



## **Effects of Fishing Activities on the Academic Performance of Teenagers in Riverine Areas of Nigeria: Implications for Educational Development Policy in Nigeria**

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**Abstract:** This study examined the effects of fishing activities and socio-economic characteristics of teenagers who engage in fishing on their academic performance in Ibeno Local Government Area (L.G.A.) of Akwa Ibom State, Nigeria. Two communities were purposively selected and stratified random sampling was used to select fifty six teenage students who participate in fishing industry/activities. Sources of primary data were structured questionnaires and interviews. Analytical techniques used are descriptive statistics and logit regression technique. Results show that academic performance is statistically and inversely related to frequency of fishing per week and family size but directly and significantly related to fishing as a means of supporting academics. Recommendations include a national population policy option aimed at reducing family size and encouraging non-governmental organizations, philanthropists as well as business corporations to work unitedly with different levels of government in providing free education at lower levels and scholarships for higher studies to ease the suffering of teenagers who fish to support/finance their education.

**Keywords:** Teenagers; Fishing; Academic Performance; Development Policy.

## **Introduction**

### **Background Information**

Nigeria as one of the developing economies is characterized with poverty, high illiteracy rate and low infrastructure (Current Issues, 2002), many states of the south-south geopolitical zones of Nigeria are among the less educationally developed (JAMB, 1998). In these riverine areas, teenagers are actively engaged in the fishing industry. Fishing activities serve as source of livelihood to many families in the area. It is important to note that the world's population has been increasing more quickly than total fish supply. A decrease of "per capital fish supply from 14.6kg in 1987 to 13.1kg in 2002" (SOFIA, 2002) was reported, at the global level. In the mid 1960s, it was estimated that Nigerian fisheries brought in 120,000 tonnes of fish per year and imported 180,000 tonnes. But domestic fish production during the 1970s ranged from 600,000 to 700,000 tonnes annually. However, fisheries output, were relatively small in 1990s despite substantial investment in fisheries development (Nigerian fisheries 1999); and this low production cannot keep pace with its demand. Since fish is a highly tradable commodity which is in use for many purposes, especially for provision of protein at household level, its price increased. The increasing price of fish appeals to many fishermen.

It has been reported that emergence of the fiscal policy reforms through the Structural Adjustment Programme (SAP) and its accompanying economic recession forced many families to subsist on farming activities (Arene and Mkpado 2004). Given such poverty level and abundant water resources in South-South Nigeria, many people including teenagers intensified their fishing activities; evidently more time is needed for a 'good' catch.

### **Problem Statement**

Poverty, low level of education/high illiteracy rate among the populace

including teenagers constitutes policy issues in Nigeria (Current Issues, 2002). A sure antidote to high illiteracy rate is adequate education of the teenagers, which is faced with many challenges especially changing attitudes of pupils and factors causing such changes. One of the works on attitudes of pupils was that of Ohuche (1986). Her work on identification of ideal pupils noted that rebellious actions characterizing non-ideal pupils in Nigeria include negative attitude, stubbornness and non-conformity to rules. Non conformity to rules includes especially absenteeism from school. Such non-ideal pupils are often considered as embodiment of delinquent behaviour. Teenagers who tend to be independent of their families but dependent on other teenagers are often associated with negative outcomes which militate against success of schools' and parents' partnership efforts on pupils discipline (Heystek, 2003). Often seeming improper actions of pupils are reported without giving reasons why teenagers choose such course. Thus, literature works like those of Ohuche (1986) and (Heystek (2003) have been able to address partially those issues that concern education of teenagers which are very important for their academic success (Sheldon and Epstein, 2003).

Human societies are dynamic and current studies are needed to explain the rationale behind actions of people especially teenagers with respect to their schooling in order to have informed judgment about them and how best to help them. For example, in discussing about true counter-urbanites and their real world; Champion (1989) and Berry (1976) noted that counter-urbanites are trying to cope with new economic, physical and social life they encounter. One who does not understand this can easily be prejudiced about them. But is it always the case? Could there be any positive relationship between teenage participation in fishing and their academic performance? It is pertinent to note that in their famous book *Eze goes to school*, Onuora and Micheal (1963) showed that Eze had to do menial jobs to pay his school fees. Just like Eze, many teenagers today could be faced with complex ever-extending world to deal with.

Family size has been a source of farm labour for subsistence/small-scale

farmers in Nigeria, such that the marginal productivity of labour is almost zero because of its over exploitation in agricultural activities (Arene and Mkpado, 2004). Analyses are needed to determine if the effect of teenage participation in fishing industry is following a similar pattern with respect to their academic performance. It could be possible that large family size impacts positively on academic performance, if older ones are seizing every opportunity to educate the younger ones in their family. On the other hand, given the poor financial status of the rural economy, large family size could be a heavy burden on the parents such that provision of basic amenities/services in life such as health, education, clothing and housing suffer tremendously, and this will be reflected on the academic performance of students. Empirical documentation of socio-economic characteristics of teenage students who engage in fishing activities and impact of fishing activities on their academic performance should be of interest to policy makers such that laudable educational programmes in Nigeria will be able to understand what is happening to their clients and possible actions to take in order to serve the people better.

### **Objectives of the Study**

The broad objective of the study is to ascertain effects of fishing activities and socio-economic characteristics of teenagers who participate in fishing industry on academic performance of such teenagers in Akwa-Ibom state. Specifically, the study aimed at:

- i. describing the socio-economic characteristics of school teenagers who are involved in fishing activities;
- ii. determine the reasons why school teenagers partake in fishing activities;
- iii. determine the effects of their socio-economic characteristics and fishing activities on the academic performance of such students;

- iv. outline the socio-economic consequences of teenage engagement in fishing business and
- v. make policy options to enhance academic development of teenagers.

**Study Hypotheses:** Null hypotheses tested are:

- i. academic performance does not depend on socio-economic characteristics of teenagers
- ii. academic performance does not depend on participation in fishing activities.

### **Conceptual Considerations:**

Fishing is a form of primary production which is distinct from core agriculture (cultivation of soil) noted Brandt (1984). Traditional fishing is still basically conducted along the ancient patterns of hunting the wild living stocks in water as nature provided them (Jackson, 1971). However, according to Anderson (1986) “fishing consists of integrated activity directed towards fish production”. Fishing activities are concentrated mostly at places called fishing station. A fishing station is a special type of site located on streams, lakes, oceans beaches, or their banks where fishing activities are carried out. Such activities include net mending, removal of fish from nets, selecting/sorting of fish according to their sizes, repairing of fishing boats, setting and re-setting of nets. When the fishing station is of lower capacity, some of these processing works are done at home. They include sorting, washing, salting, fish drying/smoking, stocking in baskets/bagging for sale.

The teenage period as part of adolescence age is a difficult time for proper socialization of the child. Allen and Unwin (1975) noted that teenagers are “faced with a complex ever-extending world”. A good opportunity can be lost if teenagers are not guided very well or they revolt against instructions from their elders and superiors. As the teenagers discover themselves in poverty they tend to seek menial jobs. Such jobs especially fishing pre disposes them to sickness like

pneumonia and physical injury as well as take away a lot of time for academic progress. In the long run, these communities with abundant water resources, whose majority of teenagers engage in fishing, may be less educated than their contemporaries. This may lead to low human resources development with respect to handling leadership in government offices and corporate bodies.

## **Methodology**

### **The Study Area**

This study was conducted in Ibeno Local Government Area (L.G.A.) of Akwa Ibom State. It falls into Eket zone of the three political zones of the state. It comprises 85 villages, 25 gazetted and 60 ungazetted villages. Ibeno has a total population of 44113 with males having a population of 23028 exceeding that of female population of 21085 (NPC, 1991). Ibeno was purposively selected for this study because most of the inhabitants are engaged in fishing and trading on fish products.

### **Sampling Procedure and Size**

Two communities namely Iwo-achang and Ubenekang were purposely selected; the choice of these two areas stems from the fact that fishing activities were more concentrated in them than other areas in the state. Stratified random sampling was used to select 28 respondents from each of the afore-selected two communities. This gave a total of 56 teenager students who engaged in fishing activities.

### **Data Collection**

Both primary and secondary data were used for the study. Sources of primary data were questionnaires, interviews and observations, sources of secondary data were published and unpublished materials in ministries and libraries, specifically, journals, textbooks, newsletters and magazines were helpful to this study.

## Data Analyses

Descriptive statistics and logit regression technique were employed in data analyses, objectives i, ii, and iv, were achieved using descriptive statistics while objective iii, was achieved using logit regression technique. It was expressed as:

$$Y = b_0 + b_1 X_1 + X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_6 X_6 + e$$

Y = a dummy variable with one for pass possessing at least an average of 50 percent in all school subjects else zero which implies failure

X<sub>1</sub> = a dummy variable for gender with a value of one for females and zero for males.

X<sub>2</sub> = number of times fishing is practiced in a week (frequency of fishing in a week).

X<sub>3</sub> = average time in hours spent on fishing per day

X<sub>4</sub> = family size: Number of people in a family.

X<sub>5</sub> = purpose of fishing: A dummy variable with a value of one for fishing to support schooling and zero otherwise.

X<sub>6</sub> = age of the teenager in years.

b<sub>0</sub> = Constant

b(s) = Coefficients

e = Sample error term.

The model above was also used in testing the hypotheses.

## Results and Discussion

### Socio-Economic Characteristics of Schooling Teenagers Involved in Fishing Activities

**Sex:** The study showed that 54 percent of the teenagers who engaged in fishing were males while 46 percent were females. (See Table 1) this implied that males participated more in fishing activities than females. Gender can be a factor in

academic performance. Ligeve, et al.(2012) observed that boys who did not get involved in fishing activities had a significantly higher academic achievement mean score than girls who also did not. On the other hand, boys who were involved in fishing activities had a significantly higher academic mean score than girls involved in fishing activities.

**Table 1:** Frequency distribution of respondents according to their gender

<b>Sex</b>	<b>Frequency</b>	<b>Percentage</b>
Male	30	54
Female	26	46
<b>Total</b>	<b>56</b>	<b>100</b>

**Source:** Computed from field data

#### **Family Size:**

The majority of the respondents were from homes with a family size of about four to six persons (see Table 2). This can exert much economic pressure on parents given the poor rural economy they occupy. Stated explicitly, 51 percent and 25 percent of the respondents were from families consisting of 4 to 6 and 7 – 10 persons respectively.

**Table 2:** Frequency Distribution of Respondents according to their Family sizes

<b>Family size</b>	<b>Frequency</b>	<b>Percentage</b>
1 – 3	12	21.42
4 – 6	29	51.78
7 – 10	14	25.00
Above 10	1	1.80
<b>Total</b>	<b>66</b>	<b>100</b>

**Source:** Computed from field data



**Educational Level:** sixty four percent of the teenagers were in secondary schools while 35 percent were in primary schools, (See Table 3). There is the danger of getting physically injured by engaging in fishing activities in a river. If one sustained injury, it can limit his/her participation in school activities.

**Table 3:** Distribution of Respondent According to their Educational Level

<b>Educational Level</b>	<b>Frequency</b>	<b>Percentage</b>
Primary education	20	35.72
Secondary education	36	64.28
<b>Total</b>	<b>56</b>	<b>100</b>

**Source:** Computed from field data

### **Academic Performance**

Further investigation showed that only 12 percent of teenagers who engaged in fishing could take an academic performance position of 1<sup>st</sup> to 5<sup>th</sup> in their classes. The majority of them as represented by 30 percent of the respondents could take performance positions from 16<sup>th</sup> to 20<sup>th</sup> in their class (see Table 4).

**Table 4:** Distribution of Respondents According to their Academic Performance in Class

<b>Position Range</b>	<b>Frequency</b>	<b>Percentage</b>
1 – 5	7	12.56
6 – 10	15	26.78
11 – 5	7	12.50
16 – 20	17	30.35
Above 20	10	17.85
<b>Total</b>	<b>56</b>	<b>100</b>

**Source:** Computed from field data

The academic performance position of the teenagers had a relationship with their class average score. Teenagers whose positions ranged from 1 to 15 had above 50 percent as their average score; while beyond 15<sup>th</sup> position, only very few teenagers still possessed a pass mark (average score) of 50 percent. Further investigation showed that teenagers in the same environment who were not engaged in fishing activities performed better in their classes by having an average performance score of 60 percent for those whose positions ranged from 1 to 15.

**Frequency of their fishing in days:** Sixty four percent of the respondents engaged in fishing 3 - 4 days in a week, (See Table 5). ). This is the time such students should spent in academic work. It will not be a surprise if engagement in fishing activities limits academic performance.

Table 5: **Percentage Distribution of Respondents According to Frequency of fishing in days**

<b>Days of fishing</b>	<b>Frequency</b>	<b>Percentage</b>
1 – 2	12	21.42
3 – 4	36	64.28
5 – 6	5	8.92
Everyday	3	5.35
<b>Total</b>	<b>56</b>	<b>100</b>

**Source:** Computed from field data

**Number of Hours Spent on each Fishing per day:** Forty one and forty two percent of the respondents spent 3 – 4 and 5 – 6 hours each day on fishing (see table 6). All things being equal, this practice affected their academic performance especially where conscious effort was not made to cover the lost hours. Similarly,

Ligeve, et al.,( 2012) reported that pupils in Suba and Homa-Bay Districts of Kenya who were involved in fishing activities had a significantly lower academic achievement mean score than those not involve.

**Table 6: Frequency distribution of respondents according to number of hours spent on fishing per day.**

<b>Hours spent on each fishing day</b>	<b>Frequency</b>	<b>Percentage</b>
1 – 2	7	12.50
3 – 4	23	41.07
5 – 6	24	42.85
Above 6	2	3.57
<b>Total</b>	<b>56</b>	<b>100</b>

**Source:** Computed from field data

### **Reasons for teenagers' involvement in fishing works:**

Fifty percent of the respondents engaged in fishing to support their family income and education (Table 7). This showed that many teenagers were aware of the financial stress their parents were experiencing in order to support their education. Although fishermen and fishing activities abound in the area, only seventeen percent of the teenagers engaged in these activities as hobby. It is pertinent to add that the involvement of thirty two percent of teenagers in fishing activities for their personal (selfish) income could be unhealthy. This is because many of them indicated that they used their money to drink alcoholic beverages (beer), smoke cigarette and often visit cinema houses at the expense of their studies.

**Table 7: Frequency Distribution of Teenagers According to Primary Reason for Participating in Fishing Activities**

<b>Reasons</b>	<b>Frequency</b>	<b>Percentage</b>
Personal income	18	32.14
Support family income/Education	28	50.00
Pleasure/hobby	10	17.85
<b>Total</b>	<b>56</b>	<b>100</b>

**Source:** Computed from field data

### **Logistic Regression Result:**

**Test of the hypotheses:** The alternate hypotheses should be accepted and the null rejected based on the models high  $R^2$  of 0.627, overall statistics of 27.126 and significant variable discussed above. Details on specific variables are presented in discussion of the significant variables in the model. The model showed that frequency of fishing per week ( $X_2$ ) at 5 percent probability level negatively and significantly affected academic performance. Increasing frequency of participation will reduce academic performance by 0.419 (its odd multiplier). It implies that momentary participation in fishing or average time spent on each fishing day ( $X_3$ ) is not a problem to academic development but increasing the frequency of participation in fishing.

With respect to socio-economic characteristics, only family size ( $X_4$ ) significantly affected academic performance. It has at 5 percent probability level negatively and significantly affected academic performance. Increasing family size will reduce academic performance by 0.427 which is its odd multiplier.

**Table 8: A table showing logit regression result**

Variables in equation	B-coefficients	St. Error	Wald Statistics	Multiplier Exp (B)
X <sub>1</sub>	1.492	0.922	2.616	4.444
X <sub>2</sub>	-0.869**	0.431	4.057	0.419
X <sub>3</sub>	0.354	0.261	1.840	1.425
X <sub>4</sub>	-0.851**	0.401	4.508	0.427
X <sub>5</sub>	2.223*	0.905	6.039	9.234
X <sub>6</sub>	-0.097	0.216	0.200	0.908
Constant	5.534	4.260	1.688	253.269

**Nag. R<sup>2</sup>** = 0.627, overall statistics\* = 27.126

\* and \*\* = significant at 1% and 5% probability level respectively

Source: Computed from field data

The only positive and significant variable in the model was the proxy used to denote fishing to support education (X<sub>5</sub>) which at one percent probability level positively and significantly affected academic performance. It implied that teenagers who engaged in fishing to support their schooling were cautious and did not allow fishing to unduly interfere with their academic programme. So, relieving them of the suffering will evidently allow them the good opportunity to do their best academically. However, it is pertinent to note that the intercept is not significant. This implies statistically that deliberate and diligent efforts are required to pass examinations despite one's socio-economic characteristics.

### **Socio-Economic Consequences of Teenage Participation in Fishing Activities**

This was identified by examining where the students visited and what they

did with their money. Many of the teenagers who participated in fishing visited cinema houses, beach and hotels (see Table 8).

**Table 9:** Distribution of respondents according to where they visited

<b>Place of Visit</b>	<b>Frequency *</b>	<b>Percentage</b>
Cinema	25	34.70
Beach	10	22.20
Hotels	10	16.70
Others	19	26.4
<b>Total</b>	<b>72</b>	<b>100.00</b>

**Source:** Computed from field data

\* Multiple response were recorded

These teenagers have started drinking alcoholic beverages like beer, while others have started smoking. These were unhealthy habits which they needed to stop (see Table 10). About 33 percent use the money they get from fishing business exclusively for supporting their schooling. Really such ones need encouragement.

**Table 10: Distribution of Respondents according to What they spent their money on.**

<b>Items</b>	<b>Frequency*</b>	<b>Percentage</b>
Beer	14	14.7
Soft drinks	31	32.6
Cigarette	18	18.9
Support Schooling	32	33.6
<b>Total</b>	<b>95</b>	<b>100</b>

**\*Multiple response were recorded**

**Source: Computed from field data**

**Summary and Recommendations for Development Policy**

It has been demonstrated that teenagers participated actively in fishing industry in Akwa Ibom state of Nigeria. Momentary participation was not a problem but the habit of continuous fishing. Teenagers from large families engaged in fishing more than those from smaller families. And this large family size is negatively and significantly related to academic performance. The study also showed that many teenagers who engaged in fishing for their private (selfish) income were developing bad traits by smoking, consuming alcoholic drinks and visiting questionable sites in town. The regression model illustrated also that deliberate effort was required to pass any examination despite ones socio-economic characteristics and that teenagers who fished to support their education understood this. Consequently, the following recommendations were made:

- Government should determine the number of children per family to ensure adherence to population control option through birth control.
- Government should enact and enforce laws that will prohibit or limit teenagers' participation in fishing industry or any other personal income earning motivated industry for that matter.
- Adequate funding of the ongoing universal basic education by government is recommended to at least support the education of indigent students.
- Non government organizations, corporate bodies and philanthropists should support the call for free education and scholarships to ease the sufferings of teenagers who participated in fishing industry to fund/support their education.
- Parents should monitor/restrict their children from participating in fishing because it might lead to child abuse.

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