

Warangkhanang Muangna 2010: Financial and Economic Analyses of a Cover Lagoon Wastewater Treatment System Investment on a Conventional Swine Farm. Master of Science (Agricultural Economics), Major Field: Agricultural Economics, Department of Agricultural and Resource Economics. Thesis Advisor: Mr. Kampanat Vijitsrikamol, Ph.D. 120 pages.

The objective of this study was to financially and economically analyses of an investment in a cover lagoon wastewater treatment system on Jia Krai Hua swine farm, Tumbon Sam Khwai Phueak, Amphone Mueang, Nakhon Pathom. The data of this syudy were mainly obtained from the farm's owner and experts on wastewater treatment technology. However, there were some risks about defects of the wastewater treatment system involving in the construction process that had to be taken into a consisderation. The financial and economic analysis in this study was derived from the net present value (NPV), the benefit-cost ratio (BCR), and the internal rate of return (IRR) values at 4.75 percent discount rate.

The results showed that the cover lagoon wastewater treatment system improved the quality of wastewater which was able to meet the government standard. Moreover, the problems of farm odor and flies were also declining. The financial analysis in case of the complete wastewater treatment system revealed the NPV, BCR, and IRR of Bt. 891,884.57, 2.64, and 23%, respectively. In addition, The economic analysis in case of the complete wastewater treatment system delivered the NPV, BCR, and IRR of Bt. 763,613.30, 2.04, and 20%, respectively. As such, the complete cover lagoon wastewater treatment system was worthy to invest in accordance with the financial and economic analyses. Due to the sensitivity analysis, the investment in the cover lagoon wastewater treatment system was admirable as well. On the contrary, both financial and economic analyses released the unpleasant results for the investment in the cover lagoon wastewater treatment system provided in case of the incomplete system. Therefore, the one who is willing to invest in the cover lagoon wastewater treatment system should carefully monitor the construction and maintenace processes in order to have the complete and efficient system as much as possible.

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Student's signature

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Thesis Advisor's signature