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M.Sc. (TECHNOLOGY OF ENVIRONMENTAL PLANNING FOR RURAL DEVELOPMENT)

KEY WORDS : IMPACT/WASTEWATER FROM COMMUNITIES/ ASSOCIATED WITH A LAGOON SYSTEM/ THE LEAM PHAK BIA ENVIRONMENTAL STUDY, RESEARCH AND DEVELOPMENT PROJECT UNDER ROYAL INITIATIVES CHIRAWAT CHAISAMRAN : ENVIRONMENTAL IMPACTS OF WASTEWATER FROM COMMUNITIES ASSOCIATED WITH A LAGOON SYSTEM AND NATURAL MANGROVE FOREST FROM THE LAEM PHAK BIA ENVIRONMENTAL STUDY, RESEARCH AND DEVELOPMENT PROJECT UNDER ROYAL INITIATIVES, BANLAEM DISTRICT, PETCHABURI PROVINCE. THESIS ADVISORS : CHUMPORN YUWAREE, M.Sc., KASEM CHUNKAO, Ph.D., SANCHAI SUTIPANWIHAN, M.Sc., PALANEE DHITHIVATANA, M.A., M.Ed., 231 P. ISBN 974-664-776-8.

The study on the environment impact of wastewater from communities associated with a lagoon system and natural mangrove forest from Laem Phak Bia Project, Banlaem District, Petchaburi Province used the water quality and community people's attitudes toward the principle of conservation, revival of water resources and development of mangrove forest resources as indicators. The sample of water quality in the mangrove forest was collected 6 times, every 2 months during May 1998 and April 1999 and the attitudes of 102 people were studied by conducting interviews and together with the environmental 2 factors, were analysed by program SPSS by using Descriptive Analysis Statistics : Mean, Standard Deviation, Percentage and Reference Statistics : Chi-Square and t-test.

The results of the study showed that most people by 58.8 % had knowledge about wastewater and wastewater treatment system in the moderate level. And most people had attitudes toward the principle of conservation, revival of water resources and development of mangrove forest resources in the moderate level by 70.6 % and 52.0 % for the positive attitude, 48.0 % for the negative attitude. Most people by 59.8 % agreed with the principle of the use of nature to help treat wastewater. The indicator on education level affected different attitudes at the significant level of 0.05. The water quality in general met the standard of the seawater quality, Category 3 which consisted of temperature, pH, Salinity, Dissolved Oxygen, Biochemical Oxygen Demand, Nitrogen, Potassium, Phosphorus, Lead, Cadmium, Chromium, Mercury, Total Solids, Suspended Solids, Turbidity and Total Coliform Bacteria at an average throughout the year of 27.56-27.66 °C, 7.68-7.75, 16.87-18.14 ppt, 2.49-2.63 mg/l, 2.71-5.34 mg/l, 0.24-0.49 mg/l, 363.22-367.38 mg/l, 0.265-0.392 mg/l, 0.126-0.134 mg/l, 0.026-0.029 mg/l, 0.033-0.045 mg/l, 0.002-0.004 mg/l, 42,721.88-49,781.89 mg/l, 143.64-187.45 mg/l, 200.47-206.49 FTU and 91.39-124.62 mg/l respectively. In conclusion, wastewater from communities associated with a Lagoon System did not directly impact the water quality in the mangrove forest yet.

The suggestion from the results of this study are that there should be a campaign of implantation of ideas and realization in communities so that people can understand that the principle of conservation, revival of water resources and development of mangrove forest resources with the objective to solve the problem on water pollution is everybody's duty not the duty of only a specific person or a responsible agency. Promotion should be carried out by holding training, disseminating information, making public relations, giving knowledge and creating attitudes increasing activities on conservation, revival and development of natural resources to people.