

**FLOOD PREPAREDNESS FACTORS INFLUENCING TEACHERS'
PARTICIPATION IN TEACHING AND LEARNING IN PUBLIC
PRIMARY SCHOOLS IN LOWER NYAKACH DIVISION, KISUMU
COUNTY, KENYA**

Odegi Florence Eunice

**A Research Project in Partial Fulfillment of the Requirement for the Award
of Degree of Master of Education in Education in Emergencies,
University of Nairobi**

2014

DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

Odegi Florence Eunice

This research project has been submitted for examination with our approval as university supervisors.

Dr. Caroline Ndirangu

Lecturer

Department of Educational Administration and Planning,

University of Nairobi

Mr. Edward Kanori

Lecturer

Department of Educational Administration and Planning,

University of Nairobi

DEDICATION

This research work is dedicated with a lot of love, respect and appreciation to my husband Norbert Odhiambo and our children Janet, Erick, Leticia and Mathews.

ACKNOWLEDGEMENT

I wish to appreciate the help of all those without whom this work would not have been completed. Special thanks to the university management for providing me with a conducive environment, which has enabled me to complete my course work successfully and to carry out the study. I am indebted to my supervisors Mr. Edward Kanori and Dr. Caroline Ndirangu who despite their busy schedules found time to superintend my work. Their continued guidance, suggestions, encouragement and moral support culminated in completion of this work. I am equally appreciative to all head teachers', teachers' and students in Lower Nyakach District who participated in this study. May the Almighty God bless all who in one way or another contributed to the facilitation and completion of this research work. Thank you all for your support.

TABLE OF CONTENT

Content	Page
DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENT	v
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF ABBREVIATION/ACRONYMS	xi
ABSTRACT	xii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background to the study	1
1.2 Statement of the problem	7
1.3 Purpose of the study	9
1.4 Objectives of the study	9
1.5 Research questions	10
1.6 Significance of the study	10
1.7 Limitation of the study	11
1.8 Delimitation of the study	12
1.9 Basic assumptions of the study	12
1.10 Definition of the significant terms	12

1.11 Organizing of the study.....	13
CHAPTER TWO	15
LITERATURE REVIEW	15
2.1 Introduction.....	15
2.2 Concept of flood preparedness and teacher teaching and learning.....	15
2.3 Teacher preparedness and teachers’ teaching and learning	17
2.4 Student preparedness and teachers’ teaching and learning.....	19
2.5 Damage to schools infrastructure and teachers’ teaching and learning.....	21
2.6 Coping mechanisms put in place and its effects on teachers participation on teaching and learning	22
2.7 Summary of literature review	24
2.8 Theoretical framework.....	25
2.9 Conceptual framework.....	26
CHAPTER THREE	28
RESEARCH METHODOLOGY.....	28
3.1 Introduction.....	28
3.2 Research design	28
3.3 Target population	29
3.4 Sample size and sampling procedure.....	29
3.5 Research instruments	30
3.6 Instrument validity	31
3.7 Instrument reliability.....	32

3.8 Data collection procedure	33
3.9 Data analysis techniques	33
3.10 Ethical considerations	34
CHAPTER FOUR.....	35
DATA ANALYSIS, INTERPRETATION AND DISCUSSION	35
4.1 Introduction.....	35
4.2 Questionnaire return rate.....	35
4.3 Demographic information of respondents	36
4.4 Finding on flood preparedness of teachers’ and how it influence teachers’ participation in teaching and learning.....	38
4.5 Findings on flood preparedness of students and teachers’ teaching and learning	43
4.6 Findings on how the damage of the school infrastructure affects the teachers’ participation	47
4.7 Findings on how mitigation measures put in place can influence teachers coping mechanism	54
4.8 Challenges.....	55
CHAPTER FIVE	59
CONCLUSION, SUMMARY AND RECOMMENDATIONS.....	59
5.1 Introduction.....	59
5.2 Summary of the study	59
5.3 Conclusion of the study	61

5.4 Recommendations of the study 63

5.5 Suggestions for further studies..... 63

REFERENCES 64

APPENDICES 68

Appendix I: Introduction letter 68

Appendix II: Head Teacher questionnaire 69

Appendix III: Teachers’ questionnaires..... 73

Appendix IV: Students questionnaire 77

Appendix V: Research permit..... 78

Appendix VI: Research authorization letter 79

Appendix VII: Research authorization letter 80

Appendix VIII: Research authorization letter..... 81

LIST OF TABLES

Table	Page
Table 3.1: Target population	29
Table 4.1: Questionnaire return rate	34
Table 4.2: Distribution of headteachers' and teachers' by gender	35
Table 4.3: Working duration in current school by headteachers	36
Table 4.4: Teachers' teaching experience in the same school	36
Table 4.5: Flood preparedness measures taken	40
Table 4.6: Effect of flood preparedness on teachers' participation in teaching and learning	41
Table 4.7: Schools affected by floods according to the learners	43
Table 4.8: Learners missing school due to floods	43
Table 4.9: Learners suffering from illnesses due to floods.....	44
Table 4.10: Teachers' teaching during the floods according to the learners	44
Table 4.11: Materials affected according to headteachers.....	47
Table 4.12: State of materials as per the teachers'	48

LIST OF FIGURES

Figure	Page
Figure 2.1: Conceptual framework on flood preparedness factors influencing teachers' participation in flood prone areas.....	26
Figure 4.1: Student who suffered from illness	39
Figure 4.2: Availability of teachers' during floods according to the learners	42
Figure 4.3: Students taught how to avoid waterborne diseases	45
Figure 4.4: Learners' awareness on what to do during a flood emergency	45
Figure 4.5: Damage of school structures during floods.....	47
Figure 4.6: Students books damaged by flood.....	49
Figure 4.7: Safe storage of teaching/learning materials.....	50
Figure 4.8: Flooded classrooms	51

LIST OF ABBREVIATION/ACRONYMS

DEO	District Education Officer
EFA	Education For All
FEMA	Federation of Emergencies Management Agency
INEE	Inter Agency Network for Education in Emergencies
IRIN	Integrated Regional Information Network
KNUT	Kenya National Union of Teachers'
KUPPET	Kenya Union of Post Primary
OCHA	Office for Co-Ordination of Humanitarian Affairs
PTA	Parents Teachers' Association
PTR	Pupil Teacher Ratio
UN	United Nations
UNICEF	United Nation Children Education Fund

ABSTRACT

The purpose of the study was to investigate the flood preparedness factors influencing teachers' in teaching and learning in public primary schools in Lower Nyakach Division, Nyakach District, Kisumu County, Kenya. Four research objectives were formulated to guide the study. They were to establish the flood preparedness of teachers' and how it affects teachers' in teaching and learning; the second research objective aimed to determine how flood preparedness of students affect teachers' in teaching and learning, the third objective aimed at determining how the damage to the schools infrastructure affects the teachers' in teaching and learning and the last objective sought to examine what mitigation measures have been put in place to respond to floods in Lower Nyakach Division. The study used the descriptive survey design. The target population included 14 head teachers' 49 teachers' and 178 students. Data was collected using questionnaires were used to analyze quantitative data while qualitative data was analyzed thematically according to the objectives. The findings revealed that lack of flood preparedness mechanisms and unfavourable working conditions, have affected teachers' participation in teaching and learning in Lower Nyakach Division, Nyakach District, and Kisumu County, Kenya. Therefore, in order to improve on teachers' participation in teaching and learning the headteachers' and teachers' suggested a need for adequate hardship/risk allowances. They also should be adequately prepared for disaster prevention control and mitigation by being trained on how to curb the flood disaster. Students also gave their views on proper storage of text books, having protective clothing to avoid waterborne illnesses, building of dykes along the rivers and improving of the road network to schools. The recommendations based on research findings found that the school management need to engage qualified professionals to assess the structural safety of damaged school buildings and construction of buildings, which can withstand floods to be introduced. There is a need for adequate hardship/risk allowances for the teachers' and disaster preparedness to be intergrated into the curriculum. Suggestions for further studies include; a need to carry out a study to establish influence of floods on academic performance in flood prone area of Lower Nyakach; a study on flood preparedness factors affecting students participation in public primary schools, and there is also a need to carry out a study on disaster risk reduction in public primary schools in Lower Nyakach.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Flood preparedness are measures put in place so as to curb flood disasters. The disaster preparedness include early warning systems, drilling of dykes, training of teachers' on how to handle emergencies, investing in strong school building structures before disasters take place in order to reduce the damages which are brought about by the floods (Ocholla, 2009). Teachers' teaching and learning refers to the opportunity of the teachers' to actually carry out their duties and activities related to the teaching and learning process in primary schools where they are teaching. Teachers' are likely to be overstretched and the quality of teaching and learning suffers, this is due to Pupil Teacher Ratio (PTR), which in 2005 was 25.1 worldwide. Those working in flood prone areas do not have skills in flood disaster preparedness. According to EFA goal, Monitoring Report (2008), primary education is represented in goal number two and it advocates for universal and compulsory education laws, 95.0% of 203 countries have so far implemented it, however when flood disasters have been experienced schooling systems are disrupted and this affects the fundamental rights of the child, the right to education. Many developing countries have crowded classrooms, poor school infrastructures and inadequate learning environments. Teachers' preparedness on floods is very essential in that, education opportunities also mitigate the psychological trauma, which may occur during the flood period. Education in

Emergency ensures dignity and sustains life by offering safe spaces for teaching/learning beyond education teachers' provide protection, nutrition, water and sanitation and health services Inter Agency Network for education in emergencies, (INEE, 2010).

Teachers' in the process of teaching refer to the duties they actually carry out and activities related to teaching and learning in the primary schools. In Kenya, the education sector consumes about 30.0% of public expenditure but still 1.8million children are out of school (Fredrick, 2009). One of the reasons is due to floods. The floods affects most schools and bring a lot of damage to the schools infrastructure such as classrooms, toilets /latrines, books, playground which are essential for provision of quality education. Flood preparedness is essential in that it helps create awareness and enhances teacher's service delivery. Flood as a disaster is associated with lateness, absenteeism, illnesses, inaccessible roads and more so it could affect educational standards of the school. Teachers' should thus prepare in advance in order to curb wastage in the learning programmes. According to International Federation of Red Crescent (2011), 120 million people in China were affected by floods in which five million were rendered homeless and 1000 were reported dead or missing. These affected schools and disruption of educational programmes.

In North West Pakistan in 2011, more than one million people were displaced by floods. More than 5000 people lacked services, infrastructure, safe drinking water in schools and health clinics (UNICEF, 2011). According to Wilsner and Adams (2003) flood disasters are more predictable than other disasters. They also noted that are among countries prone to floods. Pakistan, Thailand, Bangladesh, Myanmar, Haiti, Mozambique and Namibia. In 2010, almost 7 million children (50.0%) in Pakistan were out of schools putting it behind schedule in meeting the Millennium Development Goals (UNICEF, 2011).

In 2000, the worst floods affected half a million of students in Cambodia (United Nations Development Programmes, 2002). Floods may affect teachers' teaching and learning as most of the learners are displaced and drop out of school. Teachers' are therefore not able to teach effectively as the attendance is not adequate. In Kenya, the education sector consumes about 30.0% of public expenditure but still 1.8 million children are out of school (Fredrick, 2009) Weather factors being a contributing factor. The floods affects most schools and bring a lot of damages to the schools infrastructure such as classrooms, toilets/latrines, books and playground which are essential for provision of quality education. Ethiopia is affected by disasters making it a vulnerable country. It was affected by floods in January 2012 and the most affected areas were Afar and Amhara regions. This brought about a 50.0% dropout rate in that year. Whereas

in 2006 floods caused a severe impact in the Dire Dawa region. This disrupted educational programs (UNICEF, 2011).

According to Theron (2007), about twenty countries in Africa were affected by floods in the last decade of the twentieth century. Ideally, this would have an impact on educational programmes and hindrance to teachers' teaching and learning' participation. According to Emergency Appeal Hurricane Sandy (2012), the hurricane affected West Haiti in October 2012 causing heavy rains and flooding. A lot of public buildings and facilities including schools were damaged, Over 100 schools were closed down due to the damage and many others were completely destroyed. Flooding damaged teaching and learning materials in over 500 schools. In Myanmar (2010) a cyclone was experienced, that led to loss of children's lives and huge damages, which resulted to interruption in education. More than 4000 schools were damaged and other facilities like toilets, books and furniture were also destroyed. Teachers' teaching and learning may be affected when people are sheltered in schools. Floods in Niger, flood claimed two dozen lives forcing 75,000 people out of their homes. The homeless people were sheltered in schools, therefore disrupting the school calendar programmes. Other countries include Mozambique, Namibia, South Africa, which were all hit by floods ([http://planinternational.org/about plan/resource](http://planinternational.org/aboutplan/resource) of February, 2013).

According to Plan International (2013), floods affected Mozambique schools destroying books and desks. This would have an impact on the quality of education and its continuity respectively. According to Mutugi and Maingi (2011), disasters have brought the world to a standstill both locally and worldwide. When a disaster strikes, it brings about huge losses of human life and property. Disasters pose specific threats especially to poor developing nations more so due to low capacity of preparedness (Neyole, Otengi, Okoth, Makhamu (2006). Vulnerability to disasters caused by floods can be attributed to high rates of poverty.

According to Integrated Regional Information Network (IRIN), Office for Co-Ordination of Humanitarian Affairs (OCHA) Pakistan floods of 2010 destroyed 7,820 schools on Punjab, Sindh, Gilgit, Baltistan and Kashmir region. Save the children (2010) gave the figure as over 5,500 schools damaged while 5,000 people were displaced and were accommodated. Teachers' also lacked training on multigrade where students of different classes are put together. This normally happens when the students are put to learn in tents during the flood period. Teachers' working in floods prone areas do not have skills in floods disaster preparedness. Flood related fatalities constitute a whopping 60.0% of disasters victims in Kenya (UNEP, 2013).

Federation Emergencies Management Agency (FEMA) (2002) recommends all schools to be compliant with hazards happening by mitigating on plans for evacuation and coping mechanisms. The government through Ministry of Education encourages all public schools to take measures on the safety of both teachers' and learners Nyakundi (2008). However, safety measures to curb emergency and preparedness have not been given the seriousness it deserves. Teachers' and administrators lack training on flood preparedness. The two bodies representing teachers' the Kenya National Union of Teachers' (KNUT) and Kenya Union of Post Primary (KUPPET) have been calling for strikes since 1997-2013 (Daily Nation September, 2013) yet they only address salary increments and they do not address issues of teachers' working in emergency areas. It is time that they start thinking about it. To enhance teacher's participation they need to be healthy and safe, well skilled and motivated.

The Niger floods claimed 24 lives and 75,000 people were displaced. The homeless were sheltered in schools hence affecting school programmes. In Uganda the floods affected 300,000 with 17 lives were lost. Kenya has been experiencing floods havoc. The most affected areas are North Eastern, Western, Nyanza and Tana River. Lower Nyakach Division, Nyando, Kisumu East, Rachuonyo and Homabay (UNICEF, 2009; Masese, Opiyo, Okayo, Ombui, 2012). According to Kenya Red Cross society (2013) 75 people were killed, 19 sustained injuries, 99,043 were displaced by flash floods in different parts of

Kenya. In Lower Nyakach Division Kasawo primary, Miruka primary and Ochwado primary experienced collapsed classrooms. In 2013, six thousand students had not reported to school for the second term this included twenty-five schools in Tana River and Nyanza, which were flooded. In Nyando about 40.0% of the schools are affected by floods every year, classes submerge, toilets get destroyed and floating waste exposes the teachers' and learners to a high health risk, (Ocholla, 2009, Okuom, Simatwa, Ole & Wichenje, 2012). Action Aid Kenya (2007) conducted a survey and revealed that floods is basically taken as the most common disaster and occasionally has an impact to human life and infrastructure.

1.2 Statement of the problem

Floods cause a lot of harm and destruction year in year out but if drastic measures towards floods disaster preparedness are put in place then the damage would be reduced (Ocholla, 2009). Learners are hardly hit and in most cases, teachers' plight is not addressed. A teacher may only participate well in a conducive environment with proper infrastructure, adequate resources and favorable working conditions. When floods strike teachers face high health risks like water- borne diseases due to insufficient clean water, bilharzias, typhoid to name but a few. Schools calendar also is disrupted. (Nyando District Development Plan, 2008-2012). Lack of early warning system in disaster preparedness and low capacity of teachers' make schools in a vulnerable state (Nicolai and Triplehorn, 2003).

Education is the backbone of a country's development and this is why the government allocates a huge budget towards education sector. The Dakar framework (2000) stresses that to achieve EFA the government needs to enhance the status, morale and professionalism of teachers' and enable them to participate in actions affecting their professional lives and teaching environment. Sufficient teacher salaries, both relative to other groups and in real terms, appropriate working conditions will motivate a teacher. According to the DEO Lower Nyakach Division, (2014) the teacher's services could be hampered during floods in which the education calendar is disrupted, therefore there was a need to look for an amicable solution in order to assist the teachers' to continue building this nation to greater heights and improve on education standards in this area. Lower Nyakach Division has been facing flood disaster for a long time. Learning programmes are normally disrupted and this affects teachers' in teaching and learning. So far, the government through constituency development funds is trying to build new toilets.

In most schools, teachers' are unhappy about the exclusion of hardship allowances yet they are suffering during floods. None of the teachers' would wish to work under such circumstances. The World Bank (2005) revealed that low teacher morale leads to high teacher absenteeism and attrition, which are caused by poor working conditions. Ellis and Dick (2002) found out that the teachers' who are serving in rural communities in developing countries are facing similar

challenges like lack of access to transportation, displacement and poor working conditions. Lower Nyakach Teachers' encounter problems when they do not have flood preparedness skills. This hinders their participation in schools where they teach. The main challenges that they face includes lack of access, displacement and poor working conditions. According to Republic of Kenya (2010) flood disaster have been recurring and in most cases disrupted learning by affecting schools and damage to the educational infrastructure. Hence, an impact on teachers' teaching and learning generally.

1.3 Purpose of the study

The purpose of the study is to investigate flood preparedness factors influencing teacher's participation in teaching and learning in public primary schools in Lower Nyakach Division, Kisumu County, Kenya.

1.4 Objectives of the study

The study intended to achieve the following objectives:

- i. To establish the flood preparedness of teachers' and its influence on teaching and learning in public primary schools in Lower Nyakach Division.
- ii. To determine the flood preparedness of students and its influence on teaching and learning in public primary schools in Lower Nyakach Division.

- iii. To determine how the damage to the schools infrastructure influence the teacher's participation in teaching and learning in public primary schools in Lower Nyakach Division.
- iv. To examine how the mitigation measures that influence teacher's coping mechanisms in teaching and learning in public primary schools Lower Nyakach Division.

1.5 Research questions

The following were the research questions in this study:

- i. To what extent does floods preparedness of teachers' influence teachers' participation in teaching and learning in public primary schools in Lower Nyakach Division?
- ii. How does flood preparedness of students influence teachers' participation in teaching and learning in public primary schools in Lower Nyakach Division?
- iii. How does damage to schools infrastructure influence teacher's participation in teaching and learning in public primary schools in Lower Nyakach Division?
- iv. What are the coping mechanisms put in place to respond to floods disaster preparedness in public primary schools in Lower Nyakach Division?

1.6 Significance of the study

The findings of the study may provide information to the Ministry of Education on how disaster preparedness of teachers' in public primary schools may help in

enhancing of teachers' in teaching and learning more so in flood-prone areas of Lower Nyakach Division It may further provide relevant measures and knowledge into which the Ministry of Education would base its decisions concerning preparedness in our primary schools. The students may also increase their understanding and awareness of risks related to floods. This enhances teacher's conducive atmosphere, which enables them to work effectively and efficiently. The Ministry of Education Science and Technology may include disaster preparedness in the curriculum and the results of the study may be used to make recommendations on disaster preparedness for all schools found in flood prone zones in Kenya.

1.7 Limitation of the study

According to Best and Khan (2009), limitations are conditions beyond control of the researcher. This study covered Lower Nyakach Division, Kisumu County only due to finance and time constraints. The schools in Lower Nyakach are situated far apart and this posed a problem of distance, however the researcher used a motorcycle to enhance the movement and covered many schools as possible. The researcher also had no control over the attitude of the respondents, which might have affected the validity of the responses. The study also concentrated on teachers' in public primary schools only in Lower Nyakach.

1.8 Delimitation of the study

According to Best and Khan (2008), delimitations are boundaries of the study. The study delimited itself to head teachers', teachers' and students in primary schools in Lower Nyakach. The data collected focused on public primary schools in Lower Nyakach Division.

1.9 Basic assumptions of the study

The study made the following assumptions.

- i. The researcher assumed that respondents would be honest and give correct information.
- ii. The researcher assumed that students, teachers', head teachers' in Lower Nyakach Division are prepared for floods.

1.10 Definition of the significant terms

The following are the definitions of significant terms used in the study:-

Coping mechanism- refers to a dynamic process in which one adapts to external changes. It can be weakened or strengthened by a wider policy and institutional action.

Disaster preparedness- refers to the measure taken in advance to ensure response to the impact of floods by providing effective early warning and evacuating of the victims.

Displacement of teachers'- refers to a situation where teachers' do not have a proper place for them to teach or stay in Lower Nyakach Division.

Floods - refers to the unusual presence of water land to a depth, which affects normal activities.

Infrastructure- refers to road network, building and other teaching and learning materials.

Mitigation measures- refers to the process of minimizing the effect of floods by educating teacher's administrators on floods reduction.

Participation- refers to the opportunity to enable them carry out activities related to the learning and teaching processes in public primary schools in Lower Nyakach Division. It also meant that apart from teaching, the teacher should be able to complete their syllabus and reduce the educational wastages that may occur as a result of floods.

Preparedness of teachers'- refers to the preparedness of teachers' in terms of early warning systems and training in disaster risk reduction

Students' preparedness- refers to the preparedness of students in terms of attendance and training on disaster risk reduction.

1.11 Organizing of the study

The study was organized in five chapters. Chapter one consisted of background of the study, statement of the problem, purpose of the study, research objectives and questions, significance, basic assumptions, limitation, delimitation and

organization of the study. Chapter two contained literature review on issues affecting teacher's participation like inaccessibility, lack of training on disaster risk reduction, attendance, mobility, teachers' working conditions and damage to the school infrastructure in flood prone areas, theoretical framework as well as conceptual framework. Chapter three concentrated on research methodology and comprises of the research design, target population, sample size and sampling procedures, research instruments, validity and reliability of instruments, data collection procedures and data analysis techniques. The fourth chapter presented data analysis, interpretation of data and discussions of findings. Finally, chapter five provided the summary, conclusions, recommendations and suggestions for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed literature related to flood preparedness and how it influence teachers participation in teaching and learning activities. The student preparedness and teachers participation in teaching and learning, damage to schools infrastructure influencing teachers' in teaching and learning and coping mechanism put in place to enhance teacher's participation in teaching and learning.

2.2 Concept of flood preparedness and teacher teaching and learning

In America, the Hurricane Katrina displaced people in United States. This made the Country experience long-term recovery periods. Floods costs the nation average of \$3.7 billion annually lives of 110 people were lost as a result of flash floods. This could have an effect on schools in which teaching and learning processes are affected (American Red Cross) [httpwww.routledge.com](http://www.routledge.com).

In India, more than 2,500 villages and hundreds of people were affected by floods. The Jamuu and Kashmir floods occurred in September 2014 were the worst floods in more than 60 years. This would have effect in teaching and learning activities. Whereas in Japan, resident's preparedness for floods focused on Tokas floods disaster in Magoya (2000), whereby the city got flooded and affected people. This would affect teaching and learning. In 2007, severe

flooding affected Bangladesh in which a million homes were damaged and three million people were affected by continuous flooding. The impact of natural disasters had put hazards on life and livelihoods increasing globalization is aggravating property and vulnerability. In the last decade, 59,000 people were reported killed and 195, 890, 500 were affected in South Asia alone, (World Disaster Report, 2000).

According to United Nations International Strategy for Disaster Reduction (UNISDR, 2007) describes the occupants of schools as vulnerable people who need special attention and protection respectively. Good quality teaching and learning environments assure effective learning outcomes (UNESCO, 2000). According to Gosh (2006) in disaster management, flooding is the most common of all environmental hazards reasons being that they come with a lot of risks because lives are lost and properties are also destroyed. Teachers' are affected by natural disasters such as floods, earthquakes and strong winds therefore it has not been an easy task to deal with disasters leaving teachers' in a helpless situation. This problem has been recurring and therefore there is need for amicable solution to be found (Ocholla, 2009). There is need to create awareness and maintain environments whereby teachers' are able to discharge their duties effectively. The UNISDR (2007) states that it should be a concern for everybody including teachers' to build a culture of safety by being prepared before a disaster happens.

Teachers' should have knowledge on how to maintain dykes and other flood management structures to be put in place. Flood warnings should be delivered timely to avoid any calamities and destruction. Appropriate communication should be set up to provide advanced flood warnings to the community. All these are forms of preparedness to help in avoid wastage in educational programmes. The 2006-2007 world campaign on disaster risk reduction initiated safer school building and made disaster risk reduction be taught in schools (ISDR, 2006-2007). According to IFRC (International Federation of Red Crescent, 2008). In China 120 million people were affected by floods in which five million were rendered homeless, 1000 were reported dead or missing. This affected schools and interfered with teacher's participation and disruption of educational programmes for that matter. There is need for teacher's preparedness.

2.3 Teacher preparedness and teachers' teaching and learning

In Nepal, more than 200,000 people in 18 districts had been affected by massive flooding in august 2014. Over 18,000 homes were destroyed. These affected schools and hence disruption of educational programmes. In London, flooding is one of the greatest risks of 21st century. The effects of floods can have a natural and international impact. Millions of people live in the flood plan of River Thames. Many people who work, visit or travel to these vulnerable areas would be devastating and affects not only London but the whole of United Kingdom. A report by Environmental Agency (2007) suggested loss of staff time alone in the

civil service costing \$10m per day. The Mozambique Ministry of Education is taking great strides to ensure schools remain resilient to the impacts of these disasters and provide nurturing environments for children. A joint initiative has been developed with the aim of reducing the risk of damage to schools infrastructure.

According to EFA goal number two, teachers' are needed to provide quality education and the teaching fraternity is critical in reaching EFA goals. Therefore, when teachers' are not able to provide the services it becomes a problem. Teachers' working in flood prone areas have difficulty in their day to day activities in the education sector, (EFA Monitoring Goals Report, 2008). Lack of preparedness in teacher is an issue that should be looked into. Teachers' need to have knowledge, innovation and education in which incase of a disaster; they can be able to build a culture of safety and resilience, so as to avoid future disaster. Teachers' working in flood prone areas may never cover the syllabus within the stipulated period hence lagging behind. The situation sometimes may lead to drop out and repetition of same learners (Okuom, 2008). Teachers' participation in teaching and learning could sometimes be affected by distance. Most teachers' trek between 3-5 kilometers with damaged and inaccessible roads. In Lower Nyakach Division, there are a number of schools, which during the flood period are affected by the floods.

Long rains begin in May to July and short rains in September to October. During this, period teachers' have difficulty due to floods and hence could affect their participation (Ocholla, 2009). According to Ambuchi (2011), there is a need to develop awareness on the prevention and management of flood disasters. This should be practiced and adopted as school's culture where specialists and teachers' are involved. This would in turn assist the teachers' in being prepared and also to curb wastages in the educational programmes. Head teachers' and teachers' should be adequately prepared for disaster prevention control and mitigation (Mutugi, 2009), disaster risk reduction should be developed and implemented in all public schools located in flood prone areas. These should include early warning signs, practicing evacuation programmes, develop communication, buildings of schools in raised grounds and capacity building for teachers' and head teachers' by being trained on issues of disaster risk reduction this will go a long way in enhancing teachers' teaching and learning.

2.4 Student preparedness and teachers' teaching and learning

Student's preparedness is quite essential due to the fact that they are the worst hit by floods. This happens when they cannot cross-flooded rivers and streams. This affects their learning programmes and some of them can drown and lose their precious lives (Okuom, 2012). According to (Inter-Agency Network for Education in Emergency, 2010) INEE good practice guide train teachers' to meet psychosocial needs for learners. When floods strike learners, experience

psychological trauma and they need psychological intervention by teachers' or seek assistance from mental health professional present in emergency education programs.

Students preparedness is important due to the fact that after the floods, learners may easily suffer water borne diseases such as Cholera, typhoid, Bilharzia and Malaria, stagnant flood water can contribute to the diseases. The World Bank (2005) reports that lack of improved water control source can contribute to diseases. When floods occur students face difficulties in reaching their institutions of learning an example being Katuwit Primary School in Baringo whereby learners and teachers' have to wade through flood-water in improvised boats. They risk getting drowned and also being harmed by crocodiles. Currently the school has not opened for second term 2014 (News Bulletin Citizen, 10th May 2014). This affects the school and contributes to high level of Absenteeism due to lack of proper safe-learning spaces, hence affecting teacher's participation.

According to United Nations Development Programme (2002) in Cambodia school are frequently affected by floods and a total of 1866 schools are located in flood prone areas. The schools close for up to one and a half months. This affects learners contact hours and affects the standards of education. Students should be trained on life and survival skills to enable them deal with the flood disasters (INEE, 2010).

2.5 Damage to schools infrastructure and teachers' teaching and learning

Damage to schools occurs after heavy floods. Every year in Nyando some classroom walls and toilets collapse during floods and this poses a lot of danger to the learners and teachers' (Ocholla, 2009). According to Emergency Appeal Hurricane Sandy (2012), the hurricane affected Haiti causing heavy rains and flooding. A lot of public buildings and facilities like schools were destroyed, over 100 schools were closed and many others completely destroyed. Damage to more than 4000 schools occurred in Myanmar (2010) after a cyclone was experienced children lost their lives other facilities like toilets, books and furniture were also destroyed. Countries like Mozambique, Namibia and South Africa were hit by floods. In Mozambique flood destroyed books and desks in schools this affected the teaching and learning programmes and this would affect teachers' participation and disruption of children's education it could also have an impact on the quality of education and its continuity respectively [http/planinternational.org](http://planinternational.org) (2013). The Mozambique Ministry of Education is taking great strides to ensure schools remain resilient to the impacts of these disasters and provide nurturing environments' for children. A joint initiative has been developed with the aim of reducing the risk of damage to schools infrastructure.

In Nepal Kashi River break its embankments in 2008 and caused a disaster in eight villages. The floods affected 67 schools, walls of 15 schools collapsed causing damage to school furniture and other facilities. This deprived students of

education and hence affected teacher's participation. In Nyando District, it was established that 40.0% of schools were affected by floods every year, walls collapsed, toilets got destroyed and floated, the wastes on flooded areas exposing learners and teachers' to high health risks (Ocholla, 2009). In Philippines, for instance measures have been put in place to reduce and manage disaster risks and increase their resilience. A commendable achievement in environmental management was through a policy on Disaster risk reduction and management Act of 2010.

2.6 Coping mechanisms put in place and its effects on teachers participation on teaching and learning

Coping mechanisms refers to a dynamic process in which one adapts to external changes. It can be weakened or strengthened by a wider policy and institutional action. On flood preparedness in Lower Nyakach, teachers need several mitigation measures to equip them better. These would include advocacy, protective clothing, safe structured and better road networks. Knight (2012) described mitigation measures taken in flood prone areas. It is hence necessary to develop an emergency communication prior to the disaster, evacuating people to safer areas, training of teachers on disaster risk reduction by holding workshops and implementation on flood drills in schools which has not been easy due to lack of sufficient funds, the government should look into it in order to have an amicable solution to this problem.

Mitigation measures are strategies put in place to address a particular problem. On flood preparedness in Lower Nyakach teachers' need to be well equipped in form of advocacy, protective clothing, safe structures and better road networks. Knight (2012) described mitigation as measures taken in flood prone areas. It is hence necessary to develop an emergency communication prior to the disaster, evacuating people to safer areas, training teachers' on disaster risk reduction by holding workshops and implementation of flood drills in schools which has not been easy due to lack of sufficient funds, the government should look into it in order to have an amicable solution to this problem.

Coping Mechanisms include heeding to early warning systems, evacuation of teachers'/learners to safer areas, storage of teaching/learning materials, training of teachers' on flood preparedness/DDR Skills, provision of safe structure, better road networks, implementation of the use of safety manual guide by Ministry of Education Science and technology and covering of the syllabus to avoid wastages. In October 2011, there was massive flooding in South East Asia and as a result of frequent cyclones 8 million people were affected in Cambodia, Laos, Philippines, Thailand and Vietnam. 745 people died including 200 children. In Cambodia, alone 80 children lost their lives from drowning. The main aim of \$ 600,000 emergency operation to save lives and protect livelihoods by averting damaging, coping mechanisms which were being adopted www.un.org/apps/news

2.7 Summary of literature review

Flood preparedness is quite essential to our primary schools, more so those in flood prone areas. This will go a long way in addressing issues to do with flood preparedness in which teacher's participation will improve and no wastage of educational opportunities for the learners. FEMA (Federation Emergencies Management Agency); (2002) recommends all schools to be compliant with hazards happening by mitigation, planning for evacuation and coping mechanisms.

Mozambique had initiatives aimed at building safer schools to protect children from disaster. The Mozambique Ministry of Education is taking great strides to ensure schools to protect children from disasters. The Mozambique Ministry of Education is taking great strides to ensure schools remain resilient to the impacts of these disasters and provide safer environments. A joint initiative has been developed with aim or reducing the risk of damage to schools infrastructures in 2013 floods affected 250 classrooms in Limpompo. According to UN Habitat 60.0% of the schools are exposed to natural disasters. In Ghana at Tolon/Kumbungu, Labour was affected due to displacement of people and outbreak of diseases. Infrastructure such as housing, schools, markets were affected. All the livelihood outcome should be taken care of whenever a flood disaster occurs.

2.8 Theoretical framework

The study was based on Maslow's Hierarchy of needs (1970). Once the physiological and safety needs are met, one may identify himself or herself as a successful person. In this study, once the teachers' are safe and have all it entails for a conducive working environment, they were able to work effectively and efficiently. Hence, the standards of education were uplifted. Some of the psychological issues included safety of buildings and safety to schools, and also provision of safe teaching and learning materials. Inaccessibility to the schools may lead to absenteeism and the non-coverage of the syllabus. As far as preparedness of the teachers' is concerned, the Ministry of Education made a follow up and saw that safety standards for schools was maintained following the underlined safety standards manual to bring about safety and resilience of teachers' in the affected schools. Once the welfare of the teachers' had been catered for, they were motivated to work efficiently and effectively. The learners were also available for the lessons; this augured well with the teachers'. So far the knowledge gaps enforced included monitoring and implementation of the safety measures were done. The teachers' should also be trained on how to handle educational programmes during the flood period.

2.9 Conceptual framework

The conceptual framework in figure 2.1 illustrates how variables under the study are related and influenced each other.

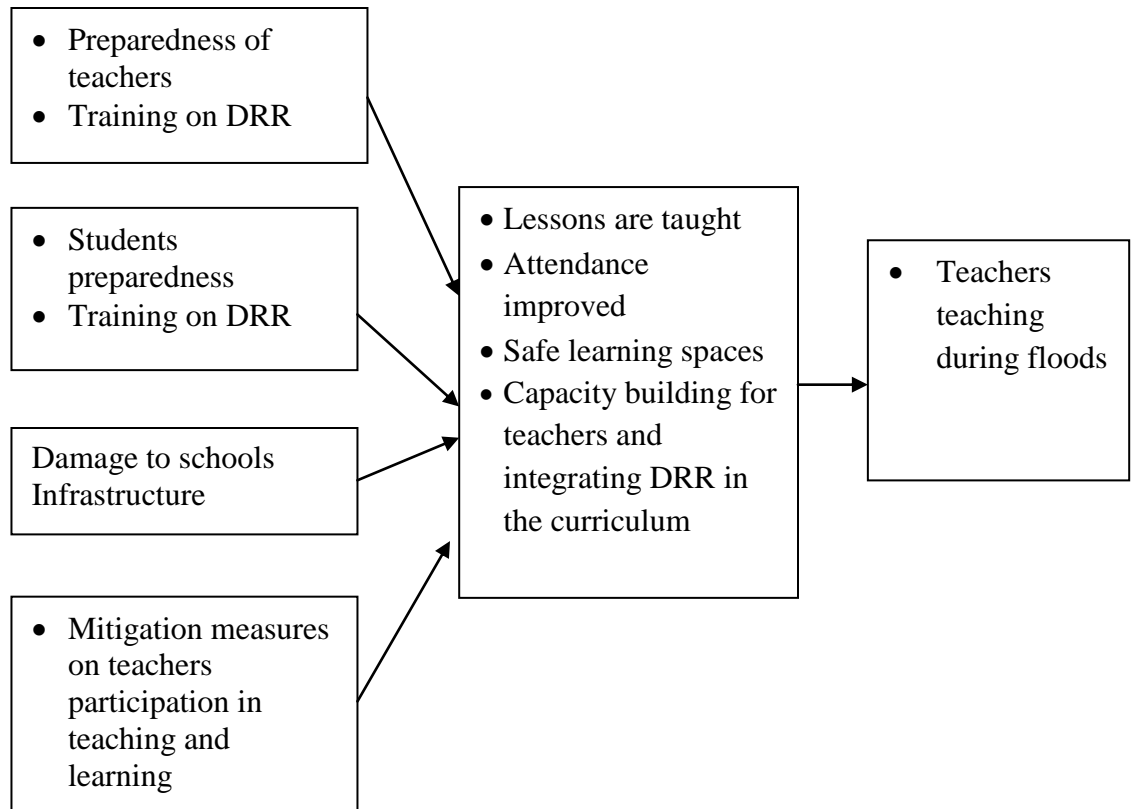


Figure 2.1: Conceptual framework on flood preparedness factors influencing teachers' participation in flood prone areas

The figure shows how lack of preparedness is affecting teachers' teaching and learning. It also shows how lack of student's preparedness also affects the teachers' teaching and learning. The damage to the schools infrastructure also disrupts teaching and learning activities. Plans on how to have disaster

preparedness in schools will go a long way in responding to future disasters.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter covered the various methods that were used by the researcher in carrying out the study. It contained the research design, target population, sample size and sampling techniques, research instruments, validity and reliability of instruments, data collection procedure and data analysis techniques.

3.2 Research design

A research design is a plan or blue print of how you intend to conduct the research, (Strydom et al, (2005). A closely related definition offered by Huysmans (1993) is a plan or blue print according to which data is collected to investigate the research hypothesis or question in the most economical manner. Descriptive survey was used in this study because it enabled the researcher to obtain information that described existing phenomena by asking individuals about their perceptions, attitudes, behavior and values. This design was therefore, deemed appropriate, as it enabled the researcher to reach as many respondents as possible within a short time and obtain the real picture as at the ground.

3.3 Target population

According to Mugenda and Mugenda (2003), target population is that population in which a researcher wants to generalize the results of the study 10.0 - 30.0% is enough representation. The target population in Lower Nyakach Division included 22 schools, 22 headteachers', 182 teachers' and 3530 students respectively. In all the sampled schools, students from class 8 were purposively sampled. 12 students from each of the 14 schools participated.

3.4 Sample size and sampling procedure

A sample is a small portion of a target population. Sampling means selecting a given number of subjects from a defined population as representative of that population (Orodho, 2002), Mugenda & Mugenda (2003) argue that for descriptive studies, ten percent of the accessible population is enough. Purposive sampling was used as the researcher intended to study only the most affected public primary schools in the flood prone areas of Lower Nyakach Division, (Mugenda and Mugenda, 2003) further note that purpose sampling allows a researcher to use cases that have the required information with respect to the objectives of the study.

Table 3.1: Target population

	Target population	Sample size	Percentage
No of head teachers'	22	14	63.6
No of teachers'	182	49	26.9
No. of learners	3530	178	5.0
Total	3756	225	

Table 3.1, the 14 most affected schools were sampled. Simple random sampling was used to select the sample. 14 headteachers', 49 teachers', and 178 students were sampled. Questionnaires were administered. In all the sampled schools, the head teachers', teachers' and students participated. In all the sampled schools only students from class 8 participated, 12 students from each of the fourteen schools participated. As for the teachers' and students, random sampling procedure was used. Information was collected from the 14 headteachers', 49 teachers' and 178 students.

3.5 Research instruments

Structured closed ended and unstructured open- ended questionnaires. The head teacher's questionnaire had 4 parts. Part A- demographic data, part flood disaster preparedness of administrator, part C flood preparedness for student's part D- challenges. Teacher's questionnaire had 3 parts which included–part A

demographic data, part–B flood disaster preparedness of teachers’, part C challenges. Student’s questionnaire has 3 parts which include; part A demographic data, part B flood disaster education; part C students flood disaster preparedness. Information on the extent of disaster preparedness was obtained through a questionnaire administrated to the headteachers’, teachers’ and students.

3.6 Instrument validity

Mugenda and Mugenda (2003) define validity as the accuracy and meaningful inferences based on research findings. It is the ability of the instruments to measure what they are intended to measure. Since content validity cannot be represented numerically, but is determined subjectively through examination by a panel of judges, the developed instrument was scrutinized by the supervisors to establish whether they measure what they are intended to measure. The researcher did a pilot study in schools within Lower Nyakach Division It targeted 2 schools, 2 head teachers’, 10 teachers’ and 80 learners. Simple random sampling was done. Schools, which participated were given small papers indicating Y (yes) and N (No) after which the head teachers’, teachers’ and students picked them randomly. To ensure validity of the instruments is achieved, the researcher ensured all the questions were based on the research objectives. To add onto that all the questions were clear and easy to respond to and none was ambiguous.

3.7 Instrument reliability

Reliability is a measure of degree to which a particular measuring procedure provided consistent results or data after a repeated trial. It is the level of consistency with which an instrument achieves the same results upon successive trial over a period of time. This type of reliability assumes that there was no change in the construct being measured. In order to test the reliability of the questionnaire for this study, test- re- test technique was used. Questionnaires were given to the respondents, and then two weeks later the same respondents were given the same questionnaire again. Pearson product moment correlation coefficient was to be used to determine the reliability of the questionnaire and its results using this formulae.

$$r = \frac{\sum(X - \bar{X})(Y - \bar{Y})}{\sqrt{\sum(X - \bar{X})^2(Y - \bar{Y})^2}}$$

Where;

Σ = Is the symbol of summation

x= Are the scores of the first test

y= Are the scores of the second test

\bar{x} = Is the mean of x

\bar{y} = Is the mean of y

Franken and Warren (2000) says that Pearson products moments coefficient of correlation is one of the best known measures of association.

A correlation coefficient of 0.80 or more shall be considered high enough to judge the instruments as reliable for the study (Orodho, 2008).

3.8 Data collection procedure

A permit was obtained from the National Commission of Science Technology and innovation after getting a letter from the Department of Educational Administration and Planning University of Nairobi. The researcher paid a courtesy call to the County Director's Office in Kisumu and DEO Lower Nyakach Division. The researcher proceeded to Nyakach Sub-County and wrote a letter to the headteachers seeking for permission to carry out the study in their schools. The questionnaires were administered and collected by the researcher.

3.9 Data analysis techniques

This being a descriptive survey, data was analyzed both qualitatively and quantitatively. The questionnaires were assembled and serialized numerically. Data was systematically organized, coded, tabulated and analyzed. Statistical package for Social Sciences and Excel version 16.0 was used. It generated frequencies and percentages, which were used to describe the findings. In descriptive statistics, such as percentages and frequencies were used to present the qualitative data was analyzed thematically according to the themes in the research objectives.

3.10 Ethical considerations

The researcher sought permission from the County Director of Education to go to schools and from the head teachers' to administer questionnaires to the teachers' and also administered the questionnaires to the learners. The respondents were the head teachers'; teachers' and learners who were assured that the study was meant for academic purpose only, and that their responses would be treated with utmost confidentiality. The learners were assured that not even their teachers' would know their responses.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter focuses on the questionnaire rate, demographic information of respondents, presentation interpretation and discussion of the findings. The presentations were done based on the research questions. Demographic information was discussed first then the data analysis. Tables were used to present data while frequencies and percentages were used to interpret the findings.

4.2 Questionnaire return rate

The respondents involved were the headteachers', teachers' and the learners. They returned the questionnaires as tabulated in table 4.1.

Table 4.1: Questionnaire return rate

Respondents	Sampled	Returned	Percentage
Headteachers'	14	14	100.0
Teachers'	49	49	100.0
Learners	178	178	100.0
Total	241	241	100.0

Table 4.1 shows that out of 14 headteachers' sampled, 100.0% filled and returned the questionnaires, out of 49 teachers' sampled 100.0%, filled and returned the questionnaires, out of 178 students sampled 100.0% filled and returned the

questionnaires. The questionnaire return rate was well above 70.0% which according to Mugenda and Mugenda (2003) is an acceptable proportion and can be termed adequate.

4.3 Demographic information of respondents

This section covers the demographic information of the respondents. It focuses on the background information of the head teachers' and teachers' in the study. The demographic data for the head teachers' focused on the gender and the duration they have served as head teachers'. Data on the gender of the head teachers' showed that 79.0% were male while 21.0% were female. The data showed that there were few female primary head teachers' in lower Nyakach district. However, this great difference did not hinder their responses to the items in the questionnaire.

Table 4.2: Distribution of headteachers' and teachers' by gender

Gender	Headteachers'		Teachers'	
	Frequency	Percentage	Frequency	Percentage
Males	11	79.0	27	55.0
Female	3	21.0	22	45.0
Total	14	100.0	49	100.0

Similarly, data on teacher's on their gender showed that 55% were males while 45% were females. This shows gender disparity in a way. Many females should be considered for employment in the near future.

Table 4.3: Working duration in current school by headteachers

Duration in current school	Frequency	Percentage
Below 1 year	2	14.0
2-5 years	10	72.0
11-15 years	2	14.0
Total	14	100.0

The data implies that 72.0% of teachers' had been in current school for duration of between 2-5 years. 14.0% were in the current school from 11-15 years and 14.0% for below 1 year. They were therefore able to provide information on the effects of flood disaster on teachers' participation.

The teacher respondents were asked to indicate the duration they had served in the same school. They responded as shown below;

Table 4.4: Teachers' teaching experience in the same school

Duration in current school	Frequency	Percentage
Below 1 year	11	23.0
2-5 years	19	39.0
6-10 years	11	22.0
11-15 years	8	12.0
16 years and above	2	4.0
Total	51	100.0

Data in table 4.4 shows that 23.0% of teachers' had been in the current school for less than 1 year, 39.0% between 2-5 years, 22.0% of teachers' had been in the school for 6-10 years, 12.0% had been in the school between 11-15 years and 4.0% for 16 years and above. Cumulatively 77.0% of the teachers' had been in their current schools for 2 years and above which is an adequate duration for them to provide information for the flood preparedness factors affecting teachers' teaching and learning.

4.4 Finding on flood preparedness of teachers' and how it influence teachers' participation in teaching and learning

The respondents were presented with various statements that they were supposed to respond to, on teachers' flood preparedness and how it affects teachers' teaching and learning. The respondents included headteachers', teachers' and learners. The headteachers', teacher and learner respondents were asked whether their schools had ever been affected by floods. 71.0% of the headteacher's indicated that their schools were affected by the floods. Only 29.0% of the headteacher's indicated that their schools were not affected and this is because most of their schools had permanent structures which are not easily affected by floods. The teachers' were also asked whether their schools were affected by the floods. 71.0% of teachers' indicated that their schools were affected by floods and this hence affected their participation. This concurs with the head teachers' responses above. 71.0% of the learners also indicated that their schools were

affected by floods and this was due to the fact that they were not taught flood preparedness skills, which could safeguard them in case of floods thus affecting teachers' teaching and learning.

The headteacher and teacher respondents were further asked to indicate how often the floods affected their region. Majority of them indicated that the floods affected the region twice in a year; between April to May and then September to October. The headteacher respondents were then asked to indicate the last time their schools were affected by floods; majority indicated that between April to May 2014, 71.0% of the schools were affected by floods. This concurs with UNEP, (2013) which indicated that flood related fatalities constitute a whopping 70.0% of disaster victims in Kenya. The data on learner's responses on missing school showed that most of them missed school during the flood period. This was represented by 60.0 percent. Only 40.0 percent of learners were not affected by floods due to them having protective clothing, which they used when treading flood water This is an indication that even if the teachers' were in school their participation was affected by the learners absence.

The learners were further asked whether they suffered from any illnesses during the floods. Their respondents were as shown in Figure 4.1.

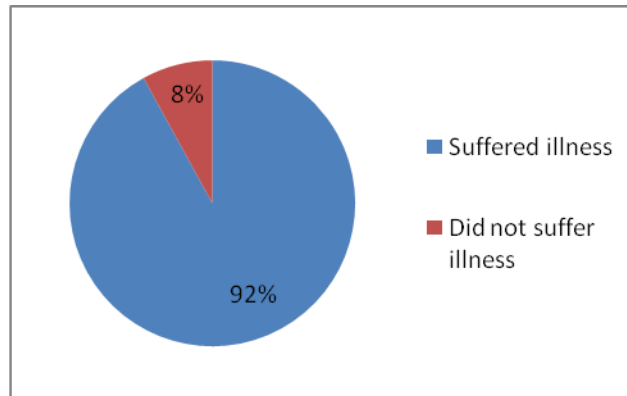


Figure 4.1: Student who suffered from illness

The data in Figure 4.1 shows that majority of students suffered illness during floods. This was represented by 92.0 percent while 8.0 percent were not affected. The high percentage of illness was due to lack of sanitation and treading in flood water. The further confirmed why 60.0% of the learners missed school as indicated earlier; resulting in interruption of teaching and learning. From these responses there is a clear indication that teaching and learning was affected. This concurs with IFRC's (2008) findings in China where 120 million people were affected by floods and schools were interfered with, hence disruption of teaching and learning activities.

The headteacher respondents were asked to indicate the flood preparedness measures their schools take before floods occur. Their responses were tabulated in Table 4.5.

Table 4.5: Flood preparedness measures taken

Measures taken	Frequency	Percentage
Early warnings	12	85.7
Temporary removal of students	1	7.17
Temporary removal of property	1	7.15
Total	14	100.0

The data in Table 4.5 shows that 85.7% of the heads indicated that there was early warning before the floods occurred in their schools, 7.15% indicated temporary removal of students while 7.15% indicated temporary removal of property. However, the headteacher respondents still indicated that the floods overwhelmed them thus affecting teaching and learning. The teacher respondents were also asked whether they had been trained in flood preparedness. The data indicated that 75.0% of the teachers' are not trained in flood preparedness skills while only 25.0% are trained. This implies that most teachers' are not trained on flood preparedness skills thus affecting their participation in teaching and learning.

The teachers' were further asked to indicate the specific flood preparedness skills they have been trained in. The 25.0% who indicated they were trained did not give any specific skills, an indication that the trainings may not be effective in an event of a flood. This may indicate that in an event of floods they would do very little thus hindering their participation in teaching and learning. This concurs with UNISDR (2007) which states that it should be a concern for everybody

including teachers' to build a culture of safety by being prepared before a disaster occurs.

The headteacher respondents were asked to indicate whether the flood preparedness of teachers' affected their participation during the floods. Their responses were as indicated in Table 4.6.

Table 4.6: Effect of flood preparedness on teachers' participation in teaching and learning

Responses	Frequency	Percentage
Affected participation	1	7.15
Did not affect participation	12	85.7
No response	1	7.15
Total	14	100.0

From the data in Table 4.6, flood preparedness of teachers' affected only 7.15% of the schools in the district while 85.7% were not affected by preparedness. 7.15% of the schools were not sure whether flood preparedness affected or did not affect the teachers' participation in teaching and learning. This would confirm an earlier indication in Figure 4.1 by the headteachers' respondents indicating that students were suffering from water borne illnesses and missed school.

The learners were then asked whether their teachers' were available during the floods their responses were as shown in Figure 4.2.

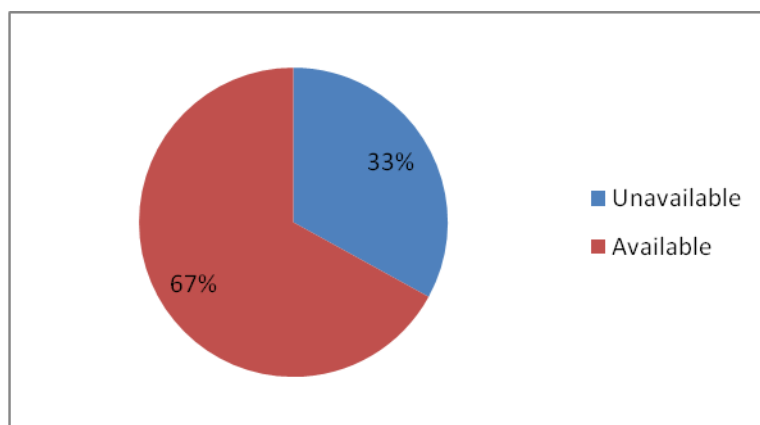


Figure 4.2: Availability of teachers’ during floods according to the learners

Figure 4.3 indicates that most of the teachers’ were unavailable during floods. This represented 67.0% of the teachers’ while only 33.0% of the learners had their teachers’ available. This is an indication that the teachers’ teaching and learning was affected as a high percentage of learners did not have their teachers’ in class. Learners were further asked to indicate whether their teachers’ taught effectively during the floods. The data indicated that only 26.0% of the learners had their teachers’ teaching effectively during the floods while 74.0% of them had their teachers’ ineffective, an indication of low teacher participation.

4.5 Findings on flood preparedness of students and teachers’ teaching and learning

The second research objective of the study was to find out how flood preparedness of students can affect teachers’ participation in Lower Nyakach

District. The headteacher respondents were asked to indicate whether their learners had been taught any flood preparedness skills.

Table 4.7: Schools affected by floods according to the learners

Response	Frequency	Percentage
Affected	126	71.0
Not affected	52	29.0
Total	178	100.0

From Table 4.7, it is clearly seen that 71.0% of the schools in the division were affected by floods while only 29.0% of them were not. The learners were then asked whether they missed school during floods. Their responses were indicated in Table 4.8.

Table 4.8: Learners missing school due to floods

Response	Frequency	Percentage
Missed school	106	60.0
Did not miss school	72	40.0
Total	178	100.0

Table 4.8 indicates that 60% of the learners missed school due to floods while 40% did not. This is an indication that even if the teachers were in school their teaching activities was affected.

The learners were further asked whether they suffered from any illnesses during the floods. Their responses were as shown in Table 4.9.

Table 4.9: Learners suffering from illnesses due to floods

Response	Frequency	Percentage
Suffered	163	92.0
Did not suffer	15	8.0
Total	178	100.0

The data in Table 4.9 indicates that 92% of the learners suffered illnesses due to floods while only 8% did not. The findings would confirm 60% of the learners missed school as indicated earlier in Table 4.8 resulting in low teacher participation in teaching and learning activities.

Table 4.10: Teachers' teaching during the floods according to the learners

Response	Frequency	Percentage
Effective'	47	26.0
Not effective	131	74.0
Total	178	100.0

The data in table 4.10 indicated that 26.0% of the teachers taught effectively during the floods while 74.0% of them were ineffective due to flooded

classrooms, inadequate teaching /learning materials, attendance due to water borne illnesses and lack of protective clothing such as gumboots.

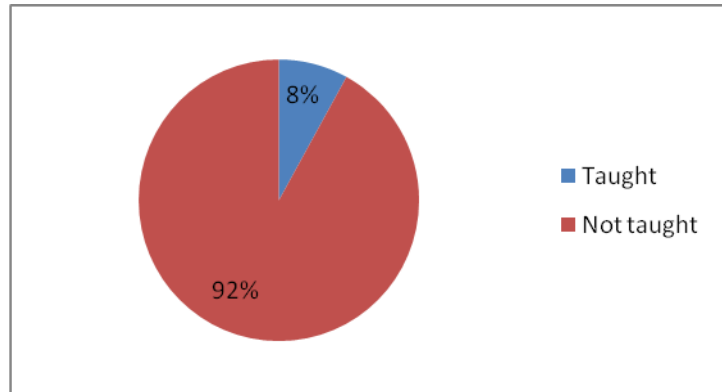


Figure 4.3: Students taught how to avoid waterborne diseases

Figure 4.3 indicates that only 8.0% of the schools had their learners taught how to avoid waterborne diseases while 92.0% had learners not taught. This is an indication that a high percentage of learners would be affected by water borne diseases making them to miss school. Their absence from school would then affect the teachers' participation. This concurs with the World Bank (2005) report that stated that lack of improved water control source can contribute to diseases.

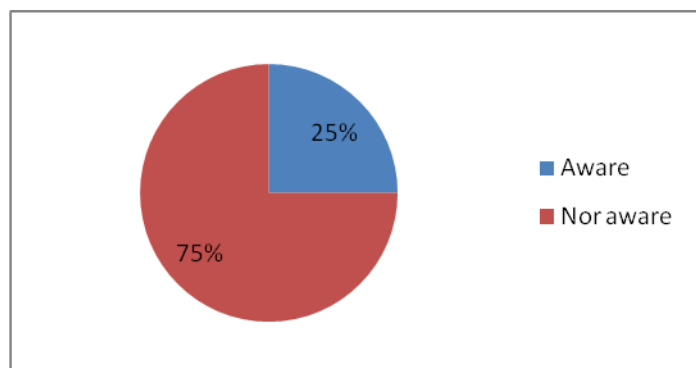


Figure 4.4: Learners' awareness on what to do during a flood emergency

The learners were then asked whether they knew of anything that they would do during a flood emergency in their school. The data indicated that 75.0% of the learners were not aware of anything that they can do in an event of flood emergencies in their schools while only 25.0% were aware of what can be done. This is an indication that in an event of flood emergency only 25.0% of the learners would be in school thus affecting the teachers' participation. According to INEE (2010), students should be trained on life and survival skills to enable them deal with flood disasters.

4.6 Findings on how the damage of the school infrastructure affects the teachers' participation

Objective three of the study sought to find out how the damage of school infrastructure affects the teachers' participation in Lower Nyakach District. The headteacher respondents were asked to indicate the kind of structures their schools have. Majority of them indicated both temporary and permanent structures.

The heads were further asked to indicate whether the structures affect teachers' participation in teaching and learning during floods. All of them agreed that the structures affected the teachers' participation. They were then asked when the floods caused any damage to the physical facilities. Their responses were as shown in Figure. 4.5.

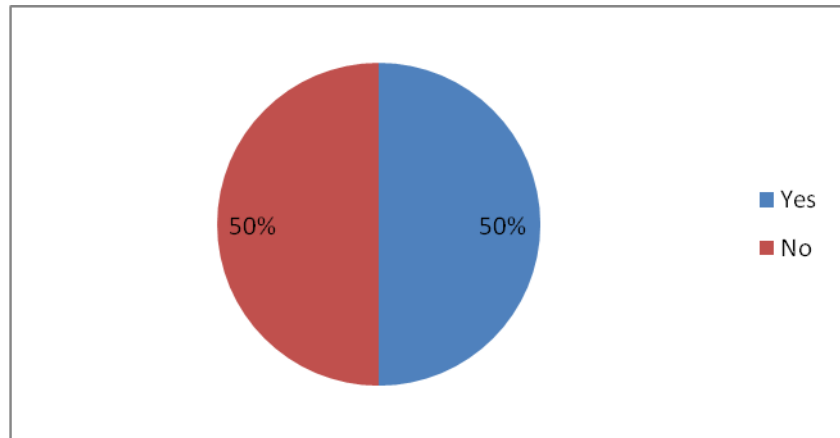


Figure 4.5: Damage of school structures during floods

From Figure 4.5, 50.0% of the schools had their structures damaged by floods while 50.0% were not damaged. They were then asked to indicate the most affected facilities.

Table 4.11: Materials affected according to headteachers

Facility	Frequency	Percentage
Textbooks	3	22.0
Toilets	7	50.0
Furniture	1	7.0
Equipment	1	7.0
Playground	2	14.0
Total	14	100.0

Data shows that 50.0% of the schools toilets were most affected by the floods. Followed by textbooks at 22.0% and playground at 14.0%. The least affected were furniture and equipment at 7.0% each. The findings are similar to a study by Asian disaster preparedness Centre 2008 in Cambodia, which affected textbooks,

furniture and equipment. It implies that textbooks were affected at 22.0%, furniture and equipments at 7.0%, the teachers' teaching and learning would be affected due to inadequate text books for the students. Given that, toilets are basic facilities for schools at 50.0%, their damages poses health and safety risks and it could lead to water borne diseases such as cholera, diarrhea and typhoid. This in turn leads to absenteeism as both teachers' and learners stay away from school due to illnesses and this would affect teachers' teaching and learning.

The teachers' too were asked to indicate whether there was any damage caused to the physical facilities during the floods. Their responses were as shown in Table 4.12.

Table 4.12: State of materials as per the teachers'

Facility	Frequency	Percentage
Textbooks	5	12.0
Toilets	42	86.0
Furniture	2	2.0
Total	49	100.0

Data from Table 4.12 shows that the most affected facilities were the toilets at 86.0%, followed by textbooks at 12.0% and least affected were the furniture at 2.0%. This concurs with the headteachers' findings where the toilets were the most affected at 50.0% of the schools.

The learners too were asked to indicate whether any of their books were damaged by the floods. Their responses were as shown in Figure 4.6.

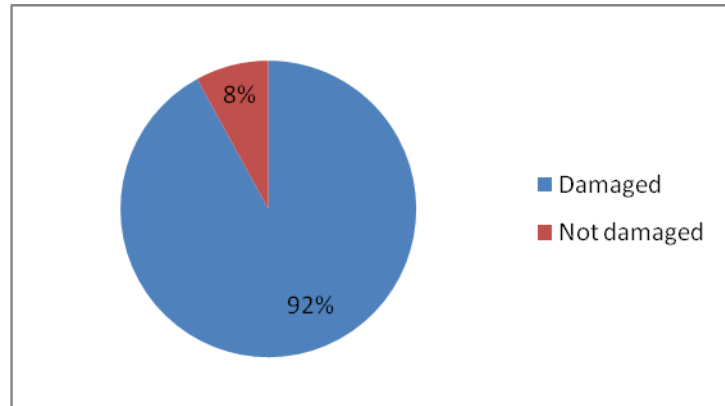


Figure 4.6: Students books damaged by flood

The data shows that according to the students 92.0% indicated that their text books were damaged by the flood while only 8.0% indicated that their books were not damaged. This implies that the teaching and learning activities would be disrupted and this affects teacher's participation. The headteacher respondents were then asked to indicate whether their teachers' had the necessary teaching/learning materials for use during floods. From the data, it was clear that 50.0% of the schools had, teaching/learning materials for their teachers' stored safely and 50.0% did not have proper storage facility. This implied that floods damaged the teaching and learning materials as most of the schools are destroyed during the flood period. The headteachers' were further asked to indicate where they stored the teaching/learning materials. Some of their indications included raised places and shelves.

The teachers' too were asked to indicate whether their teaching/learning materials are stored in a safe place to protect them from floods. Their responses were as shown in figure 4.7.

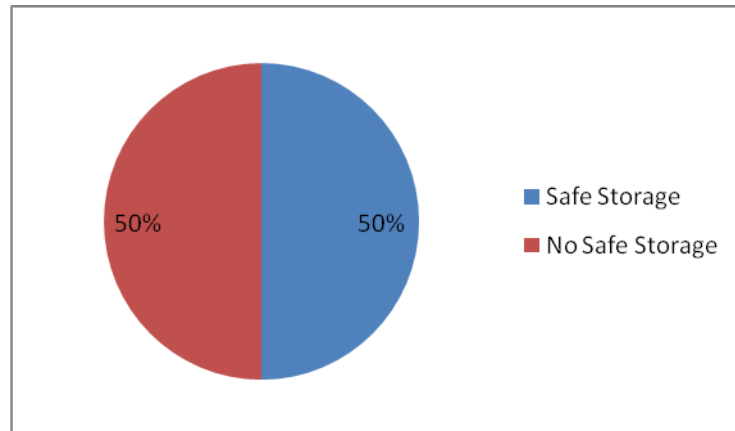


Figure 4.7: Safe storage of teaching/learning materials

The figure indicates only half of the teachers' had their teaching/learning materials stored safely while the other 50.0% had no safe place to store their teaching/learning materials. This implies that the teachers' would not be able to participate well due to lack of adequate teaching and learning materials. This concurs with the floods in April 2012 in Fiji whereby infrastructure such as classrooms, textbooks and furniture were damaged. The damages according to the education sector were estimated at (FJD) 889,332.

The headteachers' were also asked whether their classrooms were flooded, their responses were as shown in figure 4.8.

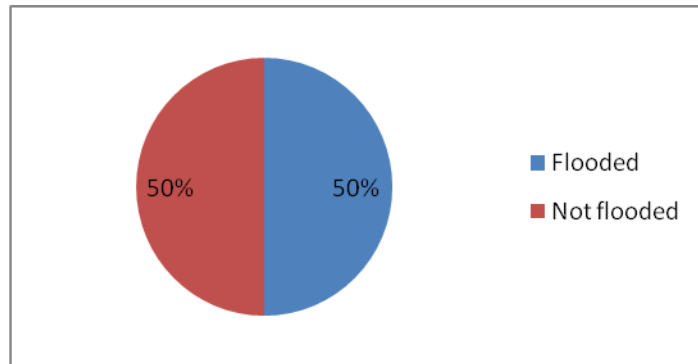


Figure 4.8: Flooded classrooms

From the data, shown 50% of the schools had their classrooms flooded while 50.0% did not have flooded classrooms. This is an indication that 50.0% of the schools had their teachers' not participating or they were in an alternative space. With classrooms having flooded, this would easily affect teacher's participation, as this is not a conducive atmosphere to work in. The headteacher respondents were then asked whether the flooding affected teachers' participation. Data showed that 50.0% of the headteachers' indicated that their schools were affected by the floods and 50.0% of them also indicated that their schools had no flooded classrooms.

The headteachers' were further asked to indicate whether their teachers' missed class as a result of the flooding. Their responses indicated that all the schools had teachers' missing classes due to flooded classrooms, an indication that teacher participation was affected. The headteacher respondents were asked to indicate whether their schools closed down due to floods. Their respondents indicated that none of the schools is closed due to the floods. The teacher respondents too were

asked to indicate whether their schools were closed. They too indicated that they were not.

The head teacher respondents were asked to indicate whether their schools were used as evacuation centres. None of the 14 headteachers' indicated their schools being evacuation centres. The teachers' too were asked whether their classrooms were used as shelter by the community. Their responses were similar to those of the headteachers', which indicated that none were used as evacuation centres. When asked whether the use of the classrooms affected their participation, no response was given since none of the schools was used as an evacuation centre.

When the headteachers' were asked whether their schools were used as evacuation centres none of them indicated that their schools were used as evacuation centres. Similarly, when the teachers' were asked whether their schools were being used as evacuation centres, they concurred with the headteachers'. When the learners were asked whether their schools were used as evacuation centres they also had their responses similar to the headteachers' and the teachers'. Being that most of the schools in lower Nyakach are affected by floods therefore, are not able to be used as evacuation centres hence an indication that no schools were being as evacuation centres.

4.7 Findings on how mitigation measures put in place can influence teachers coping mechanism

The fourth research objective was to examine how the mitigation measures put in place to respond to floods, can influence teacher participation in teaching and learning. The headteacher respondents were asked to indicate some of the measures of flood preparedness of teachers that should be taken to enhance teacher's participation in teaching and learning during floods. They gave several suggestions however, two featured prominently and they were; teachers being trained in flood preparedness skills and them having appropriate protective clothing during the floods.

On the compensation of teachers, 74.0% of the teachers indicated that they should be adequately compensated. Only 26% were contented with the hardship allowance given to them. There should be provision of better housing facilities.

Teachers' should also have a conducive atmosphere in their institutions. Implementation of the Safety Manual guide by the Ministry of Education should be made mandatory in flood prone areas. On waterborne diseases, sanitation measures should be emphasized to avoid students and teachers' being ill. Parents and teachers' association (PTA) should be actively involved by being brought on board on how to improve on safety measures and create awareness on flood preparedness. The parents should also be on the frontline in the provision of protective clothing, building of permanent classrooms, digging trenches around

the schools. These mitigation measures concurs with EFA Monitoring Goals Report (2008) which advocates for teachers' having a conducive atmosphere to enable them work effectively and efficiently.

4.8 Challenges

The headteacher respondents were asked to indicate some of the challenges facing their teachers' when the schools are affected by floods. Majority of the headteachers 93.0% indicated their schools were affected by floods, only 7.0% were not affected. They also indicated various challenges including inability to cover the syllabus, teachers' not being trained in flood preparedness mechanism, and unfavourable working conditions. This would be an indication that the teachers' participation in Lower Nyakach Division was very low. The teachers' on the other hand were asked whether they thought that flood, preparedness measures would enhance their teacher participation. Data clearly shows that flood preparedness would affect teacher participation standing at 98.0%. Only 2.0% of the teachers' thought that flood preparedness would not affect their participation. This implied that majority of the teachers' 98% indicated that their participation was affected. The teachers' were further asked how the community through school committee helped them during the floods. Majority of them 79.0% observed that the community's help was very minimal, while 21.0% were assisted. However, the few who indicated community's assistance, noted the following; they would help in opening the water trenches to drain flood water

faster, helping in reconstruction of damaged infrastructure such as toilets and opening of paths and roads leading to the schools. The teachers' were then asked to indicate whether they are compensated well for working in a flood prone area. Majority of the teachers' 84.0% indicated that there is hardship allowance; however, they noted that it was inadequate. They indicated their unwillingness to work in this area. Only that they had no alternative.

The teachers' were also asked for their suggestions concerning compensation of teachers' working in flood prone areas. The following are some of their suggestions; increase in the hardship allowance, being provided with better. Medical cover and provision of better housing. The indicated ways would ensure enhanced teacher participation. The teachers' were further asked structured questions on the mitigation measures that can be taken to make sure the syllabus is covered during floods. Most of them advocated for training in flood preparedness mechanisms, having school structures that can withstand floods, teaching learners on how to avoid infections from waterborne, diseases, having proper storage facilities for teaching/learning materials and them being compensated well for working in flood prone areas. The learners were also asked whether they knew of anything that may be done to help their teachers' so that their participation is enhanced. Their suggestions included provision of proper cabinet for keeping books, having protective clothes during floods, building of dykes along nearby rivers, improving road network to school, digging trenches

around the school, building permanent classrooms and the teachers' being compensated well. These suggestions would be in line with EFA's Monitoring Goals Report (2013/2014) which noted that teachers' should have reasonable standards of living and job satisfaction.

The headteachers' were finally asked to give suggestions on ways of assisting teachers' to ensure enhanced participation in teaching and learning. Their suggestions included; better compensation for teachers' through adequate hardship/risk allowance and insurance, having strong buildings that can withstand floods, having accessible roads to school, strong storage facilities for teaching/learning, materials, provision of staff housing, teachers' and learners being trained in flood preparedness mechanism and having a strategic plan to act as a guideline for the school and teachers' to have an amicable solution once and for all. These would be in line with Mutugi's (2009) view when he indicated that teachers' and administrators should be adequately prepared for disaster prevention, control and mitigation.

The study also revealed that there were challenges facing the teachers' in the area due to floods. From the headteachers' indications the challenges included inability to cover the syllabus, teachers' not having training in flood preparedness mechanisms, and unfavourable working conditions. All these challenges needed mitigation measures to be put in place to enhance teachers' teaching and learning

in Lower Nyakach Division. The teacher respondents indicated that flood preparedness can enhance their participation their indications stood at 98.0%. They also indicated other mitigation measures that would enhance teachers' teaching and learning. These included having school structures that can withstand floods, teaching learners how to avoid infections from waterborne diseases, having proper facilities for teaching learning materials and better compensation for teachers' working in flood prone areas. It was also noted that the community can also give assistance to ensure enhanced teacher participation. This they would do by opening water trenches, reconstructing damages infrastructure and opening paths and roads leading to schools.

CHAPTER FIVE

CONCLUSION, SUMMARY AND RECOMMENDATIONS

5.1 Introduction

This chapter presented the summary of the study, conclusions, recommendations and suggestions for further research.

5.2 Summary of the study

The purpose of the study was to investigate flood preparedness factors influencing teachers' participation in teaching and learning in public primary schools Lower Nyakach Division, Nyakach sub county, Kisumu County, Kenya. Four research objectives were formulated to guide the study. The first objective sought to establish how lack of flood preparedness of teachers' and how it affects teachers' participation in teaching and learning; the second research objective aimed to determine how lack of flood preparedness of students affect teachers' participation in teaching and learning; the third objective aimed at determining how the damage to school infrastructure affects the teachers' participation in teaching and learning and the last objective sought to examine how the mitigation measures put in place to respond to floods can influence teacher participation in teaching and learning in Lower Nyakach division. The study used descriptive survey design, which is a method of collecting information by administering questionnaires to a sample of individuals. The sample comprised of 14

headteachers', 49 teachers' and 178 learners. The main instrument in the study was the questionnaires.

Findings from the study revealed that 71.0% of the schools in the division were affected by floods. This made 60.0% of the learners miss school thus affecting the teachers' teaching and learning. It also revealed that 92.0% of the learners suffered illnesses due to the floods. On preparedness, the head teacher respondents indicated that 85.7% of the schools had some kind of preparedness including early warnings, temporary removal of students and property. However, it was noted that only 25.0% of the teachers' had training in flood preparedness mechanisms. All these were an indication that the teachers' participation in teaching and learning was low.

Findings on learner's preparedness revealed that only 25.0% of the schools had their learners taught in flood preparedness mechanisms, 8.0% of the schools had their learners taught how to avoid waterborne diseases and 25.0% of the learners aware of what can be done during a flood emergency. These indications implied that the learners attendance was affected in turn affecting the teachers' teaching and learning. On damage of schools infrastructure, it was indicated that 50% of the schools had their structures damaged during floods. The physical facilities damaged included toilets at 50.0%, textbooks at 22.0%, playgrounds at 14.0% and furniture and equipment each at 7.0%. The learners indicated that 92.0% of their books were damaged during the floods. It was also noted that 50.0% of the

schools had their teaching/learning materials not available, 50.0% of the schools also did not have proper storage facilities, and 50.0% of the schools had their classrooms flooded. However, the findings revealed that no school was used as an evacuation centre. The above indications implied that the teacher's participation in teaching and learning was affected during the floods.

5.3 Conclusion of the study

Based on the findings it was concluded that the teachers' flood preparedness influenced teacher participation in teaching and learning in schools. It was noted that 71.0% of the schools in the division were affected by the floods making 60.0% of the learners miss school. This was a result of only 25.0% of the teachers' being trained in flood preparedness mechanism. It was also noted that 74.0% of the teachers' were not effective during the floods and only 7.15% of them thought that flood preparedness on teachers' would affect their participation in teaching and learning. This was a confirmation of the findings that only 25.0% of them were trained in flood preparedness mechanisms. Learners flood preparedness influenced teachers' teaching and learning in the division for it was noted that 60.0% of the schools had learners missing school during the floods leading to low teacher participation in teaching and learning. This was also seen from the learners indication as they noted that only 26.0% of their teachers' were effective during the floods. It was also noted that 75.0% of the learners were not

aware of anything that they could do to enhance their teachers' teaching and learning.

Damage of the schools infrastructure affected the teachers' participation in teaching and learning. It was noted that 50.0% of the schools in the division were affected by floods with 50.0% of the toilets damaged, 22.0% of the textbooks damaged, 14.0% of the playground damaged and 7.0% of each of the furniture and equipment damaged. Classrooms were flooded at 50.0% of the schools and their storage facilities also damaged at 50.0%. An indication from the head teachers' showed that the damages led to teachers' missing classes, hence their low participation in teaching and learning. The study also got suggestions on mitigation measures that could be put in place to enhance teachers' participation in teaching and learning. These included; teachers' being trained in flood preparedness mechanism; schools structures built to withstand floods; teaching learners on how to avoid infections from waterborne diseases; having proper storage facilities for teaching/learning materials; teachers' being compensated well for working in flood prone areas; teachers' being provided with better medical cover; provision of better staff housing; having protective clothing; improving road networks to schools, digging trenches around the schools and building dykes along nearby rivers. It is hoped that with all these suggestions, teachers' teaching and learning in lower Nyakach Division would be enhanced.

5.4 Recommendations of the study

In order for teachers' participation in teaching and learning to improve in the public schools in Lower Nyakach Division, the researcher made the following recommendations based on the research findings.

- School management committees should engage qualified professionals to assess the structural safety of damaged school buildings, design, construct and maintain school facilities to be resilient whenever a disaster such as floods happens.
- Schools should develop and implement disaster management plans such as school safety manual according to MOEST.
- Teachers' unions should advocate for adequate hardship risks/allowance and insurance for teachers' working in flood prone areas and disaster preparedness should be integrated into the primary school curriculum.

5.5 Suggestions for further studies

- There is need to carry out a study to establish the influence of floods on academic performance in floods prone area of Lower Nyakach.
- A study on flood preparedness factors affecting student's participation in teaching and learning in public primary schools.
- There is need to carry out a study in Disaster Risk Reduction in public primary schools in Lower Nyakach.

REFERENCES

- Ambuchi, J. J. (2011), *Flood Preparedness and Management in Schools: A Case Study of Budalangi area in Busia County*. University of Nairobi: Unpublished Thesis.
- Best, J.W. & Khan, J.V. (2009), *Research methods in Education*, New Delhi – Prentice Hall.
- Disaster and Emergency Preparedness (2010), *Guidance for Schools in International*; Finance Corporation, World Bank Group.
- Draft for National Policy for Disasters Management in Kenya Ministry of State for Special Programme.
- EFA Global Monitoring Report (2008), *Strong Foundations; Early Childhood Care and Education*, UNESCO 2006, Paris, France.
- EFA, (2013/2014), *Teaching and Learning: Achieving quality for all*, UNESCO 2014, Paris, France
- Emergency Appeal Hurricane Sandy (2012).
- Federation Emergencies Management Agency (2002).
- Flood Damaged schools lead to education worries (2010). Retrieved from <http://www.irinnews.org/report/90292/Pakistan>.
- Friedrich, H. (2009), *International Education Statistics*. <http://www.childinfo.org/statistics>.
- G.O.K (2009), *Draft National Policy Disaster Management in Kenya*, Nairobi, Ministry of state for special programme.
- G.O.K (2009), *Flood Mitigation Strategy*. Nairobi, Ministry of Water and Irrigation.

Getting back to School in Flood Mozambique (2013), Retrieved <http://international.org>.
Harper and Row Publishers.

INEE (2010), *Minimum Standards for Education, Preparedness, Response, Recovery* 2nd
Ed. Canada.

International federation of Red Cross and Red Crescent societies (2008), *Early warning.
Early action*, Geneva. International Federation.

IRIN (2003), *Flood Damaged Schools Lead to Worries*. IRIN. Pakistan,
Kenya Red Cross (2013), *Floods in Kenya: Relieve Aid*, Kenya Red Cross.

Kenya Wrest Flood-Prone River onto the Straight and Narrow – Retrieved from
<http://www.trustorg/alertnet/news/Kenya>.

Knight, S. This you can do to Mitigate against Floods. Retrieved from
<http://blog.fema.gn>.

Kothari, C. R. (2009), *Research Methodology, Methods and Techniques*. 2nd edition New
Age International (p) United, Publishes New Delhi.

Masese, A., Opiyo, R.A Okoyo J. & Ombui (2012). *Impact of Flood on Attainment of
education for all (EFA) and Vision 2030 in Nyando Kisumu County*.
<http://www.admcrk.org/journal>.

Maslow A.H. (1970), *Motivation and Personality*. (2nd Edition)New York:

Ministry of Education (2008), *Safety Standards Manual; for schools in Kenya*. Nairobi.
G. O. K. Kenya.

Ministry of state for special programmme (2009), *Draft National Policy for Disaster
management in Kenya*, Nairobi, Government of Kenya.

- Mugenda O.M. & Mugenda A.G. (2003), *Research Methods Quantitative and Qualitative Approach*. Acts press.
- Mutugi M.W & Maingi S.G. (2010). *Disasters in Kenya*. A major public Health concern. Nairobi, JKUAT.
- Mutugi, M.W. & Maingi, S.G. (2011), *Disasters in Kenya: A Major Public Health Concern* available – Public Health and Epidemiology, Vol. 3.
- Nicolai, S. (2003), *Education in Emergencies – A tool kit for stating and Managing Education in Emergencies – Save the Children*.
- Nyakundi, H, Mwazo Y.A, Mogere S. (2008), *An Investigation into community perception and Response to floods risks in western Kenya*. World Bank relief.
- Nyando District Development Plan, (2008-2012), Vision 2030
- Ocholla S.O, Eitel, B, Olago D.O. (2010), *Vulnerability of schools to floods in Nyando River Catchment, Kenya*, Disasters Volume 34.
- Okuom, H.A, Simatwa, E.M.W, Olel, M. Waichenje, K (2012), *Assessment of factors that contribute to dropout of students in primary schools in flood prone areas of Nyando district, Kenya*. An analytical study. Educational Research.
- Orodho, J.A. (2004), *Techniques of Writing Research Proposals and Reports*. Nairobi: Masola.
- Parker, J.D. (2000), *Floods*. Tangler and Francis National Academy Press. ADPC
- Nyakundi Z.O. (2008), *Safety Standards Manual for Schools in Kenya*, Ministry of Education
- School with disaster preparedness (2011), Retrieved from <http://www.adpc.net>

Sherajali, N. (2009), *Floods leave schools recycling*. Retrieved from <http://www.namibia.com.na/index.php>.

Theron, M. (2007), *Climate Change and Increasing Floods in Africa: Implication for Africa's Development*.

Training Package on Natural Hazards and Early Warning for Training of Trainers in Kenya United Nations – International Strategy for Disaster Reduction – Federal Foreign office (2006-2007) UNISDR.

UNDP (2002), *Reducing Disaster Risk. A challenge for Development. A global report*.

UNEP (2006), *Gathering Storm: The Humanitarian Impact of Climate Change*.

UNESCO (2000), *World Education Report: The Right to Education*. Paris UNESCO Publishing.

UNESCO (2007), *Natural Disaster Prepared and Education for Sustainable Development* (online). Available from <http://www.unescobkk.org>.

UNESCO (2010), *Scientific Literacy and Natural Disaster Preparedness Reorienting Teachers' Education to Address Sustainable Development*. Guideline and tools (online) retrieved from <http://unesdoc.unesco.org>.

UNICEF Monitoring the Situation of Children and women
<http://www.childinfo.org/education-out> of school.

Wilsner, B. (2006), *Let our children teach us, A Review of the Role of Education and knowledge in Disaster Risk Reduction*. ISDR system Thematic cluster, performance on knowledge www.unisdr.org/kn

World Bank (2008), *Fighting Hunger Worldwide*:
<http://www.wfp.org/countries/Mozambique>.retrieved on 24th May 2009.

APPENDICES

Appendix I: Introduction letter

Odegi F. Eunice,
University of Nairobi
P.O. Box 92,
Kikuyu.

Dear Sir/Madam.

RE: REQUEST TO FILL QUESTIONNAIRE FOR RESEARCH PURPOSE

I am a postgraduate student in the department of Education Administration and planning, carrying out Research on **Flood Preparedness Factors Affecting Teachers' Participation in teaching and learning in Public Primary Schools in Nyakach District, Kisumu County.**

Your school has been selected to take part in the study. I kindly request your permission to gather the required information from your institution.

Thank you in advance for the anticipated co-operation.

Yours Sincerely,

Odegi Eunice

Appendix II: Head Teacher questionnaire

This questionnaire has four parts. You are required to answer all questions as per the given instructions. Your ideas will be taken with utmost confidentiality.

Part A: Demographic data

1. What is your gender?

Male [] female []

2. How long have you taught in this school?

Below 1 years [] 2-5 years [] 6-10 years []

11-15years [] 16 years and above []

PART B: Flood Preparedness of headteachers'

3. (a) Is your school affected by floods?

Yes [] No []

4. Which of the following preparedness measures the school take before floods occur?

Early warning []

Temporary removal of students []

Temporary removal of property []

5. Are teachers' able to teach well during the flood period?

Yes [] No []

6. What kind of structures does your school have?

7. When floods occur is there any damage caused to the infrastructure?

Yes [] No []

8. If yes, which facilities are most affected? Tick as many as possible

Textbooks [] Toilets [] Furniture []

Equipment [] Playground []

9. Are teachers' having the necessary teaching/learning materials for use during the flood period? Yes [] No []

10. When floods occur are classroom flooded?

Yes [] No []

11. If yes, do the teachers' miss class as a result of the flooding?

Yes [] No []

12. Does your school have dilapidated buildings?

Yes [] No []

13. When floods occur, are classrooms used as shelter by the community?

Yes [] No []

14. Does it affect teacher's participation in teaching and learning?

Yes [] No []

Part C: Flood preparedness for students

15. Are learners taught flood preparedness?

Yes [] No []

16. What are the challenges facing the students when treading in flood water?

17. Are the students taught how to avoid getting water borne diseases?

Yes [] No []

Part D: Coping mechanisms put in place to enhance teaching and learning

18. How do the teachers cope in terms of syllabus coverage?

19. What are the main coping mechanisms for teachers in this area?

20. Does the education get destructed?

21. If Yes, what is done to arrest the situation in No 24 above?

22. How does the community through school committee help the teachers during the floods?

23. Are the teachers compensated well for working in flood prone areas?

24. What are the suggestions concerning the compensation of the teachers?

Thank you for your participation

Appendix III: Teachers' questionnaires

This questionnaire has four parts. You are required to answer all questions as per the given instructions. Your personal information is not required.

PART A: Demographic data

Indicate your choice by marking the appropriate block with X

1. What is your gender?

Male [] Female []

2. How long have you taught in this school?

Below 1 years [] 2-5 years [] 6-10 years []

11-15years [] 16 years and above []

PART B: Flood preparedness of teachers'

3. Is this school affected by floods?

Yes [] No []

4. If yes, how often do floods affect this region?

5. Do the teachers' have flood preparedness skills?

Yes [] No []

6. Have the teachers' been trained on flood preparedness skills?

Yes [] No []

7. When floods occur does it affect your participation in teaching and learning as a teacher?

Yes [] No []

8. If yes, state

Part C: Damage of infrastructure

9. When floods occur is there any damage caused to the physical facilities?

Yes [] No []

10. If yes, which facilities are most affected?

Textbooks [] Toilets [] Furniture []

Equipment [] Playground []

11. Are teaching materials stored in a safe place to protect them from floods?

Yes [] No []

12. If yes, where were they are stored

13. Does the school close due to floods?

Yes [] No []

14. How does it affect teacher's participation in teaching and learning?

Yes [] No []

15. When floods occur, are classrooms used as shelter by the community?

Yes [] No []

16. Were you able to effectively carry out lessons after damage of school facilities?

Yes [] No []

17. If yes, briefly explain _____

Part D: Mitigation measures that can be put in place to enhance teachers' teaching and learning

18. Do you think that flood preparedness measures may enhance your participation in teaching and learning as a teacher?

Yes [] No []

19. Please explain your answer in (18) above

20. What measures are can be taken to make sure that the syllabus is covered during the floods period?

21. How does the community through school committee help the teachers' during the floods?

22. Are the teachers' compensated well for working in flood prone areas?

23. What are your suggestions concerning compensation of teachers' working in flood prone areas?

Thank you for your participation

Appendix IV: Students questionnaire

1. Have floods ever affected your school?

Yes [] No []

2. Did floods make you miss school?

Yes [] No []

3. Did you suffer from any illness during flood

Yes [] No []

4. Were any of your books damaged by floods

Yes [] No []

5. Are there roads accessing your school that were damaged by the recent floods?

Yes [] No []

6. Are your teachers' available during the flood period?

Yes [] No []

7. Are your teachers' able to teach effectively during this period?

Yes [] No []

8. Do you know what to do during a flood emergency at your school?

Yes [] No []

9. Is your school used as a shelter by the community during flood period?

10. Do you know of anything that may be done to help your teachers' so that their participation in teaching and learning is enhanced?

Appendix V: Research permit

THIS IS TO CERTIFY THAT:
MS. EUNICE FLORENCE ODEGI
of UNIVERSITY OF NAIROBI, 9421-40100
Kisumu, has been permitted to conduct
research in Kisumu County

Permit No : NACOSTI/P/14/8782/3210
Date Of Issue : 3rd September, 2014
Fee Received :Ksh. 1000

on the topic: **FLOOD PREPAREDNESS
FACTORS INFLUENCING TEACHERS
PARTICIPATION IN PUBLIC PRIMARY
SCHOOLS IN KATITO DIVISION,
NYAKACH DISTRICT, KISUMU COUNTY,
KENYA**



for the period ending:
31st January, 2015

.....
Applicant's
Signature

.....
Secretary
National Commission for Science,
Technology & Innovation

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.



REPUBLIC OF KENYA



National Commission for Science,
Technology and Innovation

RESEARCH CLEARANCE
PERMIT

Serial No. A 3067

CONDITIONS: see back page

Appendix VI: Research authorization letter



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote:

9th Floor, Uhali House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No.

Date:

3rd September, 2014

NACOSTI/P/14/8782/3210

Eunice Florence Odegi
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

[Handwritten Signature]
COUNTY COMMISSIONER
KISUMU COUNTY
3rd September 2014
KISUMU

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *"Flood preparedness factors influencing teachers participation in public primary schools in Katito Division, Nyakach District, Kisumu County, Kenya,"* I am pleased to inform you that you have been authorized to undertake research in **Kisumu County** for a period ending **31st January, 2015**.

You are advised to report to **the County Commissioner and the County Director of Education, Kisumu County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

[Handwritten Signature]
DR. S. K LANGAT, OGW
FOR: SECRETARY/CEO

Copy to:

The County Commissioner
The County Director of Education
Kisumu County,

Appendix VII: Research authorization letter

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
STATE DEPARTMENT OF EDUCATION

Telegrams: "schooling", Kisumu.
Telephone: Kisumu 057 - 2024599
Email: Ckisumu@education.go.ke



COUNTY DIRECTOR OF EDUCATION
KISUMU COUNTY
PROVINCIAL HEADQUARTERS NYANZA
3RD FLOOR
P.O BOX 575 - 40100
KISUMU

When replying please quote

CDE/KSM/GA/19/3/24

8th September, 2014

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION – EUNICE FLORENCE ODEGI

The above named is a student at University of Nairobi.

This is to certify you that, the above person has been given authority to carry out research on the topic "Flood preparedness factors influencing teacher's participation in public primary schools in Katito Division, Nyakach District, Kisumu County, Kenya".

The research will run up to 31st January, 2015.

Kindly accord her necessary assistance.

A handwritten signature in black ink, appearing to be 'PAUL AJUOGA'.

PAUL AJUOGA
For: COUNTY DIRECTOR OF EDUCATION
KISUMU COUNTY

Appendix VIII: Research authorization letter



MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

State Department of Education

Telephone: 0722231345
When replying please quote:
REF: NKC/ED/RA/425

SUB – COUNTY EDUCATION OFFICE
NYAKACH SUB-COUNTY
P.O. BOX 29 – 40111
PAP-ONDITI
DATE: 09/09/2014

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION-MRS. EUNICE FLORENCE ODEGI

Following your application for authority to carry out research on “*Flood preparedness factors influencing teacher’s participation in public primary schools in Lower Nyakach Division, Nyakach Sub-County, Kisumu County, Kenya*”, you are hereby granted authority by this office to undertake research in this Sub- County for a period starting September 9th 2014 to 31st January 2015.

You are hereby asked to notify this office on completion of your research.

I wish you well during the said period.


COSMAS ONYWERA
FOR: SUB-COUNTY DIRECTOR OF EDUCATION
NYAKACH SUB-COUNTY

Cc.
University of Nairobi.