

ABSTRACT

There is sufficient evidence to show that climatic conditions are changing all over the world. The agricultural sector, especially in developing countries, is one of the hardest hit by the impacts of climate change and variability. Within these countries, the arid and semi-arid areas are the most vulnerable to the impacts of climate change and variability. Farmers in these regions have to cope and adapt to changes in climatic conditions so as to reduce losses. There are many response strategies to climate change and variability that farmers can use, but some strategies are adopted at a higher rate than others. This study was carried out in Narok East Sub-county, an area that represents one of the semi-arid regions in Kenya. The objective of the study was to find out the main changes in climatic patterns that the farmers of Narok East Subcounty have perceived, how they are responding to the threat of climate variability and the factors that influence their choice of response strategies. A cross-sectional research design was used for the study whereby a household survey was carried out to collect data, with a questionnaire being the main data collection tool. Multi-stage sampling technique was used with a total of 223 household heads being interviewed. Key informant interviews and one focus group discussion with 16 participants was also used to supplement data from the household survey. Descriptive statistics were used to summarise and analyse the data. Principal Component Analysis in conjunction with multivariate probit model was used to determine the factors that influence farmers' choice of response strategies. Results showed that farmers had perceived changes in climatic patterns especially in regards to increase in temperatures and reduction in rainfall. The results also showed that farmers had taken up various crop production strategies, with early planting, use of organic and inorganic fertilizers, terracing and planting short season crops being the most preferred. Among the livestock production strategies identified, herd reduction, transhumance, fencing farms and buying new breeds of animals were the most preferred response strategies. The Principal Component Analysis grouped the response strategies into four components, both for the crop production and livestock production strategies. Results of the multivariate probit analysis show that household head characteristics, household size, noticing changes in mean annual rainfall and onset of rains, receiving weather information and the land tenure system were all significant factors that influence choice of response strategy either positively or negatively. This study therefore recommends for more awareness creation and training of farmers of Narok East on how to identify and deal with changing climatic conditions.

Keywords

Climate variability