic Information System (GIS) and Remote Sensing (RS) in the Province of La Union, Philippines. The identification of potential sites necessitated the determination of the factors and different variables that determine the ideal sites where beekeeping can be viable and profitable as a livelihood and/or business venture. Land use/cover is no doubt one of the major factors to consider in the selection of sites with high potential for beekeeping. However, with regards to the ideal combination of land uses/cover within the optimum flight distance of bees that could make beekeeping more profitable had to be determined. The twelve existing beekeeping projects in the province being assisted by the National Apiculture Research, Training and Development Institute (NARTDI) were used to spatially determine which land use/cover combination within the 3-kilometer (km) flight distance radius has the highest production per colony. Results revealed that the three most dominant land use/cover types within the 3-km radius flight distance in all the project sites are agriculture, agroforestry (combination of agricultural crops and trees), and forest. Furthermore, it was found out that the top three yielder projects have a land use combination of agriculture (41%), agroforestry (21%), forest (24%), and other land uses like water body, residential, built-up, etc. (14%). In addition to the land use/cover factor, other physical factors like presence of water body (river, creeks, etc.), accessibility, etc., as well as socio-economic factors like willingness to venture were also considered to determine which municipalities in the Province of La Union have the greater potential for beekeeping.

Keywords: GIS, Remote Sensing, beekeeping, Land use/cover, potential sites, La Union, Philippines