Chanaporn Khamwong 2010: Impact Assessment of Climate Change on Agricultural Revenue in Northeastern Thailand. Master of Science (Resource Management), Major Field: Resource Management, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Suwanna Praneetvatakul, Ph.D. 154 pages.

Northeastern Thailand is vulnerable to climate change due to resource degradation as well as geographic and socioeconomic factors. This study aims to analyze trend of climate change and to assess its impact on farm net revenue in the region. The impact on farm net revenue were analyzed using multiple regression model. The panel data for 7 years (during 2001-2008) in 19 provinces in northeastern region were used in this study. Then, to analyse farmer's perceptions and adaptation strategies to climate change, 160 sampled households in Nakhon Ratchasima and Chaiyaphum provinces were gathered and analyzed.

The results show that in the Northeast the temperature is likely to increase during all season, while the rainfall increases in winter and summer, but decreases during rainy season as the number of rainy days. Using the Ricardian model to analyzed the impacts, estimated marginal impacts suggest that due to temperature rise in summer and early rainy season decline farm net revenue by 173.80-292.61 bath/rai/year. Increase rainfall in summer and early rainy season on the other hand would lead to growing farm net revenue by 31.21-81.54 bath/rai/year. But rainfall increase at the end of rainy season will affects farm net revenue decline by 20.03-31.20 bath/rai/year. Farmer in both, where irrigation and rainfed areas have strategies for adapting to climate change included labor migration, change in crop choices, improved soil quality, different planting dates, add to stored water, crop diversification, change crop variety and plant breeding, agro-forestry and improved water systems.

In order to reduce damage from climate change, related agencies to the natural resources and agricultural sectors should support farmers on adequate cropping techniques and agricultural resource management while at the same to the encouraging farmers to plan adaptation to climate change.

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