



Thesis Abstract

Assessment of the Mangrove Forest in Ranong, Thailand for Landscape Biodiversity Resources Planning and Management

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This study was conducted in Ranong, Thailand aiming to assess its mangrove forest and come up with a sustainable management plan. Geoinformatic techniques, socioeconomic survey and field inventory were used to characterize the six (6) study sites comprising seven (7) zones determined by cluster and ordination analysis. The Mueng district had the most number of mangrove patches (17). There were nineteen (19) mangrove tree species with *Rhizophora apiculata* as the most dominant. *Scylla olivacea* and *Sardinella* sp. were the dominant species of all the twenty-seven (27) identified aquatic fauna species. The highest diversity (2.01) and equitability (1.06) indices were in Zone III. The highest concentration index (0.47) was in Zone VII. The highest species richness index (3.425) was in Zone III and IV.

The satellite images and remotely sensed data showed other land use types such as fish and shrimp ponds, forest covers, urban, district, villages and tourist sites. As compared with mangroves, the fish or shrimp pond patches appeared to be smaller in size, polygon in shape with random arrangement. Mueng had the highest pond patches (25) while the lowest (2) was in Laun. The district with highest number of villages was in Kraburi (61) while the lowest (15) was in Suk Samran. There were 26 sites with tourist attractions in Ranong, Thailand.

A socioeconomic instrument with 60 respondents revealed that 73 % used mangroves as a source of construction materials, 2 % depended on mangroves for fuel with 22 % who could identify at least 5 species. All respondents confirmed that they largely depended on mangroves.

Based on the Landsat images of Ranong and the results of the vegetation study, it is suggested that a biodiversity corridor be established with the dominant *Rhizophora apiculata* as the main reforestation species. A rehabilitated mangrove ecosystem can actually minimize the ill effects of tsunamis to lives and properties. Furthermore, the mangroves must be treated as a community owned area rather than as a common property when the locals treat the mangroves as their own, there is a greater chance for mangrove conservation, hence sustaining its benefits for the Ranong locals.