

Anin Jirapatpongsakorn 2012: Climatic Determinants of Agricultural Total Factor Productivity in the Eastern Region of Thailand. Master of Science (Agricultural Economics), Major Field: Agricultural Economics, Department of Agricultural and Resource Economics. Thesis Advisor: Miss Waleerat Suphannachart, Ph.D. 96 pages.

This study aims at estimating the rates of growth of total factor productivity of agriculture and examining the effects of climatic factors on agricultural total factor productivity growth in the Eastern region of Thailand. The study employs secondary annual data during 1982-2009. The Growth Accounting method is used to estimate the total factor productivity growth (TFPG). The ordinary least squares method (OLS) is then used to estimate the TFPG determinants model in order to investigate the relationship between TFPG and climatic factors.

The result indicates that an average growth rate of agricultural TFP in Eastern Thailand during 1982-2009 is 2.44 percent per year. During 1982-1993, TFPG was not the source of the agricultural output growth as the average growth rate during this period is -10.28 percent per year. After 1993, the contribution of TFPG to agricultural output growth had increased. During 1994-2007, the average growth rate is 2.84 percent per year. The result of the agricultural TFPG determinants in Eastern Thailand shows that the climate change factors measured as seasonal average rainfalls have negative and significant impacts on the agricultural TFPG. Specifically, the rates of change of average rainfalls in winter and at the end of rainy season reduce the total factor productivity growth. Besides of the climate factors, agricultural extension is shown to have a positive and significant effect on the TFPG.

Therefore, the government should provide continuous supports on agricultural extension and related agencies to disseminate output-enhancing production techniques to farmers along with providing training and knowledge sharing for farmers to adjust themselves and plan their productions to cope with climate change.

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