
**THE IMPACT OF CLIMATE PATTERNS ON THE FARMING ACTIVITIES IN UGANDA. A
CASE OF KIBIBI TOWN COUNCIL**

**1 Mubiru Elifaazi, 2 Balunywa Ali, 3 Alex Irumba
1, 2, 3 Metropolitan International University**

ABSTRACT

Farmer's production is an important factor in fight against hunger. This study was to examine the impact of climate partners on the farmers activities in Kibibi Butambala district and it was based on three objectives namely; to examine the Impacts of climate partners on farmers Production in Uganda, to examine the Impact of climate partners on farming eco-system in Uganda and to establish the Impact of climate patterns on the farmers Economy in Uganda. The study population was 162 respondents who included 6 Members of the sub county, 12 farming initiatives in the sub county, 5 parish chief officials, 33 village leaders, 6 Political leaders in the sub county and 97 farmers. The study employed across sectional design where both qualitative and quantitative methods were used. The study findings revealed that climate partners impact farmers with rise to new types of blights and pests, drought and insufficient water and food staff for animals, crop development failures, poor and good harvest, increase in production of unseasoned crops, low quality of crop production, soil erosion leads to low farmland prices, decrease in revenue generation and low level of investment and planning. The study concluded that climate partners contribute negatively to the farmer's farmland production in Kibibi town council. The study recommended the government to be more vigilant to the destruction of wetlands within Kibibi town council Butambala district. The rampart destruction of wetland to construction of industries, roads, brick lying among others has decreased on the amount of rain fall received in the area

Key words: climate patterns and farming activities

Back ground of the study

According to the World Bank (2014), in Africa, farming employs 65 percent of the labor force and accounts for 32 percent of gross domestic product. Agriculture is essential for sub-Saharan Africa's growth and for achieving the Millennium Development Goal of halving poverty by

2015. A higher and sustained growth requires attention to five core areas of public action: (i)

Facilitating agricultural markets and trade; (ii) Improving agricultural productivity; (iii) Investing in public infrastructure for agricultural growth (iv) Reducing rural vulnerability and insecurity; and (v) Improving agricultural policy and institutions (Journal et al., 2023).

In many developing countries farming is a significant source of food for citizens and a means of livelihood for the most vulnerable members. Raising farming productivity is an important policy goal for concerned governments and development agencies. (Kuku, Ajibola, & Saweda, 2011).

Uganda is a landlocked country in East Africa with a total population of about 37 million people. (UBOS, 2014). It has a total area of 241,550.7 square kilometers (sq. km) of which 41,743.2 Sq km are open water and swamps, and 199,807.4 Sq km is land. Just like most African counties, Uganda is blessed with fertile soils, ample rainfall and a number of valuable natural resources. (See UBOS, 2013). Over the last 20 years, the Ugandan has received climate patterns. The high performance of farming has been challenged by the climate patterns which caused a steadily declining share of farming in the country (Nicholas et al., 2023).

Uganda still faces considerable challenges in meeting its farming objective of reducing absolute poverty to less than 10% of the population by 2017 and to improve the wellbeing of all Ugandans. The proportion of the national population living below the

poverty line fell from 56% in 1992 through 44% in 1997 to 35% in 2000. It rose to 38% in 2003, but declined to at 31% in 2009. (UBOS, 2009). Currently, about 24.5 percent (7.5 million) of the population are below the national poverty line. (UBOS, 2013). Kibibi town council is located in Butambala in the central region of Uganda (Vincent & Peter, 2023). The town council has enough land for agriculture which is both mile and crowned. Kibibi town council has not done well for example farmers always complain of the poor yields because of the changing climate, drought among others. The issue of farming activities in Kibibi town council has been and continues to be the issue of discussion hence the need for the researcher to assess the impact of climate patterns on the farming activities in Uganda (Willies et al., 2022).

Problem statement

There is no activity that sustains humans as farming (Grothmann and Patt 2005). Therefore, farmers wishing to continue with this activity must have the idea on how to show high levels of farming. However, a gradual increase in temperature and carbon dioxide results in a changing condition that increase the farming activities or decreases the farming activities. Carbon dioxide produced by humans and fossil fuels, sun light and moist water are used in photosynthesis process. Climate partners since industrialization has been a fundamental factor hindering agricultural activities more especially farming (Journal et al., 2023). A lot of research has been done on climate change and farming. Climate change adaptation measures to reduce or avoid adverse developments and take advantage of emerging opportunities. Others may forbear to adapt which results in a lack of timely adaptation.

Farmers adaptation decisions such as other human behavior underlie perceptual and socio- cognitive processes that are interwoven and refer to selecting, organizing, and interpreting sensory information (Grothmann and Patt 2005; Kastanakis and Voyer

2014; Risbey et al. 1999). Farmer's adaptation decisions will lead farmers to cop up with the patterns in the climate and prepare them for the future participation in agricultural activities (Collins et al., 2023). With such a lot of research done little has been done on the impact of climate change on farmers in Uganda, therefore the researcher aims to investigate the impact of climate change on farmers attitude in Uganda. This research will be of great importance to farmers through adaptation of various climatic conditions, growing of seasonal crops, and help in the control of the destruction of environment. Therefore, this study seeks to examine the impact of climate patterns on the farming activities in Uganda focusing majorly on Kibibi town council Butambala district.

Specific objectives

1. To examine the Impacts of climate patterns on farmers Production in Uganda
2. To examine the Impact of climate patterns on farming eco-system in Uganda
3. To establish the Impact of climate patterns on the farmers Economy in Uganda

Research questions

1. What is the impact of climate patterns on farmer's production in Uganda?
2. What is the Impact of climate patterns on farming eco-system in Uganda?
3. What is the impact of climate patterns on the farmer's economy in Uganda?

Methodology

Research design.

A study design is a plan of how the researcher will conduct the study (Kothari 2004). The researcher used a cross sectional research design where by both qualitative and quantitative research methods were used. Cross sectional design was used because it collected data at a single point in time and it was relatively cheap and less time-

consuming than other type of research. It allowed the collection of data from a large pool of subjects and compares differences between them. It captures a specific moment in time like it snapshots a condition in the time (Elliot 1996).

Study population.

The study was conducted in Kibibi town council Butambala district. Kibibi town council is located in Butambala in the central part of Uganda. Kibibi town council is bordered with town council, Kibibi town council has got 10 parishes which include Gombe in the central, Kibibi in the North east, Mitwetwe in the north East, Ntolomwe in the south west, katabira in the north, Kizzikibi Fr in the south west, Nakasi Fr in the central east, Kayenje in the west, Mabanda in the east, Nakuzesinge fr in the south east parishes with a total number of 41 villages.

Sample size

The process of selecting apportion of the population to represent the entire population is known as sampling (Lo Biondo-Wood and Haber 1998: Polit and Hungler 1999: 95). The sample size was 162 respondents these included 6 Members of the sub county, 12 farming initiatives in the sub county, 5 parish chief officials, 33 village leaders, 6 Political leaders in the sub county and 97 farmers. Such respondents are representative enough and expected to have reliable and credible information about the topic.

Sample size and sampling techniques***Table 1 showing sample size and sample technique***

<i>CATEGORY</i>	<i>SAMPLE SIZE</i>	<i>SAMPLE TECHNIQUE</i>
<i>Political leaders of the sub</i>	<i>15</i>	<i>Purposive sampling</i>

<i>Farming initiatives</i>	<i>12</i>	<i>Purposive sampling</i>
<i>Farmers</i>	<i>150</i>	<i>Simple random sampling</i>
<i>Parish chiefs</i>	<i>10</i>	<i>Purposive sampling</i>
<i>Village leaders</i>	<i>55</i>	<i>Cluster</i>
<i>Sub county officials</i>	<i>8</i>	<i>Purposive sampling</i>
<i>Total</i>	<i>250</i>	

Source and method of data collection

Sources of data collection included both primary and secondary source.

Primary data source

The main sources of primary data were questionnaires which were distributed to respondents.

This presented oral verbal stimuli and reply in terms of oral verbal responses. Both structured and unstructured interviews were administered to get information as much as possible.

Secondary data source

This information was obtained from internal sources of the sub country, Butambala district agricultural reports, management reports, operational manuals of the sub-county and external sources like text books, research reports, Newspapers and browsing the internet, policies and government laws.

Primary method

Primary method included interviews, questionnaires and discussions.

Interviews

Interviews are person to person verbal communication in which a person or group of people are interviewed at a time. Interviews were used because they had an advantage of ensuring more information, clarification and capturing facial expression of interviewees (Amin 2005). In addition, they also give a researcher an opportunity to revisit some of the issues that has been over-sight in other instruments and yet they are deemed vital for the study. The target population to be interviewed was the sub county officials, political leaders, local leaders, and farmers of all this group fall under Kibibi town council.

Questionnaire.

The researcher used both open-ended questions to get relevant information about climate change and its impact on farming at Kibibi town council Butambala district. For open-ended questions, farmers were given freedom to express their opinions on the questions and for the closed ended questions the researcher intends to get specific answers to the questions. For the purpose of the research, questionnaire focusing on the way of dealing with climate change are designed in two parts. The first part collected information about political leaders, civil society organizations, and village leaders concerning their departments, position, and gender, level of education and duration of employment. The questions were important in understanding the demographic characteristic on climate change and farming at Kibibi town council.

Data analysis

Data collected was coded and tabulated. Data was majorly analyzed qualitatively, frequencies and use of percentage (%) this was simplified by use of computer packages particularly SPSS (Nelson et al., 2022).

RESULTS

Instrument return rate

The researcher administered 250 questionnaires to the respondents. During data collection, a researcher collected 173 (86.5%) questionnaires as a response rate. A response rate of 50% is adequate for analysis and reporting, a response rate of 60% is good and a response rate of 70% and above is excellent (Mugenda and Mugenda 1999). However, on the collection of data a researcher obtained an excellent response rate.

Table 2 showing return response rate

participants	Questionnaires administered		Questionnaire returned	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Sub county	8		6	4
Politicians	15		9	5.5
Local leaders	55		33	20
Farmers	150		97	60
Farming	12		12	7.5
Parish chiefs	10		5	3
Total	250	100	162	100

Source: primary source

From table 1, the response rate was excellent for the study (Mugenda and Mugenda 1999). This response rate was realized since the researcher personally visited and

collected questionnaires himself from the respondent and build confidence with the respondents on the purpose of the study.

Table 3 showing impact of climate partners on farmer's production.

Challenge	Strongly agree		Agree		Neither agree nor disagree		disagree		Strongly disagree		Total
	f	%	f	%	f	%	f	%	f	%	
Rise to new types of blights and pests	98	60.5	59	36.5	5	3					
Drought	162	100									
Insufficient water and food for the animals	124	79.54	28	17.28			10	6.17			

Source: primary source

Results from table 8 Show that 162 (100%) of all the 162 respondents felt that climate partners cause drought as the major challenges to farmers, 98 (60.5%) strongly agree that climate partners bring the rise to new types of blight and pests while 59 (36.5%) agreed and 5 (3) never decided on any. However, 124 (79.5%) strongly agreed

that climate partners bring about insufficient water and food for the animals, 28 (17%) agreed and 10 (6%) disagreed.

The Impact of climate partners on farming eco-system in Uganda

The second objective of the study was to examine the impact of climate partners on farming eco- system in Uganda. This is shown in table 9 below

Table 4 showing impact of climate partners on eco-system

Challenge	Strongly agree		Agree		Neither agree nor disagree		disagree		Strongly disagree	
	f	%	f	%	f	%	f	%	f	%
Crop development failure	100	61.7	50	5.6	3	1.85	7	4.3	2	1
increase in production of unseasoned seeds	51	31.5	83	51	8	5	20	12		
low quality of crops	124	76.5	38	23.5						

Source: primary source

Results from table 4 Show that 100 (94.4 %) of the respondents felt that climate

partners impact eco system farmers through crop development failure, 50 (5.6%) agreed while 3 (2%) never decided however 7 (4.3%) disagreed and 2 (1%) strongly disagreed. When a question on the increase in production of unseasoned seeds 51 (31.5%) strongly agreed, 83 (51%) agreed, 8 (5%) did not decide however 20 (12%) disagreed.

The study still out that 124 (76.5%) of the respondents agreed that climate partners bring about low quality of crops and 38 (23.5%) also agreed.

Table 5, showing impact of climate partners on the farmer's economy

Challenge	Strongly agree		Agree		Neither agree nor disagree		disagree		Strongly disagree	
	f	%	f	%	f	%	f	%	f	%
Soil erosion leads to low farm land price	111	68.5	50	31	1	1.5				
Decrease in revenue collection	45	28	87	54	30	19				
Low level of investment and planning	83	51	51	31.5	28	17				

<i>Famine</i>	162	100								
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Source: primary source

Results from table 5 Show that 162 (100%) of the respondents felt that climatic partners impact farmers with feminine still the study revealed that 111 (68.5%) of the respondents strongly agreed that climate partners impact farmers with soil erosion which leads to low farm land price,

50 (31%) agreed and 1 (1.5%) did not reply on any. However, 45 (28%) strongly agreed that climate partner decreases revenue collection by the government, 87 (54%) agreed and 30 (19%) did not give any answer. The study further revealed that 83 (51%) strongly agreed, 51 (31.5%) and 228 (17%) did not answer on low levels of investment and planning.

Conclusions of the study

From the study findings it can be concluded that climate partners contribute negatively to the farmer's farmland production in Kibibi town council. It is concluded that rise to new types of blights and pests, drought and insufficient water and food staffs for the animals are some of the ways farmers production is affected from climate partners in Kibibi town council Butambala district. The researcher also notes that farmers production is affected through crop development failure, harvesting, increases in production of unseasoned crops and low quality of crops production as the ways through which climate partner's impact to the farmers production in Kibibi town council Butambala district.

Recommendations

The study recommends the government to be more vigilant to the destruction of wetlands within Kibibi town council Butambala district. The rampart destruction of this wetland to construction of industries, roads, brick lying among others has

decreased on the amount of rain fall received in the area. The study recommends using farmer's field groups and developing methods such as government support and loans with a low interest rate to help farmers acquire modern technological farming equipment's.

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