Thawat Tanhai 2006: Study on Coastal Erosion Protection and Sedimentation by Using Bamboo (*Thyrsostachys siamensis* Gamble) in Mangrove Forest, Tambon Khlong Dan, Amphoe Bang Bo, Changwat Samut Prakan. Master of Science (Watershed and Environmental Management), Major Field: Watershed and Environmental Management, Department of Conservation. Thesis Advisor: Associate Professor Sittichai Tantanasarit, Ph.D. 88 pages.

The study on coastal erosion protection and sedimentation by using bamboo (*Thyrsostachys siamensis* Gamble) in mangrove forest, Tambon Khlong Dan, Amphoe Bang Bo, Changwat Samut Prakan had 3 objectives, (1) coastal erosion protection studied by using bamboo (*Thyrsostachys siamensis* Gamble), (2) studied of sedimentation and sea current and (3) characteristics of sediment studied. This study was compared between the bamboo plot (plot 1) and the non-bamboo plot (plot 2). The results could summarized as followed :

The coastal had eroded rates in terms of distance from the designated coastal line were 0 to 62 cm distances in plot 1, while the rates in plot 2 were 42 to 483 cm. The statistic test using "t-test" of eroded coastal between plot 1 and plot 2 was significant difference at 0.05. The highest average of sedimentation rates observed in line A, B, C and D were 44.83, 36.83, 45.33, and 46.00 cm, respectively in plot 1. On the contrary, the sedimentation average rates of plot 2 at line A, B, C and D had not sedimentation phenomena but found that, was loose sediment as 16.17, 14.33 19.67, and 16.67 cm respectively. The correlation coefficient between sea current rate and sedimentation found in opposite value and low relationship (r = -0.1044 to -0.6805). Soil characteristics found that, texture had sand 21.12 % silt 32.48 % and clay 46.83 % as fine clay soil, pH was 7.28, average organic matter was 4.37 % and N, P, K, Ca and Mg were 0.11%, 101.25 mg/kg, 2312.50 mg/kg, 2434.37 mg/kg and 2522.98 mg/kg respectively. Concluded that it had high fertility of sediment and suitable for plant growth and could be mangrove forest rehabilitation in the future.

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