Assessing of the impact of climate Change on Academic Performance among university students from Kajiado County

Muraguri Charity

St. Paul's University

Abstract

Climate change has become a major challenge that has impacted on the agenda of countries and societies around the world. Most studies have focused on the agricultural impact of climate change. However, other areas such as academic performance have received little attention. This study identified the lack of lecture attendance due to the need for constant movement in search for pasture and lack of finances to pay fees. This situation has led to a struggle causing the students in Kajiado County to balance between grazing their cattle and attention to academic study, especially in the wake of negative effects of climate change. The purpose of this study was to establish the extent to which climate change affects the academic performance of students in Kajiado County. The study was guided by the Walberg theory of educational productivity. Sequential explanatory mixed methods research design was used. Convenience sampling was used to select 62 university students. Data was collected by questionnaires, interview guides and focus group discussions. Quantitative data was analysed in the SPSS program using frequencies, percentages, and Spearman correlation analysis. Qualitative data was analysed using NVIVO software. From the study findings, the idea that academic performance of the students from Kajiado County had gone down correlated highly r = 0.881, while climate change is an important factor in student performance r = 0.744. The study findings will be informative especially to the government in planning for drought mitigation interventions. The ministry of education would also gain insights on the challenges facing university students from Kajiado County.

Key Words: Climate Change, Academic Performance; Higher Education, Kajiado County, University

Introduction

Climate change is widely recognized as an overarching problem (Bodansky, 2001; Riebeek, 2010). Climate change poses a great challenge to sustainable progress globally and indeed the impact of climate change has become an integral component of today‟s environmental forums (Abbasi, 2006; Young, 2011). Overcoming some of the consequences of climate changes is perhaps found to be the greatest challenge that environmentalists are facing (Boyd, 2010). According to the report by International Organization of Migration (IOM), it is estimated that 25 million to about 1 billion people will be affected by climate change in the next 40 years and despite lack of precise figures, the report concludes that there is no doubt that many people are currently affected adversely by climate change (Laczko & Aghazarm, 2009).

As far as extant literature is concerned, climate change has been given several definitions. Ekpoh (2009) for instance, defines climate change as long-term change in the pattern of average weather of a specific region or the whole earth. In their recent study conducted in the Colombian capital of Bogota, Moreno and Perdomo (2018) define climate change as stable and durable change in the distribution of climatic patterns over periods of time ranging from decades to millions of years. Mitchell, Williams, Hudson and Johnson (2017) define climate change as any change in climate, whether is due to natural variability or as a result of human activity. Even as the list of definitions of climate change may not be exhaustive, what comes up clear is the fact that the changes in the climate might occur naturally or might be influenced by human activities. More importantly especially for the context of the current study is to find out how such changes may or may not impact on academic performance of the learners.

Studies have shown that climate change has various effects on the environment but of more concern is to reveal how negatively it influences the environment. Studies have shown that one of the most notable effects of climate change is the

ever growing concentration of heat-trapping gases in the atmosphere which are popularly referred to as greenhouses (Komba & Muchapondwa, 2012; Bozzola, 2014).

Moshi (2017) while using the case of Tanzania revealed that climate change have a serious threat especially on agricultural productivity. Ampaire, Jassogne, Providence, Acosta, Twyman, Winowiecki and van Asten (2017) in their study in Uganda emphasized the need to address institutional challenges related to adaptation of climate change in the country.

Climate change is an issue that is generating widespread apprehension and is taking center stage in virtually every human endeavor in the world today (Bristow & Ford, 2016). It is a matter of fact that climate change issues seems to be provoking powerful impacts not only on agriculture but also on human development according to Brunori *et al.* (2009) with these two element clearly reinforcing each other. One element of the impact on human development is academic development which when amplified further would also have impacts on economic developments (Hamilton, 2011). This catastrophic effect speaks volumes (Akuegwu, Nwi-Ue & Nwikina, 2012). Furthermore, climate change has brought about new realities and challenges which scientific evidence clearly indicates are likely to have negative impacts on any country‟s development agenda

(Francis, 2014). This trend will almost certainly affect the performance of various development agendas (Schipper, 2007; Nelson *et al.*, 2009).

Problem Statement

The issue of climate change has received a lot of attention in scholarly circles in the recent past notably due to the effect it has in many sectors of the society. One impact is of a socio economic nature and includes changes in crop yields, production, as well as the risk of hunger (Rosenzweig, Iglesias, Livermore & Fischer, 2004). A number of scholarly articles have been published with regard to climate change and its impacts. For instance a study conducted by Tol (2009) established that there is a linkage between climate change and economic performance. Eriksenetal (2008) and Ross (2016) contend that sustainable

progress is always threatened with rising incidences of climate change especially due to the fact that it impacts on ecosystems, water resources, among others. Recently a study by Patz and Frumkin (2016) established a link between climate change and human health. More studies in the recent past have shown that among other challenges related to climate change include effects on ecosystems, water resources, food, health, coastal zones among others (Kjellstrom *et al.*, 2016).

An examination of some studies on the area of climate change reveals that there is a gap which this study attempts to address. A study by Nguimalet (2018) focused on comparing adaptation strategies for drought and floods as a result of climate change, yet did not address how climate change associates with academic performance. Ojwang *et al.* (2017) conducted a study that focused on assessment of coastal governance for climate change adaptation in Kenya. However, his study did not focus on how climate change influences academic performance of learners. Njoroge, Ratter and Atieno (2017) focused majorly on development of policy framework in Kenya so as to address issues related to climate change. The list of local empirical studies may not be exhaustive but what becomes apparent is that there is scarcity of literature that focuses on how climate change influences academic performance especially for university students from Kajiado County.

Climate change continues to dominate the world‟s science and policy agenda on global change, the main and fundamental concern is the impact of this climate change on agriculture yet the question of how climate change influences the academic performance of students has received much less attention. Nevertheless, despite these academic researches there are still many gaps in research, especially regarding the crucial impact of climate change on academic performance. Yet the ways in which this issue has been viewed and addressed in Kenya, imply that, to a large extent, it has not been perceived as a serious future threat. There is very little knowledge and academic research about the intensity, nature and impact of climate change on academic performance. Researchers have demonstrated a strong correlation between climate change and human factors but have failed to link up specifically on the academic performance so necessary for development. This paper seeks to assess the impact of climate Change on Academic

Performance among university students from Kajiado County.

Evidence of Climate Change in Kenya

Kenya is already feeling the effects of Climate change. The widespread poverty, recurrent droughts, floods, inequitable land distribution, overdependence on rain-fed agriculture, and few coping mechanisms all combine to increase people‟s vulnerability to climate change.

These changing climatic (rainfall & temperature) patterns have had adverse impacts on

Kenya‟s socioeconomic sectors (Ochieng, Kirimi, & Mathenge, 2016). Moreover, current projections indicate that such impacts will only worsen in the future if the world does not implement measures (Alexandratos, & Bruinsma, (2012). Ojwang, Rosendo, Celliers, Obura, Muiti, Kamula and Mwangi (2017) for instance point out that the coastline of Kenya is experiencing the effects of climate change which has a resultant effect of putting pressure on urbanization.

More and more negative impacts of climate change are being felt in Kenya. As evidenced in other recent studies, climate change has had the impact of reducing crop yields and causing crop failure (Filho, Nzengya, Muasya, Chemuliti & Kalungu, 2017). A study by Bryan, Ringler, Okoba, Roncoli, Silvestri and Herrero (2013) in the Mara Serengeti ecosystem between Kenya Tanzanian border show that that there have been a number of changes in the soil structure which have been attributed to changes in climatic conditions of the area. Garcin, Schildgena'b, Acosta, Melnick, Guillemoteau, Willenbring and Strecker (2017) also established that the rising instances of erosion as well as thickness of the soil especially in the Northern Kenya Rift were attributed to changes in climatic conditions.

In Kenya, the adverse impacts of climate change are compounded by local environmental degradation (illegal encroachments and settlements, logging and livestock grazing), which have among others, further aggravated deforestation and land degradation. Forest cover in Kenya for instance, has fallen from 12 percent in the 1960s to less than 2 percent at present (Government of Kenya, 2010). This has considerably affected the ability of

Kenya‟s five main Water Towers to act as water catchments for major rivers and lakes, which are the main sources of water for daily consumption in rural and urban areas. Thus, the impacts of climate change, compounded by local environmental degradation, are profound (Government of Kenya, 2010).

According to a 2013 report by Government of Kenya (2013) *National Climate Change Action Plan 2013–2017*, Kenya was expected to need about US $500 million per year to address current and future climate change effects by 2015.

Unless effective mitigation and adaptation systems are immediately instituted, the combined effects of climate change impacts will hinder realisation of targeted goals in Vision 2030. While the National Climate Change Response Strategy (NCCRS) was finalized in 2010, there is a need to go further and formulate a national policy on climate change and enact a climate change law (Parry, Echeverria, Dekens, & Maitima, 2012).

Threat of Climate Change in Kajiado County

Climate change has affected many parts in Kenya and Kajiado County is no exception. From the metrological observation, Kajiado County is primarily semi-arid. The average annual temperature in the Kajiado County is 18.9°C. The area receives about 500mm of rainfall annually, most of it falling in April (Environmental Impact Assessment Report, 2013). Further, the weather analysis shows that the month of August is usually extremely dry. Despite Kajiado having 198 primary schools as of 2013, the enrollment rates among pastoralists in the County remain low (Bishop, 2007). According to the National Drought Management Authority (NDMA) (2017) report, vegetation condition in the County is worsening with Kajiado central and north, having severe vegetation deficit. Furthermore, livestock were emaciated and 90% of livestock had migrated by September 2017 due to persistent drought.

The debate surrounding the climatic changes and its impact on agriculture and human development is hotly contested and one that throws a sharp concern over the range of options left for the Kajiado County government to address the issues. In the African continent, the impact of climate change presents a significant

challenge to both public and private sectors: the two key drivers of economic development (*Climate Change in Africa: Adaptation, Mitigation & Governance Challenges*, 2009). There is increasing agreement that the County government has to put more measures to fight with increasingly severer climatic events in Kajiado County.

A number of studies have stressed the fact that climate change impacts on the academic performance of learners. One such study was by Burke, Sanson and Van Hoorn (2018). The study indicated that climate change has psychological effects especially on children and sometimes impacts their school academic performance. Weston (2018) associates concerns raised in academic performance with seasonal changes in the weather that are caused by climate changes.

This study sought to find out the impact of climate change on academic performance among university students from Kajiado County. In Kenya, the National Climate Change

Response Strategy (NCCRS), also referred to as the „Strategy", is the culmination of a year-long process to develop a comprehensive and concerted suite of strategies to respond to the challenges climate change is posing to Kenya"s socioeconomic development.

Literature Review

Ileuma and Isah (2010) reported that the effects of Climate change are all over Nigeria. Flooding resulting from increase in rainfall is felt in all parts of the country on yearly basis. In the year 2010, three states in the southwest namely Lagos, Ogun and Oyo were seriously affected by flooding leaving over 240 communities displaced. Odey (2009) points out that climate change impacts poses enormous dangers with consequences such as desertification, sea level rising, and flooding among others. Even more alarming concerns were raised by Ekpoh (2009) who believes that climate change will affect every citizen, every part of our environment and our natural resources.

In the context of Africa, studies have shown a number of adverse effects felt on the continent as a result of climate change, some of these adverse effects include but are not limited to soil fertility loss, deforestation, flooding, health decline and

natural disasters, just to name a few. According to some studies conducted in the Niger part of Nigeria these are some of the adverse effects that are experienced due to climate change. The hardships that are experienced as a result of these adverse effects of climate change have led to academic staff in universities performing poorly and hence influencing the performance of the institutions (Chinweze & Abiola, 2009; Etuonovbe, 2007).

Studies conducted in various parts of the world indicated that climate change can have very serious consequences in different aspects of human life. For instance, a study conducted by World Energy Council (2006) in the western part of Australia revealed that rampant emission of the greenhouse gases that cause climate change had a serious impact on the health of the residents in this region. Further, emission of dangerous greenhouse gases into the atmosphere can create an unfortunate health conditions for humans by polluting the air and subsequently reducing vitality for greater output, thus lowering economic outcomes.

A study conducted by United States Environmental Protection Agency, USEPA (2001) reported that heat waves resulting from climate change are dangerous to human health and can cause deaths. According to the study, the conditions climate change accelerates chemical reactions that generate other pollutants which may consequently lead to risk of respiratory diseases like bronchitis and asthma (Ekpoh, 2009). The consequence of this is that human resource, including academic staff that impact positively on the university education system in particular, and the nation‟s economy in general, remain in hospitals due to these ailments (Ekpoh, 2009).

Studies have shown that temperature fluctuations do have an influence on academic performance of students. Using quasi-experimental research design, Zivin *et al.* (2015) focused on the fluctuations of temperature and how it affects performance of students in United States. The findings of the study indicated that performance decreases when students take the tests in warmer days and warmer years. Again another effect of climate change is variations in rainfall. Some studies have shown that attendance of school is influenced by the rainfall patterns that are being experienced.

In India for instance, Shah and Steinberg (2015) most of the students switch out of school enrollment into productive work especially in the years when rainfall is higher than normal in rural India which reduces school attendance by close to 2 percent.

Empirical studies have demonstrated that indeed academic performance of students is influenced directly or indirectly by changes in the climate. Selby (2007) was among the first scholars who noted that indeed academic performance can be adversely affected by changes in the climate. The menace of climate change affects whatsoever comes across it. Its negative effect is felt on how people live, work and achieve results. Academic staff in universities are not exempted. While focusing on the performance role of the academic staff, the researcher clearly points out that changes in the climate can contaminate the classroom atmosphere and affect the overall institutional learning environment which leads to poor performance and low achievement of set goals and outputs and this ultimately affects the performance of the students.

Extant literature reveals little with regard to how climate change impacts on academic performance of students. This study addresses this gap by assessing the relationship between the two variables among pastoralist communities in Kajiado County, in Kenya. With a keen interest on academic performance of students from this region, the study will also try to establish whether academic performance is influenced by some of the deep-seated cultural practices found in this region.

Theoretical framework

The study was guided by the Walberg Theory of Educational Productivity. Some studies contend that this theory explains the notion that psychological characteristics of students together with their immediate surrounding environment can play a significant role in the academic outcomes of the students (Bickham, 2015). According to the theory, both psychological characteristics and the surrounding environment of the students have an influence on performance of school tasks. The theory was important in the current study due to the fact that, climate change has affected academic performance of students from Kajiado

County, hence understanding the importance of the need to overcome the adverse effects of climate change and concentrate on improving their performance and outcomes.

Research Methodology

This study was executed in Kajiado County, which is located 80 km, South of Nairobi and it has a population estimate of over 807, 070 which comprises of 50.2 percent male and 49.8 percent female (2016, statistics). The County is divided into five sub counties namely Kajiado Central, Kajiado North, Loitokitok, Isinya, and Mashuuru. The region covers a total area of 21, 292.7 km² and lies along latitude 2.0981° South and longitude 36.7820° East. The County is predominantly made up of people from the Maasai community. The economic activity of the majority of the people at Kajiado County is mainly pastoralism and partially agriculture. The Maasai are nomadic cattle herders, although some members of this community practice subsistence agriculture.

Survey research design was used; a sample of 150 respondents was involved in this study. The sample respondents were picked through convenience sampling. The sample involved enrolled university students who reside in Kajiado County. The study employed a sequential explanatory mixed methods research design, involving use of both quantitative and qualitative forms of inquiry. A quantitative survey, in form of a questionnaire, was the primary data collection approach while the qualitative interviews together with the focus group discussions played the "support role". The data collection exercise took place between May and June 2017.

Data collection was done by using semi structured questionnaires. Out of 150 questionnaires that were distributed, 98 were returned, which yielded a 65.33 percent returns rate. Reliability of the questionnaires was determined by use of Cronbach‟s alpha coefficient which was 0.85 and hence met the conditions of reliability. Questions posed in the instruments were checked to ensure that they were in line with constructs from the literature in order to meet construct and content validity. For both interviews and focus group discussions, audio tapes

were used, where the recorded information was transcribed and coded in the NVIVO 12 statistical software for analysis. Focus discussion groups, were conducted by selecting 5 students, each from the five sub-counties in Kajiado County. The discussion was moderated by the researcher.

Data analysis was carried out both quantitatively and qualitatively. Quantitative data was analyzed in the SPSS statistical program by employing statistical techniques of descriptive analysis as well as inferential analysis. Descriptive analysis comprised of use of frequencies, percentages, arithmetic, means as well as standard deviation, while inferential analysis comprised of use of Spearman"s correlation analysis in order to determine the strength of the relationship between independent and dependent variables of the study.

Results and Data Analysis

This section provides summary of the findings of the study. Quantitative data as well as qualitative data from the questionnaires and focus group discussions is presented concurrently.

Background Information

Sex of the Respondents

The study findings show that the number of male respondents was slightly higher than the female respondents. As shown in the figure below, there were a total of 32 male respondents which was 52 percent as compared to 30 female respondents which was 48 percent.

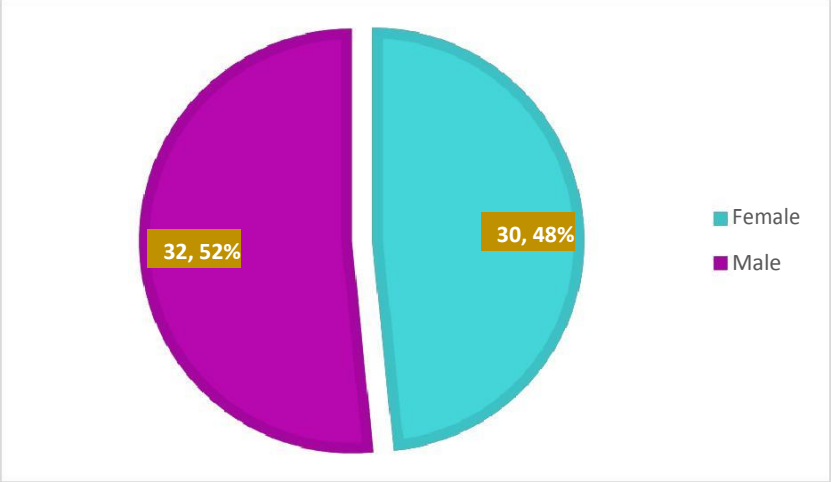


Figure 1: Sex of the respondents

Age Bracket of the Respondents

The figure below shows that most of the respondents were between the ages of 18 to 22 years, which made a total of 34(54.84%) respondents. This was followed by the age category of 23 -27 years, making a total of 23(37.10%) respondents and lastly the age category of 28 and above had only 5(8.06%) respondents. It is clear from the findings that most of the students who took part in the study were generally young.

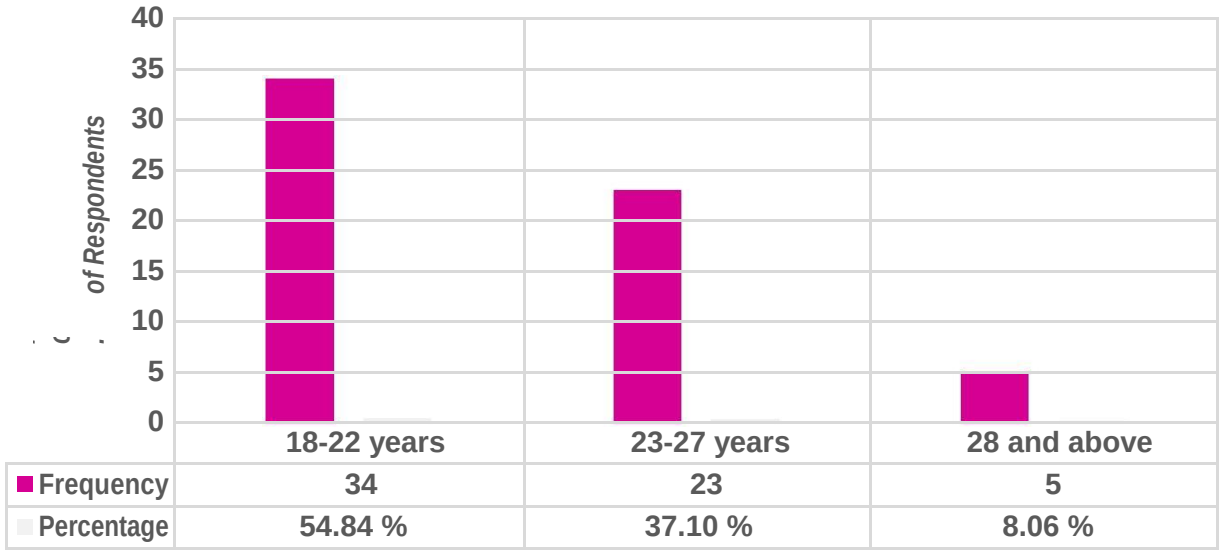


Figure 2: Age bracket of the respondents

Summary of the Status of the University

The study‟s findings indicate that most of the respondents were from private chartered universities and also public chartered universities, both of which made a total of 58 or 93.55 percent of the total respondents. The

findings also show that there are very few students from colleges, private universities constituent colleges as well as public universities constituent colleges.

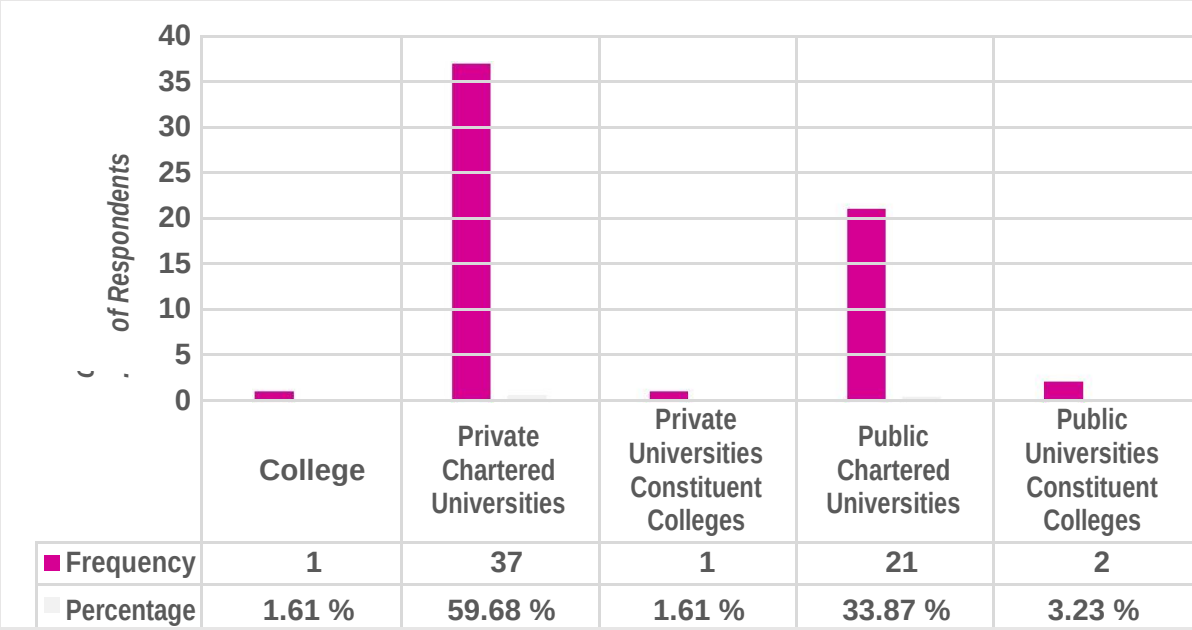


Figure 3: Summary of the status of the university

Performance of the Students

Table 1 below shows the performance of the university students from Kajiado County in terms of the grade point average (GPA) expressed as percentage where the overall average for all the student respondents was 57.07 percent. The results are a cumulative average of the semester results, over the last two years when the students were mostly affected by the changes in the climatic conditions.

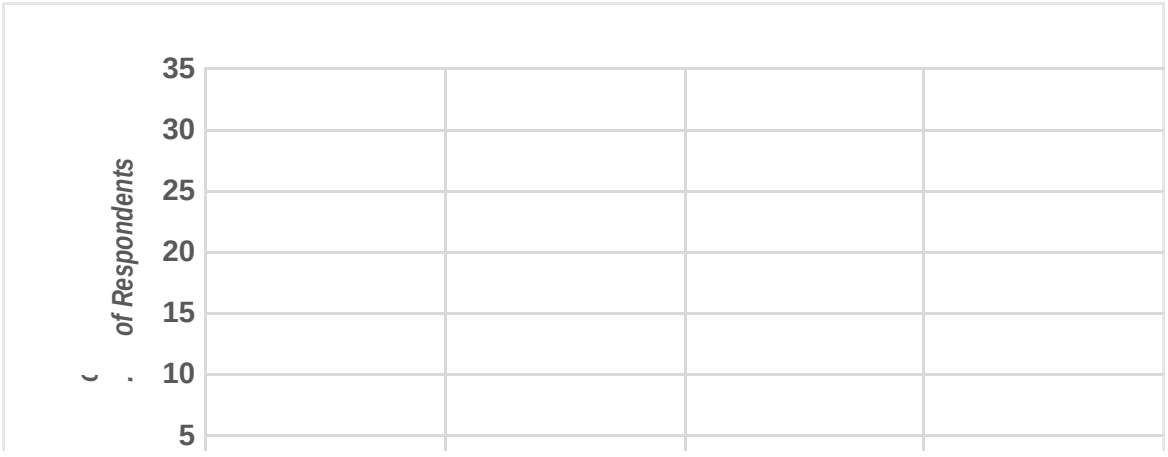
Sex of the respondents	**Frequency**	**Mean Score**
Female	30	57.33 %
Male	32	56.81 %
Total	**62**	**57.07 %**

Table 1: Academic performance of the students

In the analysis of the transcripts of the focus group discussions, many students felt that there was a downward trend in the academic performance of the students from Kajiado County due to climate change issues. Asked to make a general comment about academic performance, one student from Kajiado North commented "my feeling is that academic performance has been negatively affected by changes in the climate, especially drought and flooding which sometimes makes it difficult to attend lectures punctually, and eventually affects performance in some subjects". One lady added that "I always do my best to ensure that I attend all the lectures at the college however, one main challenge in the region I come from, is the poor road infrastructure that is caused by regular flooding, a situation which I fear might start affecting my grades because sometimes I delay in class due to the heavy rainfall". Therefore, statements given by the respondents with regard to climate change indicate that effects of climate change such as heavy downpours that bring about flooding are among the key issues that affect attendance of lectures by students from Kajiado County.

Number of times respondents miss lectures in one semester due to climate related issues

One of the key issues that have an impact on the reduction in the GPA of the university students from Kajiado County is the fact that students miss lectures on several occasions, mostly due to issues related to climate change. As summarised in figure 4 below, a huge proportion of the respondents miss lectures 3-5 times 29(46.77%) followed by 20(32.26%) who miss class two times.



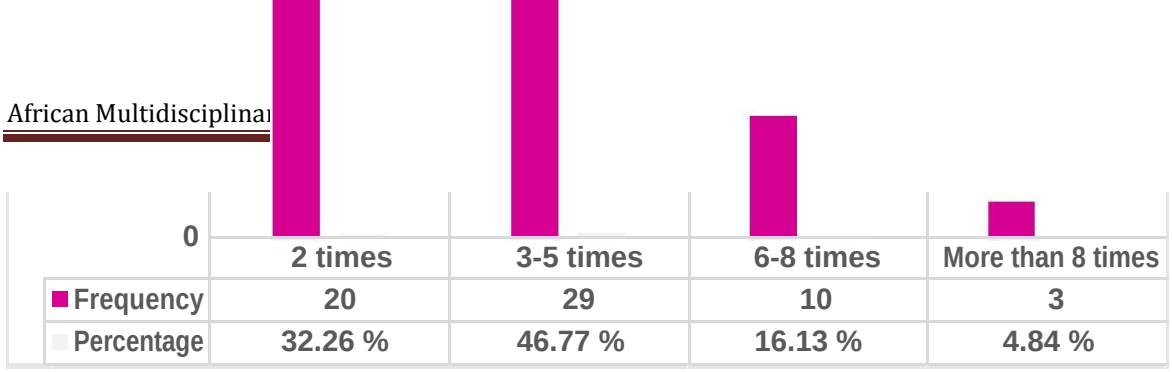


Figure 4: Number of times respondents miss lectures due to climate related issues

Coded transcripts from both the recorded interviews and focus group discussion revealed that between 2 times and 5 times which seemingly is in agreement with the results from the questionnaires. One interviewee remarked:

> In most cases when the weather conditions are extreme, I miss classes as many as five times because I can‟t risk getting ill due to extremely cold weather, I‟d rather miss class, because I can still get class notes from my friends anyway (Interview, university student).

One other respondent in the focus group discussion commented that "how can I prioritize going to class over my own safety? Actually for me I miss class like four times especially when it is flooding over here". Going by such sentiments, it can be noted that climate change has brought about extremely cold weather conditions as well as flooding, all of which contribute to failure to attend lectures by university students in Kajiado County.

Major climate change issues that make respondent miss lectures

Table 2 summarises issues that make respondents miss lectures. Apparently, extreme drought and heavy rainfall are the major causes of missing lectures by university students from Kajiado County accounting for 39(62.90%). Flooding also appears to make these students miss lectures. This therefore appears to cause breakdown of road infrastructure that which makes it difficult to travel to college for lectures.

Response	Frequency	Percentage
Extreme drought	27	43.55%
Heavy rainfall	12	19.35%
None	12	19.35%
Flooding	4	6.45%
Cold weather	1	1.61%

Famine	1	1.61%
High temperature	1	1.61%
Hot and windy weather	1	1.61%
Poor drainage	1	1.61%
Radiation from the sun	1	1.61%
When the weather is too cold and misty	1	1.61%
Total	**62**	**100.00%**

Table 2: Major climate change issues that make respondent miss lectures

Analysis of the statements given in both the focus group discussion and interviews revealed that floods were a common problem in most sub counties in Kajiado County.

One university student from Kajiado central sub-County commented:

> let me tell you my experience with floods and how they have wreaked havoc in my constituency, the crops, cattle and even people get swept away by the rampant flooding whenever there‟s a downpour which in most cases lasts for several days and I can tell you it‟s hard for me to go to attend lectures which I feel has made me perform poorly lately (Interview, university student)

Such statements bring to light the challenges of climate change experienced by the residents of Kajiado County. It is also clear that flooding is one of the key reasons why students from this region fail to attend lectures.

Correlation analysis of climate change and student performance

Statement	**Spearman's rho**	**Academic performance**
I understand that climate change affects my academic performance	Correlation Coefficient	.701**
	Sig. (2-tailed)	.000
	N	62
Climate change is an important factor in my academic performance(GPA)	Correlation Coefficient	.744**
	Sig. (2-tailed)	.000
	N	60
I feel climate change has impacted on my academic performance	Correlation Coefficient	.555**

	Sig. (2-tailed)	.000
	N	62
My academic performance(GPA) has gone down due to climate change issues	Correlation Coefficient	.881**
	Sig. (2-tailed)	.000
	N	62
Academic performance	Correlation Coefficient	1.000
	Sig. (2-tailed)	.
	N	62

** Correlation is significant at the 0.01 level (2-tailed)

Table 3: Correlation analysis of climate change and student performance

Table 3 above shows that the two opinions that correlated highly with academic performance were feeling that academic performance had gone down due to climate change with a high correlation $r = 0.881$, as well as the idea that climate change is an important factor in the academics of the selected students $r = 0.744$.

Results from the focus group discussions with the respondents revealed how climate change was having a negative impact on academic performance. One participant commented: "With all these challenges of climate change especially drought which has always threatened our economic source of livelihood which is cattle keeping, it becomes even more difficult to raise my college fees."

Such sentiments from the respondents reveal that there is a rising concern among students from this region about how climate change is real and how it is affecting the academic prospects of youths from Kajiado County. Yet another statement by a female student in the panel with regard to climate change, "you know what, sometimes I feel so scared having to attend lectures in terribly cold weather which has been the case in the recent past." This clearly shows that the changes in the weather patterns brought about by climate change, have in some way impacted on the academic performance of the students from this region.

Conclusion

The aim of this paper was to assess the extent to which climate change affects academic performance of students from Kajiado County. It is no doubt that climate change has an impact on the academic performance of the students from

this region. It is also apparent from the study findings that livestock keeping is one of the key economic activities in this region and it plays an important role in the education of students from this region. The residents of Kajiado County therefore, require assistance both from the County as well as the national government in ensuring that negative effects of drought are mitigated with proper interventions.

Recommendations

This study showed that climate change impacts in two main ways on academic performance of students enrolled in universities in Kenya and who are from Kajiado County. The study examined the extent to which climate change affects university students‟ ability, first, to attend lectures and, second, to meet financial obligations on time. The results of this study would act as a framework through which the County government of Kajiado can create policies aimed at improving academic quality and motivating the students to enroll in high education institutions. Study findings also indicated that County and national governments need to develop measures to mitigate the negative effects of climate change, which affect the main livelihood of the people in Kajiado County which is livestock keeping. This is critical because proceeds from selling cattle go towards fees payment.

Practical Implications

The Kenyan government should establish a fund in the annual budget to help students from such areas pursue their education. Furthermore, the government ought to allocate more resources to Higher Education. This study is focused on the issue of climate change and how it influences academic performance of students from Kajiado County. It becomes more necessary to ensure that academic performance is not derailed because of some of the adverse effects that arise from climate change in this area. The community in this region should also think of other ways of bringing in income to ensure sustained education for the students from this County. This would arise from diversifying economic activities, for example, by selling some of the cattle because of their vulnerability to climate change and investing in businesses which will ensure income even when drought and other negative weather effects occur.

According to a report published by Government of Kenya (2010), it is undeniable that climate change is currently affecting Kenya. Droughts and floods have become frequent and intense and the country has also seen an increase in average temperatures, hotter days, colder nights, successive crop failures and the spread of vector borne diseases such as malaria in places where the disease is not known to be endemic. These climatic changes affect resources critical to the health and prosperity of Kenya (Government of Kenya, 2010). For example, the 1999/2000 La Niña droughts resulted in 4.7 million Kenyans facing starvation, while according to unofficial reports, the effects of the 2006-2009 successive drought episodes caused 10 million people – over a fourth of Kenya‟s population – to starve (Government of Kenya, 2010).

While Kenya stands to benefit immensely from the advanced technology of developed countries, efforts should be made to support local technology generation and application through institutional capacity building programmes. Consequently, new and additional resources are needed to support and strengthen the country‟s research and academic institutions to enable them undertake research in climate change related fields.

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