

## Abstract

A field survey was carried out to model farmers' vulnerability to climate variability and extreme events in selected agroecological zones in Kitui County. The indicator approach was used to calculate the overall household vulnerability index, where Principal Component Analysis (PCA) was used to allocate weights to indicators of exposure, sensitivity and adaptive capacity. Multinomial logistic regression was run in Stata to model the influence of socioeconomic characteristics on farmers' vulnerability levels. The study established that different socioeconomic characteristics of households had a varying influence on the households' vulnerability levels. Proximity to the Market and the arid agroecological zone significantly reduced the probability of a household belonging to the low and moderate vulnerability categories. On the other hand, the education level and the semi-humid zone significantly increased the odds of a household belonging to the low vulnerability category. Further, access to credit facilities and the semi-humid agroecological zone significantly increased the odds of a household belonging to the moderate vulnerability category. The study thus recommends that policy interventions should target specific socioeconomic characteristics that influence households' vulnerability to climate variability and extreme events.