



AN INVESTIGATION OF EXTREME VALUES IN THAI RICE CROP INSURANCE APPLYING THE AREA-YIELD INDEX METHOD

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ABSTRACT

It is common knowledge that rice forms part of Thais' staple diet. Furthermore, Thailand is the country with the fifth largest harvested area of rice in the world, yet - due to various factors, including the occurrence of natural disasters - its yields are lower than a number of nations whose crop area is considerably smaller. This study, focusing on risk mitigation, presents a crop insurance approach that has historically not had a foothold there, called area-yield index insurance. An analysis is conducted from 1995 to 2011 of six provinces in northeastern Thailand with the highest levels of rice production. From this and previous studies it clearly emerges that climate-related factors such as rainfall and rainy days have an influence on rice yields in the provinces investigated. A more detailed examination of some extreme values found in this process and the establishment of corresponding anticipated premium rates reveal five outliers, all of which relate to one province. Thus, premium rates are set without extreme values. This represents a highly satisfactory outcome since it implies that the adopted approach can be considered a robust method, as the presence of outliers does not overly influence the results without outliers.

Keywords: Area-Yield Approach, Crop Insurance, Extreme Values, Premium Rates, Thailand