

THE CLIMATE CHANGE IMPACT ON AGRICULTURE PRODUCTIVITY IN KARAMA
SECTOR, NYAGATARE DISTRICT, RWANDA

BY

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ABSTRACT

The climate change may change the frequency and intensity of weather events which will likely challenge human and natural systems more than normal change. Agriculture is considered one of the most vulnerable systems to climate change. The main goal of this study was to investigate climate change impact on agriculture productivity in Karama sector, Nyagatare District, Eastern province in Rwanda. The study relied on the following objectives: to identify factors influencing climate change in Karama sector, to assess the impact of climate change on agricultural productivity in Karama sector and suggest strategies to mitigate climate change in Karama sector. The study was descriptive and employed both qualitative and quantitative approaches in data collection and analysis. The study utilized the questionnaire to collect quantitative data from 50 farmers in Karama sector and interviews to collect qualitative data from local leaders. The study found out that the main factors recognized by respondents to influence climate change in Karama sector were; deforestation, bush burning, increased emissions of greenhouse gases and orbital variations. The study revealed that, low agriculture productivity, scarcity of food, drying of agriculture plants, and reduction of crops and low production of livestock are the most impacts of climate change on agricultural productivity in Karama sector. Also the study showed that the most agricultural products affected by climate change in Karama sector are respectively maize, beans, bananas, pineapple, sorghum and coffee. Finally the study found out that the measures taken by farmers to reduce climate change in Karama sector are among others the control of bush burning, effective use of energy, effective use of land and effective forest harvesting. It also showed that mass sensitization, enhancing afforestation policy, energy conservation, control of atmosphere, improve acclimatization, increase biofuels and adoption of global warming actions are some of the most measures to be taken by the administration to reduce climate change in Rwanda. The effective strategies to mitigate climate change in Karama sector found by the study were the reduction of anthropogenic activities, reduction of burning fossils, regulation of agricultural activities and regulation of forestation. The reality captured by the study is that climate change may affect positively or negatively the agriculture productivity. Hence effective major to mitigate climate change may sustain agriculture.