Patchara Sodawong 2009: An Economic Analysis of Rice Production Comparison between Inside and Outside Royal Rain Making Area at Tonlesap River Basin, Sa Kaeo Province. Master of Science (Agricultural Economics), Major Field: Agricultural Economics, Deparment of Agricultural and Resource Economics. Thesis Advisor: Assistant Professor Nongnooch Poramacom, Ph.D. 140 pages.

The objectives of this research were to study the economic effect of Rainmarking at Tonlesap River, on rice growing farmers in Watthana Nakhon District and Ta Pharya District Sakaeo Province, Crop Year 2008/2009, to study cost and return, and analyze production factors and output using Cobb-Douglas production function, comparing of irrigation area and rain-fed area. The data used in this study ware obtained from interviewing 60 farmers.

The results indicated that the net return over cash cost in the irrigation area had higher than in the rain-fed area. The irrigation area had the net return over cash cost equaled 2,283.05 baht per rai. Rain-fed area had the net return over cash cost equaled 1,872.99 baht per rai. The return of production in irrigation area had the profit per rai higher than the rain-fed area. For the resut of production function showed that quantity of seeds, quantity of chemical fertilizer, quantity of rain and shortage of water had significantly affected on rice production in the irrigation area. Quantity of seeds, quantity of chemical fertilizer, quantity of rain and shortage of water had significantly affected on rice production in the rain-fed area. When considered efficiency of input use and maximization profit, the farmers in the irrigation area should increase quantity of seeds and decrease quantity of chemical fertilizer. For the rain-fed area, farmers should increase quantity of seeds and quantity of chemical fertilizer. From t-test analysis the quantity of rain between irrigation area and rain-fed area were significantly different. In rain-fed area, farmers needed rain in June to July.

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