Fisheries around Lake Victoria and Attendance of Girls in Secondary Schools of Nyangoma Division in Siaya County, Kenya

By

Humphrey Musera Lugonzo
Fatuma Chege
Violet Wawire
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*1Humphrey Musera Lugonzo, 2Fatuma Chege, & 3Violet Wawire

Department of Educational Foundations, School of Education, Kenyatta University, P.O. Box 43844-00100, Nairobi, Kenya

Authors Email: 2fatujuma@yahoo.com; 3wawirev@gmail.com

*Corresponding Author’s Email: hmusera@yahoo.com; Phone Number: +254 723448840

ABSTRACT

The subject of unequal attendance between girls and boys in institutions of learning has been in the public domain for some time now. This is because various key framework documents at the national and international levels focus on attainment of gender equality in education. This study however had special interest on the attendance of girls in secondary schools and especially in Nyangoma Division of Siaya County in Kenya. Although various factors hinder girls from attending secondary school, this study will focus on fisheries as the prime factor. The study adopted the descriptive survey research design. This research article presents the findings of the study on Fisheries around Lake Victoria and Attendance of Girls in Secondary Schools with a specific focus on Nyangoma Division in Siaya County in Kenya. This study was conducted in 4 secondary schools out of the 10 secondary schools in Nyangoma Division. A sample of 159 students comprising of 51 girls and 108 boys were involved in the study. Also, 16 teachers comprising of 6 female teachers and 10 male teachers were selected for the study. The data collection instrument was a questionnaire and non-participant observations. Data was analyzed of quantitative using statistical package for social sciences (SPSS) and then presented in descriptive statistics. Chi-Square was used to establish the levels of significance in the relationship between fishing and attendance of girls in the secondary schools of the Division. The findings of the study showed that there was significant relationship between fisheries and attendance of girls in secondary schools. The study recommended that the Government of Kenya should revise the mode of awarding bursaries and issuing of scholarships to the needy girls in the Division and others areas which fall in the same situation.

Key Words: fisheries, school attendance, and child labour.

LIST OF ABBREVIATIONS / ACRONYMS

AIDS: Acquired Immune Deficiency Syndrome.
BILA: Bureau of International Labour Affairs.
CSEC: Commercial Sexual Exploitation of Children.
DRC: Democratic Republic of Congo.
EFA: Education for All.
FAO: Food Agricultural Organization.
GER: Gross Enrollment Rate.
HIV: Human Immunodeficiency Virus.
ILO: International Labour Organization.
SDGs: Sustainable Development Goals.
MoE: Ministry of Education.
SPSS: Statistical Package for Social Sciences.
1. INTRODUCTION

1.1 Background of the Study

Article 26 of United Nation Charter on Universal Declaration of Human Rights says education is a human right (United Nations, 1948). The 5th Education for All (EFA) goal reiterates this fact by aiming at achieving gender equity in education and ensuring that girls access quality and equal basic education. That is why students’ enrollment has been raising worldwide with the gap between boys and girls closing as governments respond to key framework documents like the Sustainable Development Goals (SDGs) (Muganda & Omondi, 2008). For example, in Latin America and Caribbean, the gap between girls and boys has rapidly closed and their enrollment in schools is almost equal. In Kenya, introduction of Free Secondary Education in January 2008 with a grant of Kshs 10 265 per child raised the enrolment from 45.3% (49.0 for boys and 41.8 for girls) in 2009 to 48.8% (51.0 for boys and 46.8 for girls) in 2011. The enrolment rose from 1.18 million students (639,933 boys and 540,874 girls) in 2007 to 1.8 million (819,014 girls and 948,706 boys) in 2011 (Republic of Kenya, 2012). However, some African nations still record low participation of girls in schools. For instance, there are wide gaps in Ethiopia with only 16% of girls enrolled in secondary school compared to 28% of boys (Murphy and Carr, 2007).

Fishing is the main economic activity in fishing regions worldwide. However, these regions are among the areas that record low participation in education. For example, boys in fishing regions in Asia drop out of school to join fishing sector (Vimala, 2010). In Ghana, fishing contributes to 2.5% of child labour (Vegard, 2006). In Zambia, 300,000 people are employed in fishing sector but most of them die due to AIDS leaving behind many orphans (Musumali & Wishart, 2009). Fishers are exposed to challenges like HIV and alcoholism since they easily access cash, making them not to educate their children more so their daughters (FAO, 2005). The orphans, mostly girls end up leaving school. Poverty makes many girls in Batwa community living around Lake Kivu and Idjwi Island in the Democratic Republic of Congo (DRC) to leave school and become sex workers in beaches or to work in the fishing industry to feed their families (Gabrielle, 2008). In the Kenyan Lake Victoria Division of Nyangoma of Siaya County fishing is the key economic activity. Men fish while women process and sell it. Anyango and Menn (2010) noted that despite the capability of fishing to generate economic growth, it has failed to reduce poverty as many families in the area are poor.

High cash flow at the lake attracts many people to work in fishing industry causing them to have many sexual partners making sex a beach culture (Llewellyn, 2006). Sex for Fish is common on shores. It is called ‘Jaboya’ in Luo since it is where women have sex with fishers in exchange for fish to sell. Sex for fish is caused by the high demand for fish and decrease in fish catch causing women to compete for it. Fishers use fish to lure women and school girls into sex. The illiterate and poor women like singles, widows, divorced and young women are vulnerable to Jaboya. They befriend fishermen to get fish since they lack money to buy fish to sell or to fend for their families (Manyala & Gitonga, 2008). Women who befriend fishers get fish during low season when fish is scarce. Older women go to the lake with their nubile daughters to induce fishers to give them fish as they do not like having sex with women who are their mothers’ age mates. Thus, many women contract HIV, die and leave behind orphans. Poverty cause many girls to become sex workers on beaches to get money or to fall prey to ‘Jaboya’ forcing them to befriend fishers to give them free fish for trade or to fend for themselves and their siblings.

Statistics shows that although Gross Enrollment Rate (GER) of girls nationally rose from 27.4% to 33.3% between 2003 and 2007, it was lower than that of boys during the same period (MoE, 2008). Girls’ enrollment in Nyanza province rose by 2% from 28.6% in 2003 to 30.6% in 2007. It was still lower than that of boys who rose by 12% during the same period. Notably, by 2011 girls’ enrollment was 41.3% in Nyanza Province but boys was 50.2% (Republic of Kenya, 2012). In Bondo district GER of girls dropped from 26.1% in 2003 to 24.4% by 2007 while that of boys rose from 36.5% in 2003 to 54.2% in 2007 implying that it was about half that of boys. The GER of girls in Nyangoma Division dropped from 26.6% in 2005 to 16.7% in 2009 and was less than a third of that of boys during the same period in the Division. The Division also had the lowest girls’ enrollment (37.0%) among all the 5 Divisions in Bondo District. Rarieda Division recorded the highest GER of girls which was nearly double that of the girls in Nyangoma Division. Based on this trend in gender gap, the researcher assumed that while fisheries was the main economic activity around Lake Victoria in Kenya, the industry attracted many school children to engage in fishing related activities in the Division. Hence it might be that the industry had the potential to negatively affect girls’ participation thus keeping more girls than boys away from school. This pattern had persisted even with the introduction of the Free Secondary School Education. It was against this background that the study sought to investigate if there was any link between fisheries around Lake Victoria and girls’ participation secondary schools of Nyangoma Division.
1.2 Purpose of the Study

To find out if there was a relationship between fisheries around Lake Victoria and attendance of girls in secondary schools.

1.3 Objectives of the Study

i. To determine the fishing related activities which secondary school girls in Nyangoma Division of Siaya County engage in.

ii. To examine the rate of attendance of girls in the secondary schools of Nyangoma Division in Siaya County.

iii. To examine whether there is a relationship between fisheries and attendance of girls in secondary schools of Nyangoma Division in Siaya County.

1.4 Research Hypothesis

Based on the third objective of this study, a single null hypothesis was formulated to test the variables of the study. The null hypothesis to be tested stated that: “There was no significant relationship between fisheries and attendance of girls in the secondary schools of Nyangoma Division in Siaya County in Kenya”.

1.5 Significance of the Study

The study would sensitize all the stakeholders in the education sector on how fisheries relates to attendance of girls in schools. This would enable the stakeholders in the Division to adapt programs that would support the education of girls and hence retain them in school equally with boys. The study would be a source of reference to future researchers who might study further on fisheries and schooling of girls in other parts of the world.

1.6 Scope of the Study

Although many factors contribute to the low participation of girls in secondary schools in the Division, the study focused on fisheries as the main contributing factor. The study focused on attendance as the main areas of concern in the concept of participation of girls in secondary education. The study was done in only 4 secondary schools due to time constraint.

1.7 Limitations of the Study

Financial and other logistic constraints like inaccessibility and other conditions that were beyond the control of the researcher dictated the site of the study. Ideally, all the Divisions in the County bordering Lake Victoria were to be involved in the study in order to collect more reliable data.

2. LITERATURE REVIEW

2.1 Fisheries and Attendance of Girls in Secondary Schools

The International Labour Organization’s (ILO) Convention No. 182 on the Worst Forms of Child Labour (1999) defined child labour as “any work that can harm the health, safety or morals of anybody below 18 years”. Also, according to the Bureau of International Labour Affairs, BILA (2003, p.16), Commercial Sexual Exploitation of Children (CSEC) is “the inducement or coercion of a child to engage in unlawful sexual activity like prostitution or pornography”. As per these definitions, child labour is common in the fishing regions with “sex for fish” being the CSEC used by adults to get fish. Though child labour is rampant along the beaches, it has not received the attention it deserves since many child-headed families engage in fishing related activities at the expense of their studies due to poverty (Christopha & Sonja, 2007, p.875-899). Fishing absorb 57.6% of children worldwide (U.S. Embassy, 2002). Vegard (2006, p.14) noted that “fishing contributes to 2.5% of child labour in Ghana with 87.2% of them being boys”. There are also regional variations in child labour in fishing in Ghana with over 20,000 (8.3% of all child labour) working in the Volta region. Others are the Eastern and the Accra regions with 15,833 and 8,150 child workers (Vegard, 2006). The 4 categories of fisheries-related works that children do are: fishing and foraging for subsistence; small-scale fish vending; working in shore-seine crew; and offering services to crews during operations on a beach (Nieuwenhuys, 1994).
Women and girls’ involvement in fisheries is significant since they comprise 46% of the labour force in pre- and post-harvesting fisheries works (FAO, WorldFish & World Bank, 2008). Their involvement is even higher if aquaculture and gleaning are included. But this formal enumeration does not reveal the informal ways in which women and girls enhance livelihoods in fishing regions. They support and complement men’s fishing activities in household livelihood portfolios by managing the family while men are away at sea and also by engaging in pre- and post-harvest fisheries tasks like processing or trading that are remunerated with wages or profit, the remittances from which subsidize men’s fishing effort (SDF & FSF, 2009). Most often women and girls’ fisheries-related activities which contribute to the well-being of households bring lower returns to women relative to that of men (Weeratunge & Snyder, 2009).

Fish processing and marketing employ over 50 million people (FAO, 2004). In Bangladesh for example, there is a high incidence of child labour in fish processing industries with children contributing up to 36% of the labour force (Whitehead & Hashim, 2005). Paris and Chi (2005) noted that ladies play a crucial role in fish processing and marketing thus ensuring food security in the society. Fish is processed by washing, splitting, filleting, sticking and gutting but preserved by sun drying, smoking, freezing, chilling and brining (Akinola & Akinyemi, 2006). The most common methods are smoking and drying since most fishing communities do not have electricity to freeze the fish in times of excess. Nite and Clare (2003, p.46) noted that “women living on the shores of Lake Victoria make a living from smoking fish”. Thus, they send girls to fetch fire wood for smoking the fish more so in seasons of excess harvests. Some girls are also involved indirectly in fisheries by undertaking domestic tasks like caring of siblings on behalf of their mothers. This implies that the fish processing industries enhances the exploitation of girls and denies them the chance to education by making them not to attend school regularly. The scope for attending school varies by gender with the percentage of unschooled boys among fishers being 20% and the corresponding value for girls being 51% (Maddox, 2006).

As such, illiteracy is prevalent in many African fishing regions with women and girls having the worst educational levels than men (Vegard, 2006). Introduction to the fishery economic gains makes them to leave or not to complete school making fishers only to attain primary education (Lwenya & Abila, 2001). By occupation, boat crews have lower educational levels than boat owners and fish traders since 70% of boat owners; 62% of boat crew and 52% of women finish primary school (LVFO, 2008). The crews have few livelihood options; they leave school early to work on the beach; and they have few skills and resources with which to seek alternatives jobs (Nite & Clare, 2003). Vegard (2006, p.4) argued that “apart from being involved directly in fishery activities on beaches, girls also substitute their mothers’ who are fishmongers in their domestic duties”. Under the definition adopted by ILO (2004), domestic duties are not classified as child labour though they involve long working hours and denial of educational opportunity. Thus, child labour contributes to the low levels of education among fishers which in turn hinders women and men from managing fishery effectively and also from joining alternative employment outside fishery (Legal Notice No. 18, 2001).

Nite and Clare (2003) argued that women have few livelihood alternatives due to their limited education, lack of access to resources, and early marriage (compared to fishermen when they are about 15 years old). This makes women and girls to engage in transactional sex to obtain fish for two reasons (Bene & Merten, 2008). Firstly they are poor hence are compelled to offer sex in exchange for fish and secondly to reduce the transactional costs of trade. “Sex for fish” is also caused by scarcity of fish and increased demand of fish in markets (Kronen & Vunisea, 2009). “Sex for fish” helps ladies to get fish in a competitive arena due to the challenges they face (Loevinsohn & Gillespie, 2003). They scramble and shout on beaches to win the attention of fishermen who control if they will buy fish or not. Women sleep with fishers to get fish for trade since fishing is their only economic activity (Jaboya Project, 2008). But since most of them are old, they use their stylishly dressed nubile daughters or relatives to help them get fish without shouting by sleeping with any man who give the best deal. Thus, men wield power by controlling access to fish which women need for trade. Fishermen prefer sleeping with girls than with older women who are their mother’s age-mates. Fishermen also lure girls by giving them money or fish (Otieno, 2010). For example many secondary school girls in Muhuru Bay in Kenya do not attend school due to poverty. These girls end up being married to fishermen or end up having sex with fishermen to earn a living (WISER, 2008). Also the girls in Mbita, Nyatike and Homa Bay in Kenya dropout due to the same reason (Reject, 2009). The women and girls have weak negotiating power about safe sexual practices with the fishermen. This puts both the women / girls engaged in processing and trading as well as the men engaged in fishing at risk of contracting HIV. This concurs with Musumali and Wishart (2009) who noted that a number of people employed in the fisheries sector die due to HIV/AIDS leaving behind many orphaned children. The children, more so girls end up not attending school. Thus, while this literature clearly shows that girls’ education tend to be more affected by fisheries, it is not clear whether the reasons established in the literature also apply to Kenyan girls in Nyangoma Division of Siaya County in a manner that is statistically significant to warrant serious concern. Also, when the girls in the Division portray the lowest attendance rates compared to boys, it was important to know whether such differences are significant. This study therefore addressed this knowledge gap by investigating if there was any significant link between fisheries and attendance of girls in education based on the retention rate in the secondary schools of Nyangoma Division.
3. RESEARCH DESIGN AND METHODOLOGY

3.1 Research Design

Descriptive survey research design was employed in this study. This was because it supports the use of quantitative methodologies which was used in this study (Orodho, 2003).

3.2 Study Locale

The study was conducted in Nyangoma Division of Siaya County. The Division is about 100 km south-west of Kisumu city off the Kisumu-Busia highway but along the Kisumu-Usenge road. Purposive sampling was used to select the Division since it has recorded the lowest attendance of girls in secondary schools among the 5 Divisions in Bondo District of Siaya County since 2005.

3.3 Variables

The independent and the dependent variables which were studied in this research study were fisheries and attendance of girls in secondary schools of Nyangoma Division.

3.4 Sample Size and Sampling Techniques

The target population that was involved in the study comprised of students and teachers. The Division has 1593 students in secondary schools of which boys were 1083 (68%) and girls were 510 (32%). Of these students, 10% were selected to get the sample population of 159 students. The Division also had 56 Teachers with 16 teachers (29%) being female and 40 teacher (71%) being males. Stratified random sampling technique was used to select 16 teachers (6 female and 10 male) out of the 56 teachers in the Division. Hence the sample of the study comprised of 159 students and 16 teachers. The Division had 10 secondary schools of which 6 were mixed day schools, 3 were boys’ boarding and 1 was a girls’ boarding. Purposive sampling was used to select 1 boys’ school, 1 a girls’ school and 2 mixed schools having the lowest girls’ attendance.

3.5 Research Instruments

The study used questionnaires and non-participant observations as the key research instruments. Questionnaires were administered to students and teachers. Through non-participant observations the researcher made observations to ascertain the presence or absence of school-age girls and boys along the beaches of Lake Victoria. The researcher captured them using a camera on still photographs to serve as evidence of the involvement of school-age children in fisheries at the lake shores. These still photographs were used to supplement the data collected.

3.6 Pilot Study

Piloting was done in 2 schools in Usigu Division, namely Jusa and Got Agulu secondary schools. Usigu Division was used because Usigu and Nyangoma Divisions had many characteristics in common. Piloting involved forty students and four teachers. The questionnaire was piloted to confirm if the items in it would solicit the required information.

3.7 Validity and Reliability of Instruments

Validity of the content of the tool used in the study was improved by seeking the help of experts in the department of Educational Foundations of Kisii University for the tool measures what it is supposed to measure. Reliability was tested using split-half technique. The responses were split into even and odd numbers. The 2 halves were correlated separately and a correlation of 0.54 was obtained. Since this correlation gave the reliability of each half of the test Spearman-Brown prophecy correlation formula was used to estimate the reliability of the whole test. A reliability of 0.7 was obtained for the research instrument using the expression:

$$ P_{xx}'' = \frac{2P_{xx}'}{1+P_{xx}'} $$

Where $P_{xx}''$ was the reliability coefficient for the whole test and $P_{xx}'$ was the correlation between the 2 halves. Since $P_{xx}''$ was greater than 0.6, then the instrument was considered reliable for Kothari (2004) confirms that a reliability of 0.6 is adequate.
3.8 Ethical Considerations

In order to respect and protect the participants and the research sites, the researchers observed the following ethical issues:

a) Protected the physical and psychological anonymity of the respondents by using pseudonyms to keep their identity anonymous. Pseudonyms were also used for the sampled secondary schools to further protect the anonymity of the respondents and their institutions.

b) Assured the respondents of confidentiality of the information they gave.

c) Sought the consent of the participants in order to participate in the study voluntarily.

d) Sought the consent of the participants in the study to use their photographs in the study.

e) Protected the anonymity of the subjects by camouflaging their pictures to keep their identity anonymous. This was done by shading their faces black.

3.9 Data Analysis

Qualitative data was analyzed thematically using Atlas.ti and presented as narrative passages in textual form based on key themes. Quantitative data from questionnaires was analyzed descriptively using Statistical Package for Social Sciences version 16. It was presented in form of descriptive statistic. Statistics was presented in numeral, graphical and tabular forms like pie charts, graphs and tables. Chi-Square statistics was used to determine the relationship between the independent and dependent variables.

4. RESULTS AND DISCUSSION

4.1 Fishing related activities which Secondary School Girl engage in

Determination of the fishing related activities which the secondary school girls in Nyangoma Division of Siaya County participate in was the first objective of this study. In an attempt to address it, respondents were required to name the fishing related activities they thought school girls engaged in. Table 4.1 below showed the responses obtained from students. The Table indicates that 1.3% of the students said that the girls in the Division engaged in fish production while over 40% said that girls engaged in fish processing. Also, 1.9% of the students said that girls engaged in repairing nets and hooks while another 5.7% indicated that they engaged in selling nets, hooks and baits. Approximately two thirds of students said that girls engaged in fish marketing (63%); in commercial sex at the beach (66%) and in “Sex for Fish” (60%).

<table>
<thead>
<tr>
<th>Fishing activity</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish production</td>
<td>2</td>
<td>157</td>
</tr>
<tr>
<td>Fish processing</td>
<td>71</td>
<td>88</td>
</tr>
<tr>
<td>Fish Marketing</td>
<td>100</td>
<td>59</td>
</tr>
<tr>
<td>Repairing nets, hooks</td>
<td>3</td>
<td>156</td>
</tr>
<tr>
<td>Commercial sex at beach</td>
<td>105</td>
<td>54</td>
</tr>
<tr>
<td>Engaging in “Sex for Fish”</td>
<td>96</td>
<td>63</td>
</tr>
<tr>
<td>Selling nets, hooks, baits</td>
<td>9</td>
<td>150</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>386</td>
<td>727</td>
</tr>
</tbody>
</table>

**SOURCE:** Field data, September 2013

The responses from teachers on the same subject are shown in Table 4.2 below. It was deduced from teachers that no girl engage in fish production; 56.3% of the teachers said that girls market fish; none repair nets and hooks while 6.3% of the teachers said that girls engaged in selling nets, hooks and baits. Over two thirds of the teachers said that girls engage in fish processing (69%), in commercial sex at the beach (88%) and in “Sex for Fish” (75%).

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Table 4.2: Response of Teachers on the Fishing Related Activities which Girls Engage in

<table>
<thead>
<tr>
<th>Fishing activity</th>
<th>Yes</th>
<th></th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>Fish production</td>
<td>0</td>
<td>0.0</td>
<td>16</td>
<td>100.0</td>
</tr>
<tr>
<td>Fish processing</td>
<td>11</td>
<td>68.8</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td>Fish Marketing</td>
<td>9</td>
<td>56.3</td>
<td>7</td>
<td>43.8</td>
</tr>
<tr>
<td>Repairing nets, hooks</td>
<td>0</td>
<td>0.0</td>
<td>16</td>
<td>100.0</td>
</tr>
<tr>
<td>Commercial sex at beach</td>
<td>14</td>
<td>87.5</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>Engaging in “Sex for Fish”</td>
<td>12</td>
<td>75.0</td>
<td>4</td>
<td>25.0</td>
</tr>
<tr>
<td>Selling nets, hooks, baits</td>
<td>1</td>
<td>6.3</td>
<td>15</td>
<td>93.8</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td></td>
<td>65</td>
<td></td>
</tr>
</tbody>
</table>

**SOURCE:** *Field data, September 2013*

It can be observed from Tables 4.1 and 4.2 that the total number of students and teachers respectively who responded to this question was more than the actual sample size. This was because some respondents gave more than one fishing related activity that girls engaged in. In general, it can be deduced from Tables 4.1 and 4.2 that girls do not participate in fish production (the actual fishing in the lake), repairing nets and selling nets, hooks and fish baits at the lake. This was because according to the lake community, it was a taboo for girls to engage in such activities. The lake community considered them to be jobs for men. These finding therefore confirm why boys at primary level of education don’t attend school since majority of them are fishermen or help their fathers in fishing. This finding was in agreement with the comment given by a teacher at Eastern Secondary School. The teacher said that “...A number of boys at primary school opt out of school to become fishers while girls remain in school...” *(Teacher*, Eastern Secondary School: September 23, 2013).

The findings of this study also revealed that the major fishing related activities which girls engaged in mostly were processing of fish; marketing of fish; commercial sex at the beach; and engagement in “sex for fish”. The girls who engaged in fish processing at the lake did so to help their mothers to process fish through sun drying and smoking. For the girls who engaged in commercial sex and “sex for fish”, they did so since they came from poor families implying that their parents did not have enough money to meet the basic needs of their daughters or those of their families. It also implied that the girls had been orphaned by natural attrition or by the HIV / AIDS scourge and hence had to look for money to take care of their siblings and themselves. Thus, the girls engaged in fishing related activities to supplement the family’s economy, to meet their needs or to be able to take care of their siblings. This suggested why the attendance of girls in secondary schools was very low in the Division since girls engaged in these activities at the expense of their studies. This concurs with what a student said. The student noted that:

...Some parents cannot question their daughters when they go out to the beach to engage in immoral activities. This is because they bring to them some money and / or food...fish specifically...thus supplementing the family economy... *(Student* Eastern Secondary School: September 30, 2013).

It can therefore be concluded that the major factors hindering girls’ attendance in education were economically determined. This finding was in agreement with the comment given by a teacher at Southern Secondary School when the teacher was asked to comment on the fishing related activities which girls engage in. The teacher said that:

...Most girls start to engage in fishing related activities from class 7 or 8. They mainly befriending fishermen or engage in commercial sex in order to get money to meet their basic needs. This is because most of their parents are poor to provide their basic needs... *(Teacher*, Southern Secondary School: September 23, 2013).

These responses given by the informants concur with the observations made by the researcher around the lake. The researcher observed school-age girls helping their mothers / guardians in buying fish; drying fish and selling fish along the beach. These observations were captured in still photographs as shown in Figures 4.1, 4.2, 4.3 and 4.4 below.
Figure 4.1: School Girls helping their Mothers to Buy Fish from Fishermen at the Lake

Figure 4.2: School Girls helping their Mothers / Guardians to Sun-Dry Fish

Figure 4.3: School Girls helping their Mothers to Sell Fish at a Local Market
4.2 Rate of Attendance of Girls’ in Secondary Schools in Nyangoma Division

The second research objective aimed at examining the rate of attendance of girls in the secondary schools of Nyangoma Division in Siaya County. In order to address this objective, respondents were asked to comment on the rate of attendance of girls. Generally, the study revealed that few girls attend school regularly in Nyangoma Division. These results are shown in Table 4.3 below. The table showed that of the 159 students who were involved in the study, about 41% said many girls attend school regularly while 59% disagreed. Further, 25% of the teachers involved in the study said YES while 12 teachers (representing 75% of the sample of teachers) refused.

<table>
<thead>
<tr>
<th>Do girls attend school regularly?</th>
<th>Students (N=159)</th>
<th>Teachers (N=16)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>65</td>
<td>40.9</td>
</tr>
<tr>
<td>No</td>
<td>94</td>
<td>59.1</td>
</tr>
<tr>
<td>Total</td>
<td>159</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The respondents were also asked to compare the attendance of the girl-child in secondary schools with that of the boy-child. Their response is shown in Table 4.4 below. The results showed that when girls’ attendance was compared to that of boys, below 51% of the students said that it was low, 30% said that it was high and about 20% said that it was moderate. The same Table also showed that 3 teachers said that the attendance of girls was high; one teacher said that it was moderate while 75% of the teachers said that it was low. These findings implied that the rate of girls attending secondary school in Nyangoma Division was low compared to that of boys.

<table>
<thead>
<tr>
<th>Attendance rate of girls compared to boys</th>
<th>Students (N=159)</th>
<th>Teachers (N=16)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>47</td>
<td>29.6</td>
</tr>
<tr>
<td>Moderate</td>
<td>31</td>
<td>19.5</td>
</tr>
<tr>
<td>Low</td>
<td>81</td>
<td>50.9</td>
</tr>
<tr>
<td>Total</td>
<td>159</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As evidenced in Tables 4.3 and 4.4, it follows that the low attendance of girls in the secondary schools of the Division is still a serious issue that needs both immediate and long-term remedial actions. The response from a teacher confirmed this outcome of the low attendance of girls. The teacher cited the prime causes of this trend to be child labour; commercial sex and “sex for fish”. Girls miss to go to school so that they can engage in such activities along the lake. Girls do so to get some money to meet their basic needs; supplement family income; or fend for their siblings who are orphans.

The facts illustrated in Tables 4.3 and 4.4 were further supported by the information got from the documentary analysis of the records in the secondary schools selected for the study in the Division. The data gathered from the class registers revealed that the attendance of girls was lower than that of boys. This information was shown in Table 4.5 below. The records further showed that the attendance of girls in secondary schools kept on reducing as they progress from Form one to Form four. Table 4.5 showed that the low attendance of girls in the secondary schools of the Division was still a serious issue that needs both immediate and long-term remedial actions.

<table>
<thead>
<tr>
<th>School</th>
<th>Gender</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Boys’ Boarding</td>
<td>Boys</td>
<td>12.5%</td>
<td>15.9%</td>
<td>21.6%</td>
<td>24.6%</td>
<td>22.8%</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern Secondary School</td>
<td>Boys</td>
<td>11.8%</td>
<td>14.7%</td>
<td>17.1%</td>
<td>14.9%</td>
<td>17.6%</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>2.0%</td>
<td>3.3%</td>
<td>2.4%</td>
<td>3.1%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Central Girls’ Boarding</td>
<td>Boys</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>18.3%</td>
<td>17.2%</td>
<td>20.8%</td>
<td>18.9%</td>
<td>21.6%</td>
</tr>
<tr>
<td>Southern Secondary School</td>
<td>Boys</td>
<td>16.6%</td>
<td>15.8%</td>
<td>16.9%</td>
<td>16.4%</td>
<td>17.1%</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>1.0%</td>
<td>0.8%</td>
<td>2.0%</td>
<td>2.0%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

**SOURCE:** School Registers, September 2013
As evidenced from the data in Tables 4.3, 4.4 and 4.5; which indicated that girls’ attendance was low, it therefore follows that the low attendance of girls in the secondary schools of the Division was still a serious issue that needs both immediate and long-term remedial actions. This implied that something needed to be done to help the girls in fishing regions in an attempt to fulfill the resolutions of the Human Right Convention. Failing to do so would be undermining the spirit of the 1990 World Conference on Education For All held in Jomtien, Thailand, that recognized the role of education in ensuring a safe, healthier, more environmentally sound world and a crucial contributor to social, economic and cultural progress (Wanjama, 1998:123). When teachers were asked to comment about this trend of low attendance of girls, a number of them cited commercial child labour in fisheries and fishing related economic activities. Closely related to this was Commercial Sexual Exploitation of Children (CSEC) like “sex for fish” and commercial sex along beaches where girls failed to attend school in order to engage in such activities. Girls basically did this to get money to meet their basic needs, supplement family income or fend for their siblings who are orphans. This finding was consistent with the finding of Nderitu (1987) who noted that some children withdrawn from school to look for money to supplement the family income and meet their needs.

4.3 Relationship between Fisheries and Attendance of Girls in Secondary Schools

The third study objective was to examine whether there was a relationship between fisheries and attendance of girls in secondary schools of Nyangoma Division in Siaya County. In order to find out the relationship between fisheries and girls’ attendance in school, informants were asked to mention if fisheries made the girls in the Division not to attend secondary schools regularly. Table 4.6 below illustrates the responses of students and teachers. The Table revealed that 39% of the students confirmed that fisheries led to the low attendance of girls in the Division while above half (61%) said that it does not. Further, 6 Teachers said YES and nearly two thirds (63%) said NO.

<table>
<thead>
<tr>
<th>Fishing sector and low girls’ attendance</th>
<th>Students (N=159)</th>
<th>Teachers (N=16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>F  62  39.0</td>
<td>F  6  37.5</td>
</tr>
<tr>
<td>No</td>
<td>F  97  61.0</td>
<td>F  10  62.5</td>
</tr>
<tr>
<td>Total</td>
<td>F 159 100.0</td>
<td>F 16 100.0</td>
</tr>
</tbody>
</table>

**SOURCE:** Field data, September 2013

In order to determine the level of significance between fisheries and girls’ attendance, a null hypothesis (H₀₁) was formulated for the study. It stated that “there was no significant relationship between fisheries and girls’ attendance in the secondary schools of Nyangoma Division”. This hypothesis was analyzed using Chi-Square test statistics to find out whether any significance exists between the two variables or not. Chi-Square test was computed from both the questionnaires of students and teachers using SPSS version 16. The results were as shown in Tables 4.7 and 4.8 below.

<table>
<thead>
<tr>
<th>Table 4.7: Chi-Square Tests from Students’ Questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>Chi-Squareᵃ</td>
</tr>
</tbody>
</table>

ᵃ 0 cells (.0%) have expected frequencies less than 5. Minimum expected cell frequency is 79.5

<table>
<thead>
<tr>
<th>Table 4.8: Chi-Square Tests from Teachers’ Questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>Chi-Squareᵃ</td>
</tr>
</tbody>
</table>

ᵃ 0 cells (.0%) have expected frequencies less than 5. Minimum expected cell frequency is 8.0

The Chi-Square values computed from the questionnaires of students and teachers respectively are shown in Tables 4.7 and 4.8. The Chi-Square Test got from Table 4.7 was 7.704 and its p-value was 0.003. Table 4.8 gave a Chi-Square value of 2.000 with a 0.002 significance level. The small significance level (0.003) got from Table 4.7 at α = 0.05 significance level shows that it is unlikely that the variables (namely fisheries and attendance of girls) were independent of each other. The same applies to the small significance level of 0.002 shown in Table 4.8 when compared to the 0.05 significance level. It can therefore be said confidently that there is a relationship between fisheries and attendance of girls. As such, the finding of the study was not in tandem with this null hypothesis (H₀₁)
stated. Therefore, the rejection of the null hypothesis implied that the alternative hypothesis was adopted. Hence, it can be said that there is a significant relationship between fisheries and attendance of girls in the secondary schools of Nyangoma Division in Siaya County in Kenya.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The first objective of this study showed that the major fishing related activities which girls in Nyangoma Division of Siaya County engaged in mostly were fish processing; fish marketing; commercial sex at the beach; and engagement in “sex for fish”. It also showed that girls do not engage in fish production; repairing nets; and selling nets, hooks and fish baits at the lake. This was because they were considered to be jobs for men and hence it was a taboo for girls to engage in such activities. The second objective revealed that the rate of girls attending secondary school in Nyangoma Division was low compared to that of boys. The study therefore concluded that there was a significant relationship between fisheries and attendance of girls in the secondary schools of Nyangoma Division in Siaya County.

5.2 Recommendations

The two kinds of recommendations that were generated are:

5.2.1 Need for Action

The study recommended that the Government of Kenya through the Ministry of Education and Constituency Development Fund should revise the mode of allocating bursaries and awarding scholarships to the needy girls in fishing regions to enable them to continue attending secondary school regularly. This will enable them to access education on an equal footing with boys.

5.2.2 Suggestions for Further Research

There is need to repeat the present study in other fishing regions in Kenya other than lake Victoria to find out the effect of fishing industry on girls’ participation in education.

REFERENCES


FAO, WorldFish Center and World Bank (2008). *Small-scale capture fisheries – A global overview with emphasis on developing countries: a preliminary report of the Big Numbers Project*. FAO and WorldFish Center, Rome & Penang.


