

Analysing the role of cassava as an adaptation crop to climate variability and change in coastal areas: a case of Mkuranga district, Tanzania

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The study aimed at understanding the role of cassava as an adaptation strategy to climate change and variability in two purposively selected villages from two different agro-ecological zones in Mkuranga district, coast region-Tanzania. Primary data collection comprised the use of Household questionnaires, FGD, Key Informant Interviews and field observations. Secondary data were collected through literature as well as documentary review, whereas temperature and rainfall data from 1984 to 2014 was collected from the TMA. SPSS and Excel software were used to analyze numeric data, while qualitative data were analyzed by cross tabulation and comparison of different views. The study established climate change in different ways and mentioned the major climatic change events as prolonged droughts and occasional abnormal floods. Analysis of the mean maximum and mean minimum temperature data from TMA for the last 30 years (1984-2014), revealed that, temperature had significantly risen by correlation coefficients of 0.0493 ($R^2=0.0493$) for maximum and 0.777($R^2= 0.777$) for minimum temperature. The years 1981, 1996, 2003 and 2013 had the lowest amounts of rainfall, with 2013 being the driest year over the past 30 years. The study findings from a large number of respondents correlate with rainfall and temperature data from TMA. Findings show that there have been decline in crop production which resulted in food shortages and livelihood insecurity in the study villages. The majority of respondents in both villages have found cassava to be the crop that is least affected by climate and environmental extremes, that adjusts to poor soils and that has the lowest production costs, hence ensures food availability and security in households. Basing on these reasons, growing cassava can be considered to be an adaptation strategy in the study area. These include the prevalence of devastating pests/diseases, poor agro-processing technology and unreliable markets. Fostering the exchange of knowhow and good practices related to cassava production, processing, improved marketing and value chain infrastructures are crucial points for enhancing sustainable adaptation mechanism