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Full Length Research Paper

Assessment of factors that contribute to repetition and dropout of pupils in primary schools in Flood Prone Areas of Nyando District, Kenya: an analytical study

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Floods and low primary school enrolments are major concerns in Nyando Districts every year. With the inception of Free Primary Education programme in 2003 enrolments rose from 83,147 in 2002 to 96,475 in 2003 but dropped to 90,251 in 2004, further dropping to 89,532 in 2005 suggesting there was educational wastage concerns in the district. The purpose of the study therefore was to assess factors that contribute to repetition and dropout of pupils in primary schools in flood prone areas of Nyando District. Ex-post-facto and descriptive survey designs were used in the study. The study population consisted of 35 head teachers, 280 teachers, 1,225 standard eight pupils, in 35 flood prone primary schools and one District Quality Assurance Officer. Data was collected using document analysis guide, questionnaire, interview schedule and focus group discussion. The study established high repeater rate of 23.63% and dropout rate of 20.17% in the district. Floods and flood related factors were found to be the cause to loss of learning hours and equally exacerbating poverty through destruction of infrastructure and school structures, water borne diseases, high absenteeism, low syllabus coverage and poor performance in flood prone areas of Nyando District. The study concluded that there was high repetition and dropout rates due to floods and flood related factors. The study recommended building and repair of dykes to reduce flooding, pitch tents for learners in camping sites, equitable distribution of funds for infrastructure, initiate school health/nutrition and feeding programmes, hardship allowance for teachers and any other mechanisms that could institutionalized for addressing the plight of learners and the entire community in flood prone areas to reduce educational wastage. The findings of the study are important to the government, educational planners, stake holders, donor agencies, parents and community in making decisions and laying strategies applicable to flood prone areas in order to reduce educational wastage.

Keywords: Assessment, repetition, dropout, pupils, primary schools, flood prone areas, Nyando District, Kenya.

INTRODUCTION

Primary schooling is important for the achievement of national development and access to primary school has been formally accepted as a basic human right for over half a century (UNICEF, 2009b). However, many nations have not achieved the Universal Primary Education, and about 101 million children are out of school. Some of the reasons hampering the achievement of Universal Primary Education are - poverty, illness, malnutrition, absenteeism and high cost of schooling, cultural factors, inappropriate curriculum, examination, inadequate teachers, and lack of facilities (UNESCO, 2007). Disasters such as floods also hamper the flow of learners in education system. Weather extremes cause losses to societies in general (Changnon, 2003). In developed countries, floods have caused havoc and destruction to the education sector and agricultural land. In the Netherlands for example, on 18th November 1421, water from the North Sea swept through 72 villages and killed 10,000 people. The earliest record of floods in London dated 1099, is found in the Anglo-Saxon Chronicle. The

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Table 1. Months of Flood Occurrences and Frequencies in Nyando District

Month	Frequency
April	25
May	39
August	11
October	11
November	11
December	4
January	4

sea flood sprang up to a high level and did massive destruction (Bodmin, 2005). Developing countries have not been spared. For example Koshi River in Nepal breached its embankments in 2008 and wreaked havoc in eight Village Development Centres of Sunari (Dennison and Keim, 2009). The floods affected 67 schools of the districts. Walls of 15 schools collapsed causing damage to the school furniture and facilities. After the displacement of the flood hit people, 23 thousand school going students were deprived of education. Learning was equally interrupted in host schools where the displaced people had sheltered. One of the worst flood disaster experienced in the last century occurred in early 1970s in Bangladesh. Over 250,000 people drowned and 52,000 square kilometers of area of the country (nearly 60 per cent of net cultivable land) was reclaimed by water (United Nations Development Programme and Asian Disaster Preparedness Center, 2002). In the state of Bihar in India, there is no evidence that all the thousands of school-age children who lost their villages went back to school. Up to 40 per cent of the children could have dropped out of school (IRIN News, 2005). Cambodia is frequently affected by floods and droughts. A total of 1,866 schools which forms 21 percent of the schools are located in flood prone areas. The schools normally close for up to one and half months following floods. In 2000 the worst floods affected half a million of students in Cambodia (United Nations Development Programme and Asian Disaster Preparedness Center, 2002).In Sub-Saharan Africa a total of 45.5 million children who make 16.5 percent of the world population were out of school. Of these 21.8 million were boys while 23.7 million were girls (United Nations Cultural and Educational Fund, 2009). In Kenya, the education sector consumes about 30 percent of public expenditure but still 1.8 million children are out of school (Friedrich, 2009). Weather factors which are common phenomena could be a contributing factor. The floods mostly affect North Eastern, Western, Nyanza Provinces and Tana River District. In 2008 Kenya Red Cross Society reported that the El Nino caused severe floods in North Eastern Kenya that refugee camps were turned into islands (Kenya Red Cross Society, 2008). A study by Western Region Christian Community Services (2003) indicated that flooding in Budalang'i dates back to 1940s. Rajab and Kisia, (2009) reported that about 750 people were still living in camps due to floods brought about by heavy rainfall the previous year. The onset of long rains in October 2009 displaced more than 400 families in Coast Province (The Standard Team, 2009 October 30th). Several areas in Nyando District like Kano Plains, Lower Nyakach, Parts of Kisumu, Lower Rachuonyo, Homabay and parts of Migori Districts in Nyanza Province suffer the effects of floods every year. In Migori 3 people were killed and 80 families moved to higher grounds in 2005. Usable toilets were limited and health facilities were unreachable causing learners to suffer illnesses, hence unable to attend school even after schools resumed learning. In Kisumu, 453 people were displaced by floods, 550 children reported to be at risk of suffering from malaria and waterborne diseases (Kenya Red Cross Society, 2005). Government statistics reveal that enrolment in Nyando District rose during the Free Primary Education from 83,147 in 2002 to 96,475 in 2003, but in 2004 the enrolment dropped to 90,251, further dropping to 89,532 in 2005 while the rest of the country including North Eastern Province recorded a rise in student enrolment (Republic of Kenya, 2007a). Low enrolment and wastage of education has therefore continued to escalate in Nyando District an estimated 5,000 people are affected every year by the flood spills of Nyando River. The average annual damage is about Kshs. 49 million while amount spent on relief and rehabilitation is Kshs.37 million (Associated Programme on Flood Management, 2004). It was established that 40 percent of schools in Nyando District were affected by floods every year, whereby walls some classes collapsed, toilets got destroyed, floating the wastes on the flooded areas exposing learners to high health risks (Ochola, 2009).

The month of May records the highest flood frequency as shown in Table 1 (Ochola, 2009). The Period around May is usually marred by learning interruptions followed by August, October and November which have lesser

flood frequency.

Statement of the problem

Flooding is a frequent phenomenon in the Nyando District. The destruction by floods in Nyando District occurs annually and the trend in the flood frequency reveals April and May as the highest affected months. About 5,000 people suffer the effects of floods every year (Standard Team, 2009 May 19th). The damage is estimated at Kshs. 49 million while expenditure on relief and rehabilitation is Kshs.37 million according to the records. This happens due to loss of lives, damage of the houses, schools, infrastructure, destruction of crops and finally displacement as shown in records. Poverty, Water borne diseases and malaria set in as a resulting to more child dropout. Although the flooding lasts for less than a month, the effects linger sometimes for the whole year. In Nyando District flooding and flood related factors such as poverty and diseases lead to repetition and dropout of pupils. Reports from Nyando District Education Office confirm closure of some schools during the floods. Families are forced to move to higher grounds for safety. The Red Cross rescue teams pitch tents for the flood victims away from flooded zones or in selected schools used as camping sites. The interference of learners in the host schools may result to loss of learning contact hours as learning is halted for the whole of the duration of the floods. Subsequently, teachers may not cover the syllabus within the stipulated period hence, lag behind in school work coverage. This situation may lead to repetition and dropout. The exposure of life in camps could encourage immoral behavior among the teenagers leading to pregnancy and HIV/AIDS infection resulting to more dropouts. By the time the floods recede, some learners could have dropped out of school for marriage or child labour as poverty escalate because of crop failure and or washing away of crops by the floods. Waterborne diseases and poverty related diseases also set in as a result of floods causing further suffering of the learners. The floods as has been observed could directly and indirectly contribute to repetition and dropout of pupils. Coupled with floods, the government's national target of reducing wastage of education in primary by 7.4 percent for 2005/2006 was not achieved in Nyando District. There is no evidence of expenditure educational facilities and materials to contain learning in the flood prone areas of Nyando District. Therefore, there was a need to conduct a study to assess factors that contribute to repetition and dropout of pupils in the flood prone areas of Nyando District.

Conceptual framework

The conceptual framework shows Factors that contribute to Repetition and Dropout of pupils in Flood Prone Schools. The weather (floods and drought) severely limit and hamper developmental processes, thereby perpetuating poverty and diseases, labeled environmental factors. The home factors and weather factors influence the student factor by making the student lose learning hours and suffer diseases such as malaria and other water borne diseases. Finally, frequency of attendance to school by the student and teacher depend on leadership style. While environmental factors and leadership style lead to loss of learning hours, home and student factors influence repetition and dropout of pupils in schools.

METHODOLOGY

The purpose of the study therefore was to assess factors that contribute to Repetition and Dropout of Pupils in flood prone primary schools of Nyando District. A conceptual framework was used to focus on the variables of the study which included; infrastructure, environmental, home, leadership style and student factors. Ex-post-facto and descriptive survey designs were used in the study. The study population consisted of 35 head teachers, 280 teachers, 1,225 standard eight pupils, in 35 flood prone primary schools and one District Quality Assurance Officer. Stratified random sampling was used to select 23 head teachers from the 23 primary schools, 92 teachers, 460 pupils from the year 2010 standard 8 cohorts, and one District Quality Assurance Officer. Data was collected using document analysis guide, questionnaire, interview schedule and focus group discussion. Face and content validity of the instruments was determined by experts in the Educational Administration, whose input was in co-operated in the final drafts. Reliability of the instruments was determined through a pilot study in 2 primary schools whereby the weaknesses noted were corrected to make them reliable. Data from school registers and District Education Officer's returns were analyzed using cohort analysis by applying notation for drop out and repeater rates then converted into percentages. Quantitative data was analyzed by use of descriptive statistics in form of frequency counts, means and percentages while data from interviews were transcribed and organized into themes and sub-themes as they emerged.

RESULTS

Research Question 1

What factors contribute to Repetition and Dropout of Pupils in flood prone primary schools of Nyando District?

The responses to this research question by the head teachers and teachers were as represented in Table 2.

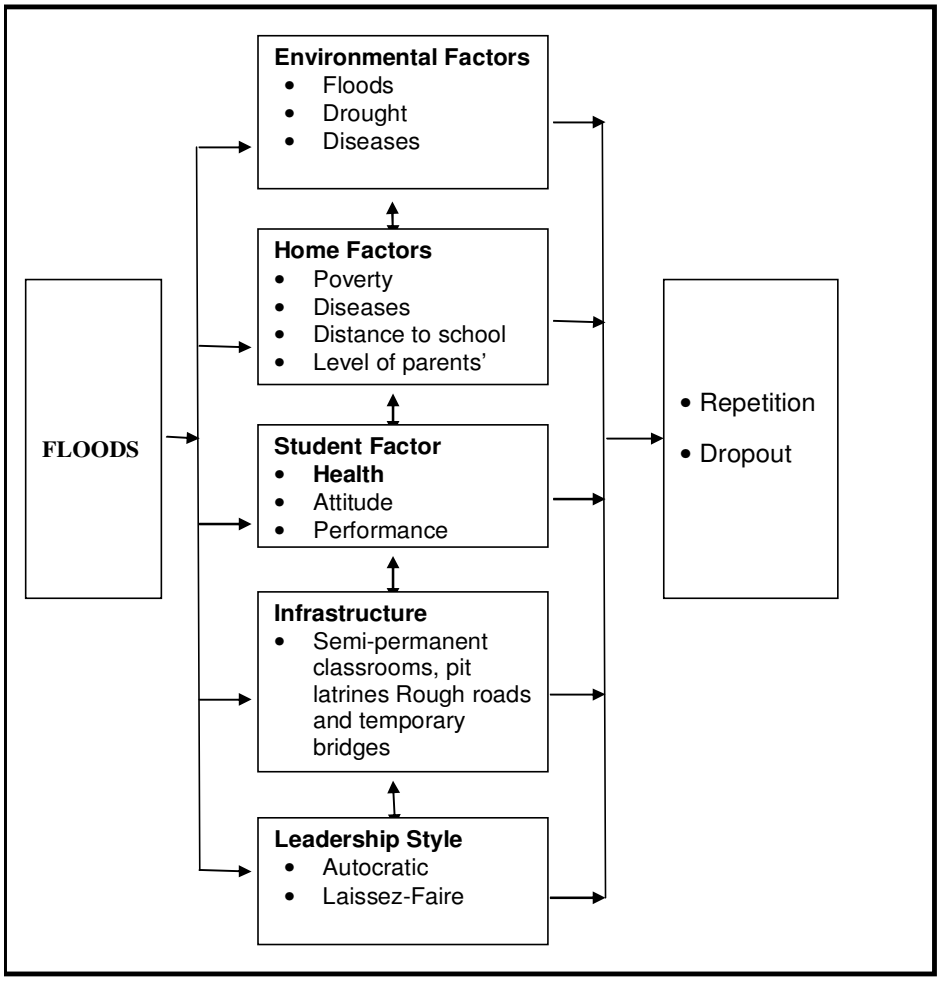

Figure 1. Conceptual Framework showing Factors that contribute to Repetition and Dropout of Pupils in Flood Prone Schools

From Table 2 it can be observed that many factors contributed to repetition of learners. Engagement in activities other than learning during floods was highly rated by the head teachers whose mean rating was 4.83 and teachers 4.52. The other factors that were noted to be contributing to repetition and included; frequent learners absenteeism due to unfavorable environment, poor performance due to low syllabus coverage due to frequent flooding, understaffing of teachers in flood zone, destruction infrastructure school structures, poverty in relation to economic constraints, pupils suffering from outbreaks of diseases, teachers decision in order to get a better grade and Parental demand so that the child can perform better.

May was the period of high absenteeism (30.5%) as reported by the head teachers followed by March and June at 13% each. The month of May is equally the time when flood frequency is very high (Ochola, 2009). Geographically long rains are usually experienced in May while the short rains are experienced in September. It is in these two periods that floods are experienced in Nyando District. The respondents reported that the school environment and the routes leading home become hazardous due to stagnant flood waters. This study is in agreement with Amer (2007) that indicates persistent absenteeism of learners from schools in disaster inflicted areas. The head teachers were asked to indicate the infrastructure destroyed between the years 2007-2010. Their response was as shown in Table 4.

Floods damaged many school facilities. It was common that every year some classroom walls and toilets collapsed during floods posing a lot of danger to the learners. Fear, insecurity and general high alert during floods reduced attention to learning resulting to poor performance. This agrees with studies done by Famine Early Warnings Systems Network (2006) which indicated damage of classrooms and toilets by the floods. Damage to school infrastructure was recently recognized

Table 2. Factors that contribute to Repetition and Dropout of Pupils in Flood Prone Schools in Nyando District as rated by Head teachers (n=23) and Teachers (n=92)

Factors contributing to Repetition	Respondent	Scores					MR
		SA	A	UD	D	SD	
Engagement into activities unrelated to learning during flood.	HT	95	64	0	0	0	**4.83**
	T	320	80	27	0	0	**4.52**
Frequent learners absenteeism due to unfavorable environment.	HT	90	20	0	0	0	**4.78**
	T	100	272	12	0	0	**4.13**
Poor performance due to low syllabus coverage due to frequent flooding.	HT	25	68	3	0	0	**4.13**
	T	200	192	12	0	0	**4.35**
Understaffing of teachers in flood zone.	HT	90	20	0	0	0	**4.79**
	T	260	64	60	8	0	**4.00**
Destruction infrastructure school structures.	HT	15	68	3	4	0	**3.78**
	T	260	128	27	0	0	**4.39**
Poverty in relation to economic constraints.	HT	20	68	3	2	0	**3.96**
	T	280	48	27	16	6	**4.09**
Pupils suffering from outbreaks of diseases	HT	20	68	3	2	0	**3.96**
	T	120	192	36	16	0	**4.00**
Teachers decision in order to get a better grade	HT	40	44	6	4	0	**3.91**
	T	20	272	36	16	0	**3.52**
Parental demand so that the child can perform better	HT	5	4	54	6	0	**2.09**
	T	120	192	36	16	0	**3.74**

Key: SA= Strongly Agree, A= Agree, UD=Undecided, D=Disagree, SD= Strongly Disagree, HT = Headteachers, T= Teachers MR=Mean rating

Table 3. Period of High Absenteeism according to Head Teachers

Month	Frequency	Percentage
January	1	4.4
February	2	8.7
March	3	13.0
May	7	30.5
June	3	13.0
July	2	8.7
September	1	4.4
October	2	8.7
November	2	8.7
Total	**23**	**100**

in terms of loss of school hours according to (Ochola 2009). Other than school structures, the roads were impassable during the rainy season because of the floods. The flooded and muddy roads were witnessed during a visit to the schools. Vehicles got stuck and the rest of the journey had to be made on foot hence a major drawback in terms of time during the research. People and pupils from the entire area had to wade in the mud to get to different destinations. Studies have proved that coordination and supervision adds value to performance in schools (Abagi, 1999). There is direct input by Quality Assurance and Standards Officers who oversee what goes on in schools (UNESCO, 2000). With these harsh conditions, the district is disadvantaged as school inspections were minimal since the officers would put blame on the poor impassable roads. Cases of drowning

Table 4. School infrastructure destroyed between the years 2001-2010 as indicated by the head teachers (n=23)

Year	Infrastructure destroyed	Number destroyed
2010	Toilets	8
	Classrooms	4
2009	Toilets	8
	Classroom	6
	Bridge	2
2008	Toilets	12
	Classroom	6
	teachers quarter	2
2007	Toilets	8
	Classroom	14
	Office building	2
	Urinal pit	2

Table 5. Factors that contribute to dropout of pupils in flood prone schools in Nyando District as rated by Head teachers (n=23) and Teachers (n=92)

Factors contributing to drop out	Respondent	Scores					MR
		SA	A	U	D	SD	
Disruption of learning by floods.	H/ tchrs	95	16	0	0	0	**4.83**
	Tchrs	300	92	27	0	0	**4.48**
Engaging in act such as fishing, rice farming in flood zone.	H/ tchrs	90	20	0	0	0	**4.78**
	Tchrs	200	192	12	0	0	**4.35**
Orphan hood in flood prone areas.	H/ tchrs	20	68	3	2	0	**3.96**
	Tchrs	255	92	57	0	0	**4.15**
Frequent absenteeism in flood zones.	H/ tchrs	15	68	3	4	0	**3.78**
	Tchrs	220	144	27	8	0	**4.17**
Poor learning environment.	H/ tchrs	40	44	6	4	0	**3.91**
	Tchrs	230	76	57	16	0	**3.84**
Pregnancy.	H/ tchrs	15	8	42	8	0	**2.39**
	Tchrs	160	208	27	0	0	**4.17**
Parental inability to pay levies due to effects of floods.	H/ tchrs	5	4	54	6	0	**2.09**
	Tchrs	220	60	57	0	0	**4.24**
Pupil negative attitude towards learning in flood zone.	H/ tchrs	10	4	48	8	0	**2.17**
	Tchrs	240	144	24	0	0	**4.35**
Chronic illness in flood prone areas.	H/ tchrs	5	12	48	8	1	**2.35**
	Tchrs	220	144	27	8	0	**4.17**
Forced repetition due to poor performance in flood zone.	H/ tchrs	15	24	3	26	0	**2.35**
	Tchrs	240	144	12	8	0	**4.30**

Key: SA=Strongly Agree, A=Agree, UD=Undecided, D=Disagree, SD=Strongly Disagree, H/tchrs=Head teachers, Tchrs =Teachers, MR=Mean Rating

of people including school children and even teachers had been reported. This unconducive environment impacted negatively on learning Disruption of learning by floods (Table 5) was rated highly as a factor contributing to dropout of learners from the primary schools in flood zones. Of the respondents, head teachers recorded a

higher mean rating of 4.83 while the teachers rated it 4.49. The focus group discussion also regarded interference of learning by floods as a major cause of dropout in their schools. One of the respondents reported that:

"During floods all classrooms are filled with water so we have nowhere to sit and so we are released to go back home where the situation is no better because family members busy building trenches in our homesteads. Whenever we go back to school after the floods we notice some of our classmates especially the bigger ones missing and will never come to school again." Wanjala (pseudonym).

The duration for staying away from school was not the same because it depended on how much floods affected a particular school, the catchment area and also the action of the head teachers in terms of decision making.

DISCUSSION

During focus group discussion pupils indicated that many flood related factors contributed to repetition. One of the pupils stated that 'during floods, pupils abandon classes and go to fish in the flooded waters, others go for sand harvesting and rice planting to earn wages'. These activities are learning distracters whose result is poor performance thus forcing the learners to repeat classes in the subsequent year. The respondents complained that there is always high absenteeism of learners during and after the floods. Some parents kept their children back to help in the rice fields and other kinds of farming activities. In one school some learners were bold enough to disclose that their parents involved them in farming such as ploughing using oxen, weeding and harvesting eventually they lost a lot of learning hours. These findings concurred with Onditi's (2007) study where the pupils in Kisii lost much of learning time by involvement in activities outside school during school days.

Frequent learners' absenteeism due to unfavorable environment came second as a factor contributing to learners' repetition. This factor was rated 4.78 by head teachers and 4.13 by the teachers. During focus group discussion two of the pupils concurred and stated that:

"We don't come to school during floods. The month of May is always the time when schools are flooded our homes are also affected as water enters our houses such that the mud walled houses collapse during such times. Some families are forced to move to safer areas like some schools which are on higher grounds. Even if the house is permanent the flooded environment prevents us from doing the usual chores, keeping watch of anything that can happen in readiness for movement to raised grounds" Owiti and Mogere (pseudonyms).

A lower primary teacher reported that lower primary pupils were allowed to stay home longer because of the risks of drowning while the chances of contacting diseases remain high in the flooded paths during rainy seasons. Pupils of ages range between 5 and 8 years, in lower primary were thus most affected during the floods and were not able to cope with the adverse weather conditions". In one school for example unmarked registers for the whole of second term for the year 2003, with comments "school closed due to floods'. This is an indication that classes one and two missed school for a better part of the year, therefore missed opportunity for good foundation. Rivers and streams also became barriers for teachers and pupils who had to cross to get to their respective schools. Some streams are seasonal in nature delaying pupils who had to cross after rains. This was found to create loss of learning hours and further aggravate the repetition rates. The head teachers and teachers agreed that flooding disoriented the entire staff by creating sluggishness in reporting time to their various schools after the flood events. The District Quality Assurance cited occurrence of floods in Nyando District as one of the major problem on school time management. Continued absenteeism yields undesired results in learning as revealed by studies. The consequence of inadequate preparation resulted to poor performance which in most cases contributed to repetition (Abagi, 1999). Despite major investments in primary schools through Constituency Development Fund and other organizations for provision of teaching and learning materials to improve access and quality in education, learners in flood prone areas continued to suffer every year and were denied the attention they required for consistent learning, contributing to repetition and dropout of pupils.

Poor performance was a third factor. The head teachers rated it lower with 4.13 compared to the teachers whose mean rating was 4.35. One of head teachers was undecided. It was interesting that the head teachers could admit poor syllabus coverage due to floods but were reluctant to accept low performance as a result of floods, probably because this led to repetition which is outlawed by the Ministry of Education. This was for fear of being penalized. Loss of learning hours made the teachers lag behind in syllabus coverage hence poor performance that led to repetition. Nevertheless, observation made in all the schools did not find any school with arrangement for makeup of the lost time during interruption of learning by the floods. Pupils' focus group discussion regarded poor performance as one of the factors behind repetition. Understaffing of teachers in schools in flood prone areas was the fourth factor contributing to repetition. This factor was rated highly at 4.79 by the head teachers. Majority of the teachers were in agreement with the head teachers with a mean rate of 4.00. The respondents reckoned that understaffing was rampant and that it interfered with coverage of the school work. Even in a normal setting with well-staffed schools, sometime was lost during actual teaching/learning, school calendar such as public holidays and teacher

absenteeism (Abagi, 1999). Low mastery of concepts and poor syllabus coverage due to loss of contact hours exacerbated by floods in flood prone areas lead to repetition. Further, data from Nyando District Education Office Establishment indicated a shortage of 97 teachers in the district. This was worked out on the basis of 1 teacher per class for the first eight classes and thereafter at a ratio of 1 teacher per class of 50. It was observed that, most of the schools with eight classes had less than eight teachers, an indication that, at any given lesson there was one or more classes without teachers. The Ministry of Education stipulates 48 periods each of 35 minutes for standard 4-8 and 20 hours comprising 40 periods each of 30 minutes for standard 1-3. In one school had only four teachers by the year 2009, it was until 2010 when the number on staff increased to six. This was a trend in most of the schools since the teachers complained bitterly about exclusion of hardship allowance yet there was obvious suffering caused by floods. None of the teachers including the locals wished to teach in the district. This concurs with World Bank (2005) which revealed that low teacher morale led to high rates of teacher absenteeism and attrition, caused by poor working conditions. Wainaina's (2007) study confirmed that in lower income areas teacher absentee rates were higher than in higher income areas. Studies by World Bank (2005) and Wainaina (2007) are consistent with the studies carried out by Ellis and Dick (2002) who found out those teachers who served in the rural communities in developing countries faced particular challenges like lack of access to transportation and poor working conditions. However all the teachers were of the opinion that hardship allowance should be introduced in flood prone schools. The time wasted caused by inadequate staffing coupled with flooding impacts negatively on performance thus highly contributes to class repetition.

Destruction of infrastructure and school structures ranked a fifth factor as a contributor to repetition in flood zone schools. The teachers rated it 4.39 followed by 3.78 by the head teachers. Poverty was revealed by the study as a sixth factor contributing to educational wastage. Teachers rated this factor 4.87 higher than the head teachers which was 3.96. It is interesting that this study revealed divergent views by the respondents about poverty, while in many studies poverty has always been listed as the major factor of educational wastage (Ndaruhuste, 2008) and (Owiye, 2005). However flood prone areas of Nyando District displayed unique flood disaster (as a primary factor) which in the event of its occurrence exacerbate level of poverty (secondary factor) which is already high (poverty index is 60.5%) by washing away of crops. Both factors reduce families' abilities to provide basic needs of their children (Ochola, 2009). Records indicate that a population of 20,824 was affected in 2007 by floods thus increased poverty (Republic of Kenya, 2007b). This concurs with a study carried out in Mozambique where crops, infrastructure including schools were destroyed and livestock killed by flooding, increasing poverty in the region (World Food Programme, 2008). Moreover in the process of trying to alleviate poverty in Nyando District, the occupants became more vulnerable as they abandoned their farms to build dykes 'a food-for work arrangement' (Ochola, 2009). Poverty weighs heavily on the parents who are the sole providers of any necessary basics for the pupils to be able to learn. Cognitive function of undernourished learners in Kenya has been shown to be below average (Republic of Kenya, 2007b). The consequence of poor performance increased repetition contributing to educational wastage. The study found that learners' participation in school was always low because some learners had to fend for themselves and their siblings. The subjected them in child labor as have already been discussed. Mulama (2004) reports that 1.9 million children of ages 5-17 have not been able to access Free Primary Education because they are working in the fields for a livelihood. Outbreak of diseases was also revealed as one of the factors that contributed to repetition, Teachers rated this 4.00, followed by head teachers with a mean rate of 3.99. In the focus group discussion, outbreak of diseases emerged as a major factor contributing to repetition of classes. They reported that 'during and after floods we often have stomach ailments like diarrhea, bilharzias and other waterborne diseases and malaria'. The stagnant water exposes the children to diseases such as cholera, typhoid, bilharzias pneumonia and malaria. This agrees with Ochola (2009) where he reports that malaria and cholera are a health menace in flood zones, and more so aggravated by low socioeconomic status. Nyando is such an area with a flat topography whose flood water remains stagnant for longer time because of poor drainage in the event the learners suffer the effect which impacts negatively both physically and health wise on them. The World Bank (2005) reported that lack of access to improved water source contributed more to diseases. Stagnant flood waters in flood prone areas contributed to diseases such as bilharzias, cholera, typhoid and malaria affecting learners' consistency and performance in school (Mburu, 2005). The respondents observed diseases in flood prone areas as a drawback to learning as ill health cause frequent absenteeism which eventually culminated to wastage in repetition (UNICEF, 2009 a and b). Teachers' decision in order to get a better grade also appeared as a factor where the head teachers rated it 3.91 and a mean rate of 3.52 by the teachers. Although repetition is rampant in schools, teachers do not accept to bear the grant because it is outlawed by the government. The District Quality Assurance and Standard Officer concurred with this saying that schools returns indicate minimal numbers of repeaters while practically when they make visits to the schools they find much higher numbers of repeaters. Learners who repeat grades waste re-

sources which could be used by others in the subsequent years and therefore repetition should be minimized as much as possible.

Among all the factors analyzed, parental demand for repetition came last. The head teachers rated this lower at 2.09, while teachers rated it 3.74. The neutral stand of the head teachers shows that the parents have low level of education. This result concurs with a study done by Owiye (2005) which found that pupils whose parents were less educated performed poorly hence contributed to educational wastage. However loss of learning hours in this study emerged as a major factor as the adverse weather condition compelled both learners and teachers to stay away from school during and after the floods. The flood frequency table displays May as the most affected month (Ochola, 2009) and equally agreed by the head teachers as the period of high absenteeism in flood prone areas of Nyando District. Continued absenteeism yields undesired results in learning as revealed by studies (Abagi, 1999), (Mulama 2004) and (Mburu, 2005). It was revealed that in severe flood occurrences, it lasted for more than two months and the shortest period for the least affected schools was two weeks. This agrees with a study in Cambodia where schools normally closed for one and a half months due to flooding causing dropout (United Nations Development Programme and Asian Disaster Preparedness Center, 2002). Teachers remarked that overflowing rivers from up stream could flood an area even if they didn't receive the rains, so they are always on high alert. Almost all the schools in this study were not far from River Nyando and other smaller rivers. Reports from the District Education Officers' office indicated that some schools closed temporarily during floods until it subsided. Even though the centers for evacuation had been moved from Ayweyo and St. Christopher (Kolunga) primary schools in the flood prone areas to District Officers compound, the head teachers claimed that the community still sheltered in the schools during floods. At such times no effective learning took place as the flood victims occupied teachers' houses on the compound and some classrooms. This is contrary to other flood affected areas where tents were pitched for learners in the camping areas (United Nations Development Programme and Asian Disaster Preparedness Center, 2002). Most respondents reported that children in lower primary were compelled to stay a little longer because they could not wade in the flood waters. Children who are excessively absent from school tend to perform poorly and dropped out before completing the primary cycle (Amer, 2007). While the learners stay home they are faced with negative influence which eventually impacts negatively on their academics. This happens while the Kenyan education sector consumes about 30 percent of public expenditure for implementation of Free Primary Education in order to achieve Education for All Kenya (Friedrich, 2009).

Engaging in activities such as fishing, rice and farming in flood zones came second. The head teachers mean rating was 4.78 while teachers mean rating was at 4.35. Some older boys of standard eight disclosed that 'once it is flooded we sneak from classes to go to fish'. The dropout rate which was found to be higher from middle to upper classes IV-VII in this study was an indication that the pupils were old enough to engage in economic activities to support their families. The results were in agreement with studies done by Ayieko (2006) which revealed that after disasters, children and families may lack sufficient food, and in the processes of engaging in activities to get food. These pupils did not perform well due to inconsistency in learning and eventually dropped out. Freeman, Ellis and Allison (2004) reaffirms that with over 67 percent of Kenya's population living in the rural areas (where 20 percent of the Gross Domestic Product originates from agriculture), it is expected and indeed the case, that there is a high incidence of poverty. Apparently, floods severely limit and hamper developmental processes of the rural societies in the flood prone areas thereby perpetuating and increasing the incidence of poverty which is already high in Nyando District thus increased the dropout rates. Orphan hood in flood prone areas is a third factor causing dropout. Teachers rated this factor at 4.15 which was higher than head teachers mean rating of 3.96. The HIV/AIDS prevalence rate in Nyando District is 15.3% where many children are orphaned. Some children were heads of their households, went for wage seeking in the fields to support their siblings. Some head teachers expressed fear that the rate at which children were orphaned in the flood zones of Nyando District would continue to contribute a lot to educational wastage if not well addressed.

Frequent absenteeism also emerged as one of the major factors contributing to dropout in flood prone areas. Teachers mean rate was at 4.17 while head teachers mean rate was 3.78. A case study in Cambodia disclosed that during such times pupils went to schools by boats (United Nations Development Programme and Asian Disaster Preparedness Center, 2002). This kind of intervention helped to reduce educational wastage in the flood prone areas of Cambodia. In Nyando District the extent of assistance offered to flood victims were food, blankets mosquito nets and tents pitched for the families in flooded zones in Nyando District. It is evident that during floods some schools were closed because they were inhabitable neither were the roads impassable in Nyando District. This study found that some older pupils took advantage of the situation and never turned up after the floods. Most of the boys admitted that they started fishing as hobby and later stuck to it to garner some income. Such learners did not realize the benefit of schooling and consequently dropped out. Poor learning environment was also found as a factor contributing to repetition in flood prone schools. The head teachers rated it 3.91, and teachers mean rate was 3.84. The

pupils agreed with this as one of them said 'When it is too muddy I go to school and leave my sisters and brothers at home because my sister who is in class six cannot walk the long distance in the flooded and muddy paths.' Ochola's (2009) study, reported that the effects of floods lingered for some time, which is a clear indication of long suffering by the pupils. The risky environments as revealed by the study are the swollen rivers, the hazardous muddy paths to and from school and the damaged school buildings such as classrooms and toilets. Observation was made of pupils learning outside classrooms under trees avoiding the risk of the wet rooms. About half of the schools involved in the study were found to have spring water emerging in classrooms long after the floods. This condition brought discomfort to learning, thus contributed to educational wastage.

Pregnancy as a factor that contributed to dropout was rated at 4.18 by the teachers, the head teachers rated it much lower at 2.4 than the teachers. It appeared to be a contributor to teachers but not to head teachers. Teenage pregnancy was also found to be a serious issue among the pupils. Pupils' group discussion overwhelmingly agreed that the drop out in majority of the girls was as a result of pregnancy. One pupil reported that 'Some girls left school to visit their relatives but after some time we heard that they had delivered.' In all the registers observed almost all the schools had more girls in lower primary but reduced gradually from class four with the lowest registration of girls in class eight. Teachers attributed pregnancy to poverty, which was exacerbated by floods and reported that the girls, including their parents were easily lured with small gifts. Mburu (2005) concurs with these findings as his studies revealed high rate of pregnancy in Budalang'i camps during the floods causing more dropout among girls. Parental inability to pay levies also contributed to dropouts. The head teachers rated the factor lower 2.09, while teachers highly rated it 4.23. The results indicated that the head teachers denied this as factor as majority remained neutral. The neutral position taken by the head teachers could be fear of being implicated in collection of funds from the parents as the Government policy of Free Primary Education bares schools from collecting any funds from the parents. It is obvious that they feared victimization because tuition fee for remedial teaching is like a requirement for every school particularly from candidate although with agreement of parents. However the head teachers did not consider other private costs incurred and economic value of forgone opportunities of education (Levin and McEwan, 2001). Majority of teachers and pupils agreed that some families were not in a position to buy school requirements and even food. The teachers complained about inconsistency of some pupils from very poor families. The ones in middle classes if asked to explain for their absence would openly give a reason of wage seeking to put bread on the table. Pupils who do not get enough food will persistently absent themselves from school to help their parents to get wages just to put something on the table. UNESCO (2000) reports that if incidences of absenteeism persist, learners dropped out. The cost of education became too high for the learners hence contributed to educational wastage.

Negativity to learning by pupils also emerged as a factor. The head teachers rated it at 2.17 teachers 4.35. This time again the head teachers have shown no stand to this factor because more than a half remained neutral, while more than a half of the teachers strongly agreed. The teachers attributed negative towards learning as a factor that contributed to dropout. Lack of consistency in learning caused by frequent flooding impacted negatively on learners. Loss of learning hours and poor health contributes to poor performance. Poor performance created low self- esteem and resulted in negative attitude towards learning. There were also few role models in the immediate community as have been observed. Most people who are educated and successful have immigrated to the urban areas avoiding the hardship in the area. Chronic illness in flood prone areas appeared to be a less contributor although according to teachers it had more impact than to the head teachers. Teachers rated this higher at 4.17 while head teachers rated it at 2.35, very low compared to the teachers' mean rating. Illnesses are common in areas around stagnant waters. Pupils reported that they occasionally suffered from diarrhea and abdominal pains during floods. These are induced by parasitic infection from the flood waters in flood prone areas. Persistent illness contributes to absenteeism from school (Levin and McEwan, 2001). Studies found that children infected with parasite did not perform well. This category of learners' exhibit low self esteem and drop out. However the problem has been reduced to a lesser extent by intervention of some Non Governmental Organizations who have provided clean water to some of the schools in the district. Diseases such as HIV/AIDS are prevalent in flood prone areas. Nyando District is one of the districts in Nyanza Province whose HIV/AIDS prevalence rate is 15.3% and the highest in Kenya (Republic of Kenya, 2008). Reports reveal that the pupils were the most sufferers in the bracket of infected and affected. Learners who are affected do not attend school consistently because they had to take care of their ailing parents after which they dropped out when the situation became unbearable. Respondents reported several pupils in that school stayed with their ailing relatives in the hospital whenever they were admitted; consequently they were not regular in school. Boys as well fell victims of the circumstances especially when they had siblings take care of. Majority of learners were likely to dropout when they realized they could not cope with learning. In such cases the girls were the first to dropout because they took over the social roles of their mothers. Forced repetition due to poor performance in flood zones appeared as the least factor.

Teachers rated this 4.30 and 2.35 by the head teachers. During focus group discussion pupils indicated that this factor contributed to dropout. One of the pupils stated that “we are forced to repeat if we do not do well in our examination’. Although it is evident that the pupils were made to repeat grades to improve the mean score of the schools, the head teachers could not easily disclose the issue because in Kenya repetition was outlawed by the government. Repetition is rampant in most primary schools and teachers do it under local arrangements with parents so as to compete other schools in academics. Constant repetition created low-self esteem in pupils, and if they did not improve they dropped out when persistently were made to repeat.

CONCLUSION

The study concluded that many flood related factors were reasons for great loss of valuable learning hours amounting to educational wastage. These caused gross drawback to the policies set to achieve millennium goals such as Education for All to all the flood prone schools. In order to address the issue, the relevant Government Ministries, Non Governmental Organizations and other stakeholders need to institutionalize mechanisms for addressing the plight of learners in disaster afflicted areas. The policies formulated to achieve Education for All need to be reviewed in connection with recommendation given, aiming at reducing repetition and dropout of pupils in flood prone areas and improving the socio-economic welfare of flood victims.

RECOMMENDATIONS

Building and repair of the dykes should be hastened to reduce floods in flood prone areas so as to reduce loss of learning hours during floods.

Pitch tents for pupils in camps during floods to increase teacher-pupil contact learning time to improve efficiency in flood prone areas.

The term dates for flood prone districts need to be reviewed so that school calendar in flood prone areas fall during non-flood period and also making the school calendar flexible for make up for any lost time caused by floods so that repetition and dropout of pupils is reduced.

There should be equitable distribution of funds for infrastructure development and improvemtn. This is because the cost incurred for construction is higher in flood prone areas than other non-flood zones.

There is need for the government of the Republic of Kenya to initiate school feeding programmes in order to reduce educational wastage due to hunger and malnutrition caused by poverty in food prone areas. Hungry and malnourished children have reduced capacities to learn and therefore perform poorly.

Most primary schools have shortage of teachers because of hardship in the area. There is need for the government of the Republic of Kenya to declare this district a hardship zone so that the teachers can be paid hardship allowance to ease understaffing in the district to reduce educational wastage.

Boarding schools need to be strategically set up in flood prone areas to reduce diseases contacted during floods and enhance retention of learners.

Launching school-health and nutrition programmes in collaboration with Ministry of health for improvement of learners’ health should be done to reduce absenteeism caused by ill health.

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Additional strategies and resources should be put in place are need to improve the socioeconomic status of people in flood stricken areas to curb teenage pregnancies and early marriages.

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