Tropentag, September 20-22, 2023, hybrid conference

"Competing pathways for equitable food systems transformation: Trade-offs and synergies"

Effect of information on farmers' preferences for disaster risk reduction measures: Evidence from a discrete choice experiment in western Uganda

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Abstract

Disaster risks associated with landslides and floods severely affect farmers causing mortality, morbidity, and destruction of farms and farmlands thereby devastating livelihoods. By degrading fragile ecosystems on the steep slopes of high mountains through local farming practices, farmers also contribute to increased exposure to disasters, thus, they need to lead the implantation of disaster risk reduction (DRR) measures. However, it is not known what characteristics (attributes) of tree planting and/or diversion channels do farmers prefer to apply these DRR measures on their land, and how the information provided might alter such preferences. A discrete choice experiment (DCE) involving 319 households in western Uganda, a region prone to landslides and floods was conducted to investigate farmers' preferences. A between-subject design was used to provide information on the DRR measure in a video to investigate how information altered farmers' preferences. Initial analysis using a generalised multinomial logit model reveals a general preference for DRR measures with higher erosion risk reduction. Moreover, a moderate effect of information on preferences for more risk-reducing levels of attributes of tree planting was found, while the information effect on preferences for diversion channels was limited. Based on plot characteristics, in both tree planting and diversion channels, the information treatment effect was larger on larger plots, plots on steep slopes, plots at risk of landslides or floods, and plots that already have some DRR measures. Findings from this study provide us with key policy lessons in that government and other relevant bodies should provide more information on tree planting ex-ante to shape the farmers' preferences before embarking on breeding and supplying tree seedlings. This would reduce the problem of just dumping the seedlings to farmers with fewer (without) preferred attributes which might explain poor adoption behaviour for these measures.

Keywords: Disaster risks, discrete choice experiment, generalised multinomial logit, landslides and floods, preferences

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