

**Entry No. IRRC-0223**

Category	: International Rice Research Conference
Select Theme	: Sustainable and equitable farming systems
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Keyword 1	:
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Title of Entry	: Potential Adaptation to environmental stresses via climate indexed insurance: Discrete choice experiment on Sri Lankan Rice Farmers
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: Sri Lankan rice sector, especially smallholder sector, experienced nearly 25% reduction in harvest and nearly 30% reduction in area-cultivated during 2016-2017 drought. Smallholders (nearly 30% of labour force) suffered income losses. With this backdrop, this study aimed to assess the willingness to pay for a climate-indexed agricultural insurance package using 247 rice farmers balanced over three agro-climatological regions of Sri Lanka. The objective of the study was to identify the relative importance assigned to key attributes of a climate-indexed insurance, especially among smallholders. The ‘marginal willingness-to-pay’ for

potential attributes of weather-indexed insurance can be measured via a ‘discrete choice experiment’. In the experiment design, the willingness to pay for four attributes of a proposed climate-indexed insurance is treated at three levels for each attribute. We use ‘stated preference approach’ to evaluate farmer preferences by offering farmers different binary choice scenarios constructed as fractional factorial assignment of different levels of each attribute. The four attributes tested are namely, the reference coverage area for weather index calculation (namely, village, divisional-secretary area, district), authority managing the insurance (namely, government, bank, agribusiness company), the method of calculation of compensation (namely, fixed , cost of inputs, value of output/revenue) and the premium per one term (namely, 200LKR, 400LKR, 600LKR). A total of 2223 choice scenarios evaluated among 247 rice growers were analysed using the conditional logistic model and marginal willingness to pay distributions were estimated for each attribute. Smaller administrative division is preferred by respondents as reference area for weather-index calculation. The average negative marginal willingness-to-pay (MWTP) for medium and larger reference areas are -1050 and -2725 LKR (1USD=150LKR) respectively. Government (vis-à-vis the bank and the agribusiness company) is preferred as the management authority. MWTP for administration by bank and private company are -721 and -2100 LKR respectively. The revenue-based compensation approach (vis-à-vis cost-based approach and fixed compensation) is preferred as the method of calculating compensation. MWTP for a revenue-based approach is 363 LKR and MWTP for the currently-practiced fixed compensation schemes is - 1032 LKR.

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