Abstract

Climate variability and change has been considered to be posing the greatest threat to agriculture and food security in many of the poor, agriculture-based countries in Africa. In recognition of this, an assessment of climate change impacts on small-scale farmers was conducted in Nyandarua South District to assess the impacts of climate variability and change on the small-scale farmers in the area. The area is nationally known as a high agricultural potential area producing all year round horticulture produce. Data was obtained through administration of questionnaires, observation and focused group discussions. Through systematic random sampling the researcher administered 375 households' questionnaires representing 10% of the total households in the study area. Descriptive statistics (frequency, mean, percentages) and inferential statistics (chi square) were used to produce associations between variables assessed. The results indicate that small-scale farmers in North Kinangop Division are struggling with impacts of climate variability. According to analysis, there was a strong association between perceived rainfall intensity variations and impacts on small-scale farmers in North Kinangop ($X2 = 15.411$, $P = 0.05$) and strong association between rainfall distribution and loss of crops and reduced freshwater ($X2 = 41.226$, $P = 0.001$). Extreme climatic events occurrences had a strong association with impacts on small-scale farmers ($X2 = 32.692$, $P = 0.001$). It can therefore be concluded that small-scale farmers have perceived climate variability to be impacting heavily on their agricultural activities as rainfall intensities, reliability and distribution continue to vary in time and space. Other meteorological extreme events (droughts and frost) have been observed to intensify in the area with consequent impacts on crop production. This paper therefore recommends more capacity building programmes to be initiated in the area to enhance awareness of climate variation and change, impacts and adaptation measures to enhance the farmers' resilience.