FLOODS AND IT'S EFFECTS ON CLASS ATTENDANCE IN DAY SECONDARY SCHOOLS IN NYANDO SUB-COUNTY IN KISUMU COUNTY, KENYA.

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DECLARATION

This project is our original work and has not been presented for award of degree or for any similar purpose in any other institution.

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DEDICATION

We dedicate this project to our parents Mr&Mrs Odhiambo, Mr&Mrs Mati and Mr&Mrs Magaya for their continuous financial and spiritual support during our study. We also dedicate it to our friends for their unceasing guidance throughout the project.

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ABBREVIATIONS AND ACRONYMS

IFRCSS- International Federal of Red Cross and Red Crescent Societies

KNBS- Kenya National Bureau of Statistics

KRCS-Kenya Red Cross Society

OCHA-Office for Coordination of Humanitarian Affairs

UN-United Nations

UNDP- United Nations Development Programme

UNEP-United Nations Environment Program

UNICEF- United Nations International Childrens Emergency Fund

WHO-World Health Organization.

OPERATIONAL AND DEFINATION OF TERMS.

Hazard   It is a potentially damaging physical event, human activity or phenomenon with a potential to course loss of life, property damage, social and economic disruption of life, environmental degradation

Mitigation   It refers to a short- and long-term action, programs or policies implemented in advance of a natural disaster or in early stages to reduce the degree of risks to the people and productivity capacity

Prevalence   ; Refers to the number of occurrences of a repeating event per unit time

Severity   Refers to the condition of being very bad, serious, unpleasant or harsh

Vulnerability   Refers to the set of conditions resulting from physical, economic and environmental factors which increase the susceptibility of a community to the impact of disasters.

ABSTRACT

For education to run smoothly, there must be a conducive environment for both teachers and learners. An outbreak of a natural hazard can for example floods will totally disrupt the learning process. Floods occurs indiscriminately without sparing lives of human beings and animals. Furthermore, it causes damages to infrastructure and environment, (Bakker, 2009). Kenya as a country also experiences such calamities from the past and also currently it has witnessed floods in 2020. The calamity had adverse effects in educational sector especially in Nyando sub-county which led to closure of schools hence disrupting the learning process. Nyando sub-county in Kisumu County has a higher prevalence of flooding due to its plain topography and its proximity to Lake Victoria basin. The aim of this study is to find out the effects of floods on class attendance. Moreover, the study sought to advocate measures of controlling floods to ensure that there is improvement in class attendance. The objectives of the study were: to establish the prevalence of floods on class attendance among learners, to establish the severity of floods on class attendance and to establish the vulnerability of floods on class attendance. The study possessed some hypothesis which were: flood prevalence does not affect class attendances; flood severity does not affect class attendance and flood vulnerability do not affect class attendance. The study was conducted in 5 schools and targeted 100 students and 15 teachers. A sample size of 10 teachers and 80 students was obtained. The respondents who filled in questionnaires and returned them rated to 100% students and 80% teachers. The study embraced survey as a research design, random sampling technique and use of questionnaires in collection of data which thereby was determined by statistical mean and displayed in frequency tables. The finding affirmed that floods has a great influence on class attendance with regard to dropouts; enrollment and absenteeism. The study deduced recommendations that risks reduction should be integrated in the syllabus; teachers and students should undergo annual training on risks reduction, the ministry of education should ensure that the safety standards manual requirements are implemented in schools. The study concluded that there is need to shift from reaction to preparedness strategy with particular focus on floods to increase class attendance.

CHAPTER ONE: INTRODUCTION

This chapter entails: Background to the study, problem statement, purpose of the study, conceptual frame work, research questions, and objectives of the study, hypothesis of the study, significance of the study, delimitation of the study and limitations of the study.

1.1 Background to the study

Flood is an over flow of water that submerges land that is usually dry. It may also arise as an overflow of water from water bodies such as river, lake or ocean. Disasters such as flood usually arise in indiscriminately without sparing lives of humans or animals. They are among the most common and destructive natural hazards causing extensive damage to infrastructure, public and private services, environment, economy and devastation to human settlements , (Bakker,2009).

Globally, floods occurred in the past decade as catastrophes in Bangladesh, China, India, and United States. The current cases of floods have been pronounced from 2010-2018 whereby the National Weather Service recorded hundreds of flooding death across America. The Northeast, desert southwest, mid -west and Gulf coast face the most flooding activity in the United States between 1996 and 2013.

In the desert southwest a lot of flooding event happened during the monsoon season since the ground is dry, it's tough to absorb water that falls at high rate. When flooding occur it causes many losses over the world especially in educational sectors as some deaths which are recorded includes lives of students and teachers and also destruction of their learning structures. Timberland and Andes (1986), noted that floods disrupt educational services in flood plain areas by submerging schools and occasionally causing deaths of both teachers and students.

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According to UNDP,(2006),In Asia especially Pakistan, she experienced worst monsoon related floods with half of the 15.4 million people affected being children, 26 learning institutions were destructed as cited by World disaster report by the International Federal of Red Cross and Red Crescent Societies (IFRCSS).

Recently, Karachi floods in Pakistan in August 2020 claimed forty-one humans at some stage in the flooding. Pakistan generally records heavy rains especially.

In early 2019, the Mississippi river flooded for over three months which was longer than "famous floods of 1927" which killed five hundred humans and left others homeless in Missouri, Kentucky, Tennessee's, Arkansas, Mississippi and Louisiana.

Flash floods in Jakarta, Indonesia in early hours of the first day of 2020, after overnight rain dumped nearly 400 mm of rain leaving at least sixty-six human beings dead, displacing 60000 in the worst flooded since 2007.

Africa as a continent is not left behind when such catastrophe is mentioned. Floods have adversely affected Southern and Eastern Africa (Southern Africa Environment outlook 2008), indicates that floods are the most known disaster within the regions. Moreover, flooding is one of the major factors that hinders Africa's developing population from escaping poverty (Matiki, 2005).

In Tanzania thirteen October 2020 heavy rains induced flooding thereby blocking roads and disrupting transport services. Moreover, on 15 October 2020, Dar es salaam police mentioned that twelve people died in flooding in Ilala and Kinondoni district, most of the sufferers had been stated to have been swept away by flood waters from the overflowing Msimbazi River. On 12 September 2020, Democratic Republic of Congo experienced landslides as a result of heavy rains claiming a minimum of 50 lives.

Kenya, is not an exceptional when floods are mentioned as it records several events of flooding in the years; 1937, 1947, 1951, 1957-1958. Currently, floods has been an outcry in places which might be plain and different places bordering lakes, those places encompasses: Kano, Budalangi, Narok and Turkana East, Nyando, Rongai.

According to UNICEF (2002),when floods occur, school infrastructure and learning programs which are the core educational services are severely damaged and destructed by flood waters. On 22 October 2020, it was confirmed that many people were displaced by flooding along the shores of Lake Turkana. Furthermore, on 18 October 2020 heavy rains precipitated landslides in West Pokot, in this case two people lost their lives.

Cecil Odongo, (2020) suggested that about 1000 households had been left homeless and infrastructure destroyed in Nyando Sub-County, Kisumu. Furthermore, school facilities were destructed and some of the learners and teachers died while others displaced thus interfering with the learning process after floods hit the place. Residents of Kabonyo Kanyagwal ward have been frequently hit and needed to circulate to a camp at Omuonyole shopping middle for protection. Kandaria Primary and Secondary Schools, Ombaka Primary and Ogenya Primary Schools have been submerged by the floods.

The prevalence of floods in Kenya stands at 27% and impacts the population, floods related fatalities constitute over 60% of catastrophe victims, (UNEP, 2010). When it rains heavily, people dwelling near lakes and seas find it difficult during such events many lives are lost, many are rendered homeless and there are adverse consequences on the student's class participation due to destruction of schools infrastructure. In turn, learners in these areas records underperformance because of low class attendance.

Nyando sub-county, a focus of our study, is the most affected area by flooding cases in Kisumu County. The sub county borders Lake Victoria where river Nyando drains its waters leading to

overflow of water to homesteads and neighboring schools near Lake Victoria. This has caused severe psychological and stigmatization amongst learners and teachers studying in some of the schools nearing the Lake.

1.2 Problem statement

Education is a human right recognized and protected under both national and international laws. That's why the government of Kenya is highly concerned in the process of ensuring provision of quality education by making sure that it is accessible and affordable for her citizens. However, occurrence of floods interferes with the learning programs as it causes destruction of classrooms, infrastructures, causes loss of lives among students and their teachers thus learning may temporarily stop (Achoka & Maiyo, 2008).

In addition, floods disrupt educational services in flood plain areas by submerging schools and occasionally causing deaths of learners and teachers (Timberland & Andes, 1986). Moreover, floods lead to outbreak of waterborne diseases e.g cholera and may also cause displacement of homesteads (KRCS, 2013).This is why the study seeks to examine the effects of floods on class attendance in Nyando sub-county in Kisumu county which has a population of 161,508 persons and covers 446.1squre Kilometres, (KNBS, 2019).It is a floodplain situated along Lake Victoria and is a flood prone zone as it experiences flooding almost every year. The aim of the study was to identify flood effects on class attendance among learners in day secondary schools.

1.3 Purpose of the study

The study sought to address the effects of floods on class attendance in day secondary schools in Nyando Sub County, Kisumu County, Kenya.

1.4 Conceptual framework

The study has two essential variables which are: independent variable and dependent variable. Independent variables are controlled or manipulated by the researcher so as to observe their effects while the dependent variables are the outcome of the independent variables. The independent variables of the study are: flood frequency, severity and vulnerability while the dependent variables are: Dropout, absenteeism and enrollment. The relationship between the independent variables and dependent variables is shown in the table below.

Independent Variables   **Dependent Variables.**

Flood   and its Effects.

Flood Frequency.

- Biannually
- Annually.
- Monthly.

Flood Severity.

- Effects on lives
- Effects on peoples settlement
- Outbreak of diseases

Class attendance

- Dropout.
- Absenteeism.
- Enrolment.

Flood Vulnerability.

- Flood mitigation strategies.
- Flood preparedness
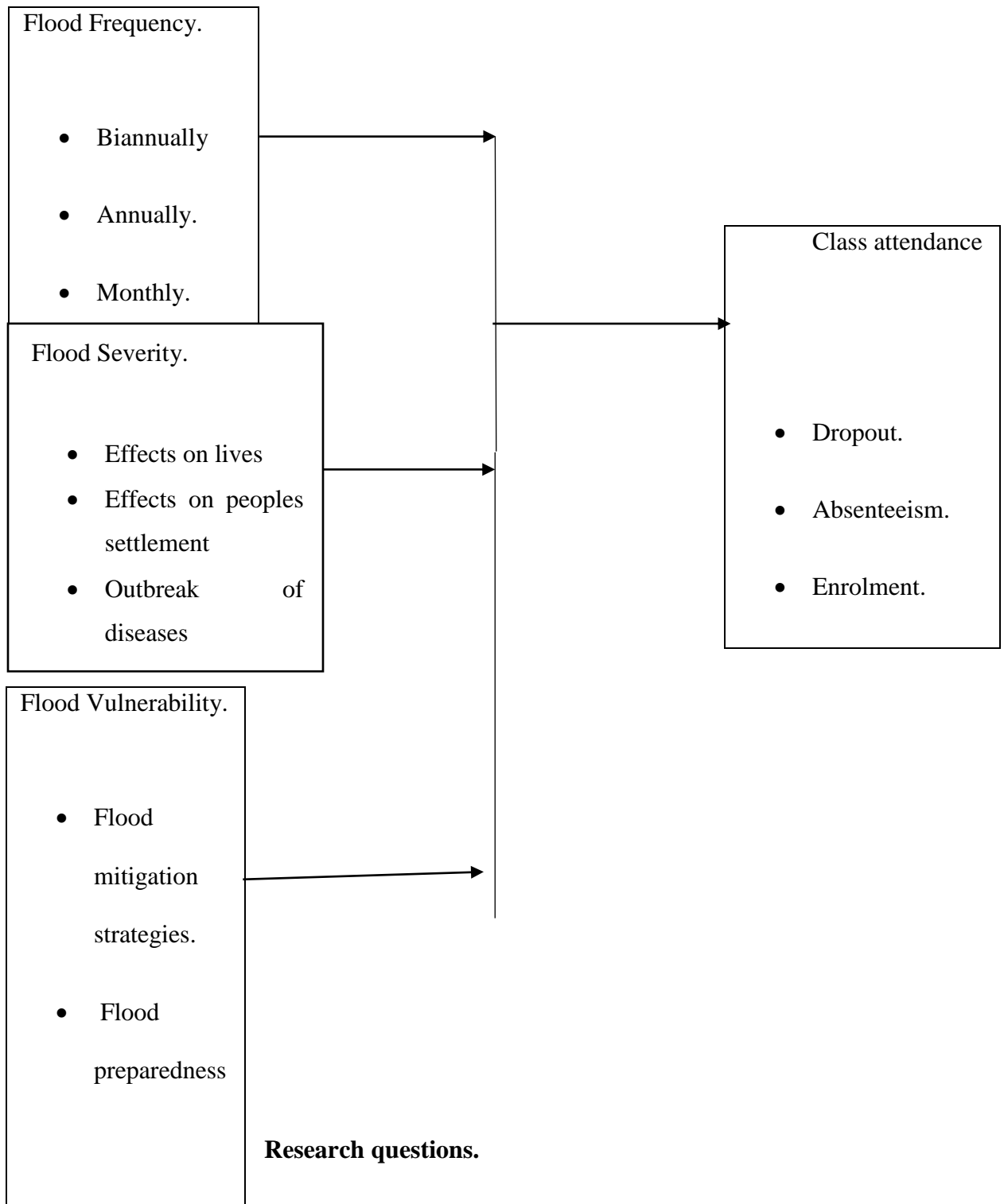
1.5   Research questions.

I.   Does prevalence of flood affect class attendance?

II.   Does severity of flood affect class attendance?

III.   Does vulnerability affect class attendance?

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1.6 Objectives of the study.

      1.6.1 General objective.

To establish the effects of floods on class attendance on Nyando sub-county in Kisumu county, Kenya.

      1.6.2   Specific objectives.

I.   To establish the influence of flood prevalence on class attendance among learns.

II.   To determine the influence of flood severity on class attendance among learners.

III.   To evaluate the influence of flood vulnerability on class attendance.

1.7 Hypotheses of the study.

HO1 Prevalence of floods do not affect class attendance.

HO2 Severity of floods do not affect class attendance.

HO3 Vulnerability of floods do not affect class attendance.

1.8 Significance of the study.

The study will enable researchers to come up with numerous resolutions of coping up with floods which would in turn lead to an increase in the number of students attending classes irrespective of floods. Moreover, scholars and researchers will use the research as a means of reference for future studies. In addition, the study will even assist the government to come up with management policies for controlling floods to be able to increase class attendance. Additionally, the study will assist in prevention and management of floods and other related disasters, dangers and vulnerability reduction.

1.9 Delimitation of the study

Floods are affecting many areas globally and parts of Kenya as a whole however, the study is narrowed to Nyando sub-county since it has a higher prevalence of floods of approximately 15% of the affected faculties. The study will focus on effects of floods on class attendance and how it has in turn affected enrolment, dropout and absenteeism. It will also focus on how severity, vulnerability and frequency of floods affected class attendance

1.10 Limitations of the study

The study was expected to be encountered constraints such as unfavorable weather conditions, inaccessible roads and unwilling respondents. These constraints however, were never experienced as the researchers had equipped themselves with appropriate resources which were needed during the research time such as a map which guided them on the specific area of study, boots, heavy clothes and umbrellas could help them cope with the harsh conditions in the area. The approach which was employed during the study was friendly and thus it captured the attention of the respondents and they willingly volunteered to fill in the questionnaires.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

This chapter review the effects of floods on class attendance in line with objectives which are; flood frequency, severity and vulnerability. It also entails: theoretical frame work and summary of identified gaps in the reviewed literature.

2.2 Literature review

Kenya's climate is characterized by excessive rainfall which varies from season to season, year to year. Like other East African countries, Kenya's climate is usually influenced by varied

topography, altitude, lakes amongst others. High rainfall potential areas have high degree of flooding while arid and semi-arid regions including Narok have high vulnerability of occasional flooding. Areas like Nyando, Budalangi and Nyatike stands at high risks of flooding because of their topography.

2.3 Frequency of floods on class attendance

In Kenya heavy precipitation is in mid-April which continues to the end of May (lengthy rains), then from September-December (brief rains). The usually susceptible areas are Budalangi in western Kenya, Kano plains along Nyando River, Tana-river floods from Aberdare ranges and Mt-Kenya catchment.

Kenya records several events of floods in the years; 1937, 1947, 1951, 1957-1958. Furthermore, in the years 1997/1998 it recorded El Nino rains causing destruction of social economic activities, extensive damage to property, infrastructure and loss of lives. In 2003, Kenya again experienced massive flooding that affected 60,000 people.

According to World Health Company (WHO), flood disasters in the regions globally are recorded every year. The river Nyando basin in Kenya, (the study area), studies flood almost each year which is a key factor to high poverty level in Nyando district and under -performance in schools due to low class attendance.

2.4 Severity of floods on class attendance.

On thirtieth October 2019, the united countries (UN) office for coordination of humanitarian affairs (OCHA) suggested that heavy rains caused riverine and flooding, rock-falls, mudslides and landslide. The Kenya Red-cross society (KRCS) showed that at least 14,000 people had been displaced from their homes in low-laying regions in which rivers burst their banks. In Kisumu

county, at the least six hundred humans were displaced after river Nyando broke it financial institution.

On April 2020, more than 13,300 people were displaced as floods invaded Kano plains in Nyando sub county, Kisumu County. This eventually led to river Nyando breaking its banks leading to submerging of houses and some schools at Ahero buying center, Nyamaso area of Kokala.

In 2013, Kenya Red Cross Society pronounced that 5300 households had been displaced by floods, landslides, and mudslides and Nyando were the most districts attacked as in both January and May some schools did not open with others, shortening the school's terms. Flooding on other hand has various results on human health for example, it causes injuries, respiratory infections, communicable diseases, epidemics which includes cholera and bilharzia.

Heavy rainfall in 2020, has led to increment in the dangers of disease outbreak and hampered efforts to contain Covid-19 pandemic. The ministry of health reported that cholera outbreak resulting from heavy rains in some elements of the united states these disease outbreak increases rapidly as the affected groups are not able access to clean waters during the periods of floods, terrible sanitation, insufficient food, congestion, inadequate essentials e.g. Medicines, mosquitos' nets, beddings and garments. Moreover, many humans declare their lives for example, in October 2019, KRCS stated that as a minimum 29 flood associated deaths passed off

2.5 Vulnerability of floods on class attendance

Vulnerability refers to the set of conditions resulting from physical, economic and environmental factors which increase the susceptibility of a community to the impact of disasters. Additionally, refers to the degree to which a system is prone and not able to address negative outcomes of climatic change.

The factors that boom flood vulnerability in Nyando sub-county, Kisumu County, Kenya are: poorly implemented flood management policies, i.e flood preparedness, poor traditions and lack of flood management skills terrible traditions and shortage of flood control competencies, lack of assets, infrastructure, generation and technological capacity. Conflicts; resilient development plans, future development demographics. Lack of flood mitigation strategies constructing resilient human, economic and natural systems.

2.6 Theoretical Framework.

This study is guided by two theories; urban resilient theory guided byP-Romero-Lankao (2016) and behavioral theory guided by John B. Watson (1878-1958) and B.F Skinner (1904-1990).

2.6.1 Urban Resilient Theory

This study is guided by this theory which stipulates on recovery from hardships experienced by natural disasters such as floods which have adverse effects on people's lives. These effects take longer period to recover from them. This theory is related to our study in that it will help in adopting the knowledge of recovering the hardships experienced in flooded areas especially in Nyando sub-county. The idea of the concept assisted us in adoption of expertise of controlling and assessing the degree at which floods occurs and various mechanisms that can be employed in preventing future flooding so that we can improve class attendance.

2.62 Behavioral Theory

This study is guided by this theory which was put forward by John B.Watson (1878-1958) and B.F.Skinner (1904-1990) which stipulates that, human behavior is stimulated by the causes and consequences present in the individual's environment and the learned association he has acquired through previous experience. This entry describes the various traditions within the behavioral perspective that is, classical conditioning, operant conditioning, cognitively mediated behavioral

theory and contextualism. This theory will help in understanding the behavior and asses' individual cognitive development of learners in relation to behavior in environmental conditions especially in flood prone areas.

2.7 Summary of identified gaps in the reviewed literature

The literature stipulates that floods are a major problem in Kenya as they occur frequently causing loss of lives, destruction of properties and displacement. It has also discovered that some regions have excessive vulnerability to floods because of their topography.

Despite that diverse scholars have looked at the consequences of floods on class attendance; flood frequency, severity and vulnerability have not been capable to address measures to be taken during flooding periods to ensure that class attendance among learners and teachers is going as normal as speculated . Furthermore, the researchers have not been able to come up with appropriate plans of future occurrence of floods. In addition, the flood management policies do not put emphases on risks assessment but mainly focused on emergency management. Moreover, the scholars have not been able to explain how flood can impact tertiary education.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on various methodologies of research that includes; research design, study area, target population, sampling technique, sample size, measurement of variables, research instruments, validity of measurements, reliability of measures, data collection techniques, data analysis and ethical considerations.

3.2 Research design

It is an overall strategy applied to perform studies. The research used survey as one of the studies designs. Mugenda (2003) defines survey as an object to acquire data from members of a population, in order to determine present status of that population with respect to one or more variables. The study used descriptive survey research design and quantitative research design to obtain data.

3.3 Study area

The study was conducted in Nyando sub-county, Kisumu county Kenya which is one of the areas prone to floods in Kenya. It has a total population of 161,508 people, (KNBS, 2019). It has 28 public school with a population of approximately 4200 students. We chose this study area

since it records frequent flood occurrences. Due to its location next to Lake Victoria it receives overflows during heavy rain seasons.

3.4 Target population

Orodho (2008), defines a target population as the set of elements that the researcher focuses upon and to which the results obtained by testing the sample should be generalized. The study focused on 100 students 15 teachers who were administered with questionnaires.

1   *Table 3.1 showing population of teachers and students*

Category	Target population
Teachers	15
Students	100
Total population	115

3.5 Sampling technique

Mugenda and Mugenda (2003), proposed that a researcher should take as a minimum 30% of the overall population while the population sampled is exceedingly small and 10% from exceeding population depending on the time and sources to be used by the researcher. We used random sampling technique whereby 15 teachers and 100 students in 5 schools were selected randomly.

3.6 Sample size

In the study random sampling method was used. Random sampling is whereby each sample has equal chances of being selected. The study was conducted in 5 schools where students and teachers were chosen randomly during the study.

Table 3.2 showing sample size

Category	Target population	Sample size
Teachers	15	10
Students	100	80
Total population	115	90

Measurement of variables

2   Table 3.3 showing measurement of variable

Variable	Measures(indicators)	Measurement scale
Frequency	Biannually Annually Monthly	Ordinal scale

Severity	Displacement	Ordinal scale
	Outbreak of diseases	
	Loss of lives	
Vulnerability	Mitigation Strategies	Ordinal scale
	Flood preparedness	
	Flood management policies	

3.7 Research instruments

Questionnaires and observations were used as research instruments during the study. These were administered to both teachers and students. The questionnaires constituted open- ended questions and closed-ended questions. Open ended questions are those which permit someone to provide a free form answer where else closed-ended questions may be replied with "Yes" or" No". The open-ended and closed-ended questionnaires were used so as to obtain both qualitative and quantitative data. The questionnaires had two sections. Section A, was based on respondent's personal information while Section B, were questions about perceived problems. This assisted the researcher in determining the level of respondent's agreement.

3.8. Validity of measurements

The study entailed the use of content validity. Content validity is the extent to which items at the test are fairly represented entire domain. The content validity was enhanced through literature review to see measures and indicators that have been used by the scholars.

3.9 Reliability of measurement

Reliability is a measurement of the degree to which a research device yields regular consequences after repeated trials (Mugenda and Mugenda, 2003). The study used test and retest

approach where questionnaires were administered to the targeted schools and re- administered after 2 weeks to test the consistency of the results.

3.10 Data collection

Data collection was achieved through observation and Questionnaires which were used directly to the selected samples of the study. One hundred and fifteen questionnaires were administered to the selected sample of the examiner to be completed and returned.

3.11Data analysis

After the questionnaires were returned, descriptive analysis and percentages were used to decide on individual comments and thereafter represented the information in frequency tables.

3.12 Logistical and ethical considerations

The research ensured that various logistical and ethical considerations were met. These included:

1. Obtaining a research permit from Gretsa University authority which enabled researchers to conduct the research effectively.

2. Seeking permission from the chief of the area of the study. This accounted to confidentiality when conducting the research.

3. Avoiding unacceptable language which can be discriminative and offensive to the respondents.

4. Ensuring that respondent participation was voluntary and for the sake of confidentiality, they were not supposed to write their names on the questionnaires

CHAPTER FOUR: DATAANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter focuses on the return rate of questionnaires, demographic information of the respondents, data interpretation and discussion of findings. The presentation was done on the research objectives and research questions. The data presented in this chapter was analyzed using descriptive analysis. All themes discussing the same research questions were presented and analyzed together .Items focusing on a particular theme were also presented together.

4. 2 Questionnaire Return Rate

Questionnaire return rate is the proportion of the questionnaires returned after they have been issued to the respondents.

Table 4.3 Questionnaire return rate

On return rate 10 teachers and 80 students were sampled during the study, 8teacchers and 80 students filled and returned their questionnaires. The return rate was 80% for teachers and 100% for the students it was therefore deemed adequate for data analysis as shown in the table below.

Table 4.1 showing questionnaire return rate

Respondents	Sample	Rate of Return	%
Teachers	10	8	80
Students	80	80	100
Total	90	88	180

4.4 Demographic Characteristics of Respondents

This section presents the characteristics of personal attributes of individual respondents. They include age, gender and duration of stay in the various schools in terms of number of years.

Distribution of respondents by gender

The researcher sought to find out the gender of teachers and students in various schools. The respondents were requested to indicate their gender and reported as shown in Table 4.21

Table 4.21 Distribution of Respondents by Gender

Teachers			Students	
Respondents	**f**	**%**	**f**	**%**
Male	3	37.5	**30**	37.5
Female	5	62.5	**50**	62.5
Total	**8**	**100**	**80**	**100**

The table above shows that. the data indicates that the ratio of male to female teachers was 3 : 5 as there were 5 female teachers and 3 male teachers and these implies that they have achieved gender disparity . The boys were 30 while the girls were 50 showing that there are more girls than boys in the secondary schools in Nyando, therefore a lot need to be done to achieve gender equality among the students.

4.22 Distribution of respondents by duration of stay in their schools

The teachers were to indicate how long they had been in their current schools and their responses are shown in Table. 4.2

Table 4.4 Distribution of teachers on the number of years they have been in the school

	Teachers	
Duration	**F**	**%**
1-5years	3	37.5
6-10years	1	12.5
Over 10 years	4	50
Total	**8**	**100**

The study showed that 50% of the teachers had been in their current schools for over ten years and therefore it's assumed that they are in a position to provide adequate information on effects of floods on access to secondary school education in Nyando Sub County because of witnessing a number of flooding disasters.

4.5 Effects of Floods on Students class attendance in secondary day schools.

Objective one of the study sought to establish the effects of floods on student class attendance in secondary schools in Nyando sub-county .The respondents were to respond to a series of questions related to the effects of floods on students' enrolment. The respondents were asked to indicate whether they had ever transferred because of floods as indicated in Table 4.5

Table 4.5 Effects of Floods on Student Enrolment

.	Teachers	
Response	f	%
Enrolment dropped	5	62.5
Enrolment didn't drop	2	25
Not sure	1	12.5
Total	**8**	**100**

From the study, floods affect enrolment as 62.5 % of the teachers stated, there was a decrease in enrolment during floods, and only 25% stated that enrolment didn't drop. This concurs with the study done by (Achoka & Maiyo, 2008) which implied that floods make enrolment of students to drop.

4.6 Effects of Floods on Attendance

Objective two of the study sought to establish the effects of floods on attendance in secondary schools in Nyando district. The respondents were asked to comment on whether floods affect attendance or not, and their responses are in Table 4.6.

3   Table 4.6 Effects of Floods on Attendance

	Teachers		Students	
Response	f	%	F	%
Attendance affected	5	62.5	60	75
Attendance not affected	3	37.5	20	25
Total	**8**	**100**	**80**	**100**

From the data on attendance, it's clear that floods affect attendance as, 62.5% teachers and 75% of the students stated that it affects attendance and this can lead to poor syllabus coverage leading to poor performance in exams. The researcher also observed that floods affected attendance as the implication made was that the day scholars missed school totally or came late as they had to wait for the flood waters to subside before wading through to school.

The respondents were asked to comment on the effects of floods on footpaths, roads and farms and they responded as shown in the table below.

4   Table 4.7 Teachers response on effects of floods on footpaths, roads and farms

	No effect		Moderate		Severe	
Areas	F	%	f	%	f	%
Footpaths	3	37.5	4	50	3	37.5
Roads	3	37.5	3	37.5	2	25
Farms	2	25	1	12.5	3	37.5

N=8

The data in Table 4.7 shows that floods severely affect footpaths and roads, as 37.5% of the teachers indicated that these hampers access to schools. The teachers also indicated that 12.5% of farms are moderately affected while   37.5% are severely affected this can interfere with learning if farms are the major sources of livelihood then students may be forced to drop out because of lack of fees.

4.7 Mitigation Measures Employed by Schools during Floods

The fourth objective was on mitigation measures employed by schools during floods so the respondents were asked questions on availability of water harvesting facilities, .tree planting, clubs that deal with environmental conservation and safety measures taken by the schools during floods.

5   *Table 4.8 on Availability of Water Harvesting Facilities*

	Teachers		Students	
Water harvesting facility	**f**	**%**	**F**	**%**
Not available	3	37.5	40	50
1-3	1	12.5	10	12.5
4-6	2	25	20	25
More than 7	2	25	10	12.5
Total	**8**	**100**	**80**	**100**

Water harvesting reservoirs were available in 37.5% of the schools. However not many of the teachers associated them with flood coping measures but with sanitation and clean drinking water. This is because floods did not result from direct rainfall but from surface runoff from the

hills and river Nyando bursting its banks. A unique feature of floods in Nyando is that most of the runoff is generated in the upper catchments which receive much higher rainfall (Okuom et al, 2012).

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter focuses on the summary of the study, findings of the study, conclusions, recommendations and suggestions for further research.

5.2 Summary of the study

The purpose of the study was determining effects of floods on class attendance in day secondary schools in Nyando Sub County, Kisumu County, Kenya. The study was guided by four research objectives, the first objective sought to establish the effects of floods on class attendance on Nyando sub-county in Kisumu County, Kenya. The second objective sought to establish the influence of flood prevalence on class attendance among learns.

The third objective sought to establish the influence of flood severity on class attendance among learners. While the last objective sought to establish the influence of flood vulnerability on class attendance. The study was conducted using survey which is a method of collecting information by interviewing or administering a questionnaire to a sample of individuals. The sample of study comprised of 15 teachers and 100 students. The main instrument for data collection in the study was the questionnaire; an observation checklist was also used.

5.3 Summary of the findings

When it came to the length of time spent in various schools, students and teachers had overstayed their welcome, with 70% of respondents having stayed in their positions for more than ten years. Floods hampered student enrollment, according to the study's findings, as some schools were forced to close due to flooding. This was due to flooded classrooms, damaged school roadways, with some schools unable to be reached. During floods, 25% of schools are

affected, and kids are sometimes sent home. The flooded rivers and places made it impossible for students and teachers to cross.

System of drainage in 70% of the schools, one of the coping methods for floods was found to be insufficient. According to the researcher, the current ditches were dug without respect for the elevation of the ground or the input of an expert. The ditches were choked with trash and silt in some cases. Because of the lack of drainage, excess runoff was unable to flow, resulting in flooding in schools.

In 99 percent of the schools, there were water harvesting reservoirs. Many teachers and students, on the other hand, did not identify them with flood-prevention measures, but rather with sanitation and safe drinking water. This is because the floods were caused by surface runoff from the hills and the river Nyando breaching its banks, rather than by direct rainfall. There were radio warnings, but there was no other place to go, thus property was destroyed, people were displaced, and some schools were closed because some classrooms were flooded, roads were damaged, and restrooms. Because of the poor working circumstances for instructors, several applied for deployment.

5.4 Conclusions

Floods not only make learning difficult for learners and teachers, but also close schools, ruin infrastructure, relocate families, and raise disease outbreaks, according to the study's findings. Schools are frequently utilized as shelter for displaced people. With a specific focus on floods, a shift from reaction to preparedness approach is required. During floods, quality education can give physical, psychological, and cognitive protection, allowing people to maintain their dignity while also sustaining and saving lives. As a result, it is suggested that schools use trained professionals to examine school structures, plan, construct, and manage school facilities so that they can withstand recurrent floods and other weather-related disasters. The topic of disaster risk

mitigation should be included in the curriculum. Annual catastrophe risk reduction training should be provided to principals, instructors, and students. County governments should educate the public about the need of insuring educational establishments.

5.5Recommendations

Based on the findings of the study, the researcher issued the following recommendations. The board of management should hire trained professionals to analyze the structural safety of damaged school buildings, as well as design, construct, and maintain school facilities so that they are robust in the face of recurring calamities like floods and other weather-related disasters. The topic of disaster risk mitigation should be included in the curriculum. Annual catastrophe risk reduction training should be provided to principals, instructors, and students. The ministry of education should ensure that the provisions of the safety standards manual are implemented in schools.

5.6. Suggestions for further studies

The study can be reproduced in other flood-prone areas across the country. A study of the impact of floods on early childhood and tertiary education is needed

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QUESTIONNAIRE.

EFFECTS OF FLOODS ON CLASS ATTENDANCE IN DAY SECONDARY SCHOOLS IN NYANDO SUB-COUNTY, KISUMU**.**

This survey will enable us to determine how floods have impacted class attendance. Please fill this booklet honestly. Your information will not be disclosed hence we keep our information confidentially.

DO NOT write your name or the name of your school.

Use tick () or a dot () to fill in the brackets appropriately

Questionnaires for class teachers

Section A

1. Age?

[] 20-30 [] 30- 40 [] 40-50 [] 50-60

2. Gender

Male [] Female []

3. How long have you been in this school?

[] Days [] Weeks [] Months [] Years

Section B

1. Have you ever transferred to another school due to floods?

[] Yes [] No (explain briefly)

……………………………………………………………………………………………………

……………………………………………………………………………………………………

…………………………………………………………………………………………….

2.   How have your class attendance been during floods?

[ ] 1- good   2-average   3-poor

3.   Have students been missing classes during floods?

[ ] Yes [ ] No. (If yes specify by which percentage)

……………………………………………………………………………………………………

……………………………………………………………………………………………………

…………………………………………………………………………………………………

4. How often did floods affect your students' class attendance?

Frequent [ ] Very frequent [ ] Rare [ ] Very rare [ ]

5. How did you improve your class attendance during floods?

………

………

……………………………………………………………

Questionnaires for student

Section A

1. Age?

[ ] 13-16 [ ] 16-19 [ ] 19-22

2. Gender

[ ] Male [ ] Female

3. Class

[ ] Form 1 [ ] Form 2 [ ] Form 3 [ ] Form 4

Section B

1   Have you ever missed classes due to floods?

[ ] Yes [ ] No.

2   If Yes' how frequent?

Very frequent [ ] frequently [ ] Rare [ ] Rare [ ]

3   Are there students in your class who have dropped out of school due to floods?

Yes [ ] No [ ]

3b. If **YES,** how many

0-5 [ ], 10-15 [ ], 15-20 [ ], 20 and above [ ]

4   Have you ever witnessed any destruction caused by floods in your school?

Classes [ ] offices [ ] toilets [ ] if any other please specify ………………

5   What do you use to access your school during floods?

Swimming [ ] use boat [ ] airplane [ ] if any other means please specify ………….

6   Have you ever witnessed any of your neighboring schools affected by floods?

Yes [ ] No [ ]

7   Are there any other structures used as classrooms during floods?

Yes [ ] No [ ].

If Yes' indicate

Church [ ] under trees [ ] Tents [ ] If any other specify………….

8   How do you get information about any expected floods?

From teachers [ ] Fellow students [ ] Media [ ] Sub-chief [ ]

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