

# STRUCTURAL PERFORMANCE OF ARTISANAL FISH MARKETING IN ONDO STATE, NIGERIA.

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# INTRODUCTION

Fish is very important in the diet of many Nigerians, high in nutritional value with complete array of amino acids, vitamins and minerals. In addition, fish products are relatively cheaper compare to beef, pork and other animal protein sources in the country .

It is a known fact that fish has become the important source of protein to people in order to substitute for other animal proteins. This is the reason for the importance of the marketing of fish as marketing aids its distribution to the entire populace.

# METHODOLOGY

- **Study Area:** The study was carried out in Ilaje and Ese-Odo Local Government Areas of Ondo State, Nigeria. These areas were selected for the study because of their suitability for fishing activities as they are close to rivers where fishes are always available for consumption.
- **Data Sources and Collection:** Data collected for the purpose of this study were gotten from primary source through the use of well structured questionnaires.

- Multistage sampling technique was employed in the selection of the respondents in the study area.
- Stage 1: Purposive sampling technique
- Stage 2: Random sampling technique
- Stage 3: Random sampling technique

### **Analytical techniques:**

- Descriptive statistics were used to analyze the socio-economic characteristics of the artisanal fish marketers and problems facing the marketers.
- Budgeting analysis such as gross margin, net return and marketing margin analysis were used to analyze the profitability of artisanal fish marketing

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- Concentration ratio, Gini-coefficient, Lorenz curve and Herfindahl index were used to measure the market structure.

- Gross Margin Analysis (GM) =  $TR - TVC$   
where GM=Gross Margin,  
TR=Total Revenue,  
TVC=Total Variable Cost.

Net returns is also given as;

$$\text{Net Returns} = TR - TC$$

where TR=Total Revenue,  
TC=Total Cost.

$$\text{Concentration ratio } CR_i = \frac{\sum_{i=1}^i (s_i)}{\sum_{i=1}^n (s_i)}$$

$CR_i$  = Concentration ratio for first  $i$  firms

$S_i$  = Share of the largest  $i$  firms in the industry

$S_n$  = Share of the  $n$  firms in the industry

$i = 1, 2, 3, \dots, n$

$n$  = number of respondents.

$$\text{Herfindahl index (HI)} = \sum_{i=1}^n (s_i)^2$$

where  $i = 1, 2, 3, \dots, n$ ,

$n$  = number of respondents,

$S$  = share of firm in the industry.

$$\text{Gini-coefficient} = G = \frac{A}{(A + B)}$$

$A$  = Area that lies between the line of equality and the lorenz curve

$A+B$  = Total area under the line of equality

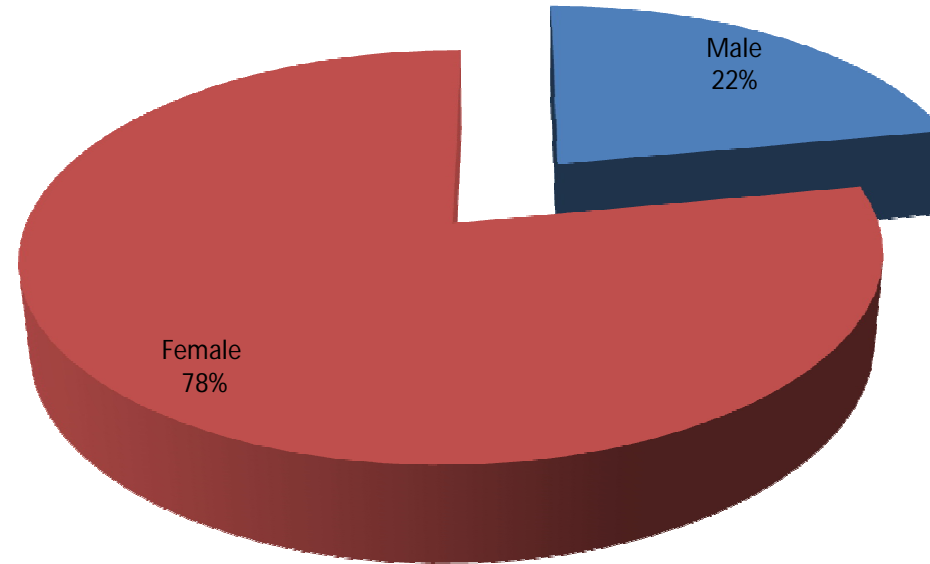


# RESULTS AND DISCUSSION

## Socio-economic characteristics

**Table I: Age Distribution**

Age (Years)	Frequency	Percentage
$\leq 20$	12	4.8
21-30	68	27.2
31-40	94	37.6
41-50	51	20.4
$> 50$	25	10
Total	250	100



- Figure1: Gender Distribution of the Respondents

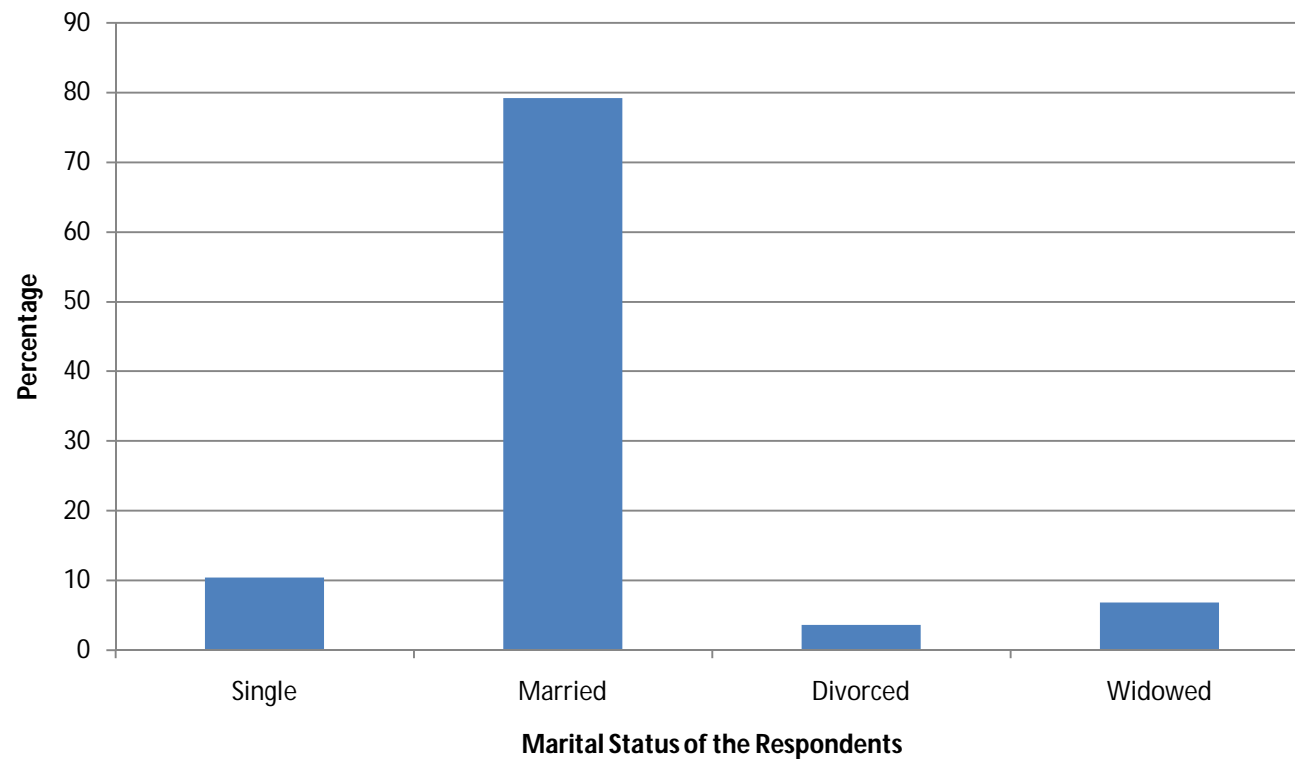


Figure 2: Marital Distribution

**Table II: Level of Education**

<b>Level of Education</b>	<b>Frequency</b>	<b>Percentage</b>
No Formal	48	19.2
Primary	104	41.6
Secondary	60	24
Tertiary	38	15.2
<b>Total</b>	<b>250</b>	<b>100</b>

**Table III: Family Size**

<b>Family size</b>	<b>Frequency</b>	<b>Percentage</b>
1-3	42	16.8
4-6	112	44.8
7-9	38	15.2
10-12	30	12
>12	28	11.2
<b>Total</b>	<b>250</b>	<b>100</b>

**Table IV: Major Occupation**

<b>Major Occupation</b>	<b>Frequency</b>	<b>Percentage</b>
Fish marketing only	90	36
Fish processing only	46	18.4
Fish processing & Marketing	82	32.8
Civil servant	32	12.8
<b>Total</b>	<b>250</b>	<b>100</b>

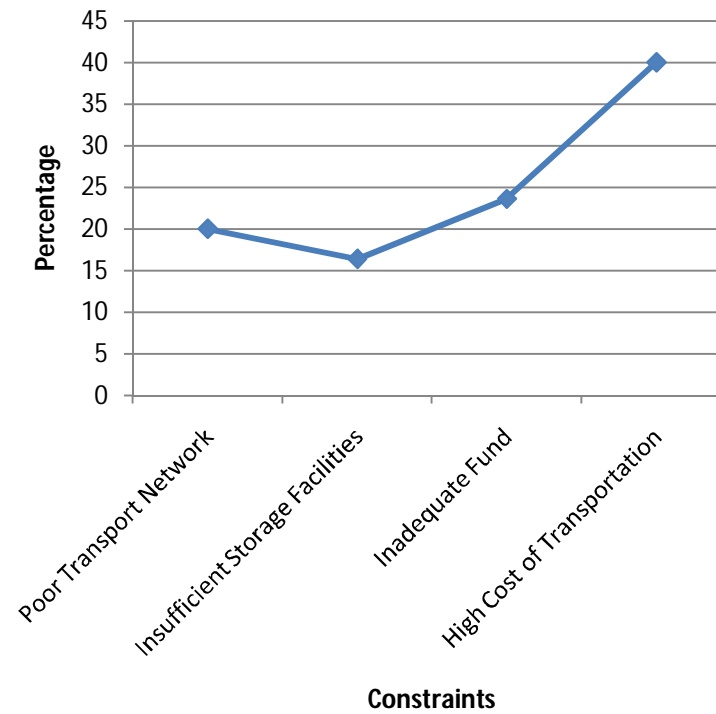
**Table V: Experience**

<b>Experience</b>	<b>Frequency</b>	<b>Percentage</b>
≤5	71	28.4
6-10	57	22.8
11-15	34	13.6
16-20	44	17.6
>20	44	17.6
<b>Total</b>	<b>250</b>	<b>100</b>

**Table VI: Source of Finance**

<b>Source of Finance</b>	<b>Frequency</b>	<b>Percentage</b>
Personal savings	86	34.4
Friends and relations	43	17.2
Cooperative and Esusu	72	28.8
Trade Association	14	5.6
Banks	35	14
<b>Total</b>	<b>250</b>	<b>100</b>





**Figure 3: Constraints facing Artisanal Fish Marketers**

# PROFITABILITY ANALYSIS

- **Table VII: Profitability Analysis of the Respondents**

<b>Variables</b>	<b>Value</b>
Quantity of fish sold (kg)	535,397
Cost of Purchase (₦)	88,418,161
Cost of transportation (₦)	4,780,430
Wages (₦)	3,829,625
Other operating expenses(₦)	1,396,565
Total variable costs(₦)	98,424,781
Fixed costs (₦)	3,468,564.70
Total costs (₦)	101,893,345.7
Total revenue (₦)	175,296,274.4
Gross margin(₦)	76,871,493.4
Net profit (₦)	73,402,928.7
Marketing margin(₦)	86,878,113.4
Gross margin/kg	143.58
Net profit/kg	137.10
Marketing margin/kg	162.27

**Table VIII: Summary of Concentration Indexes**

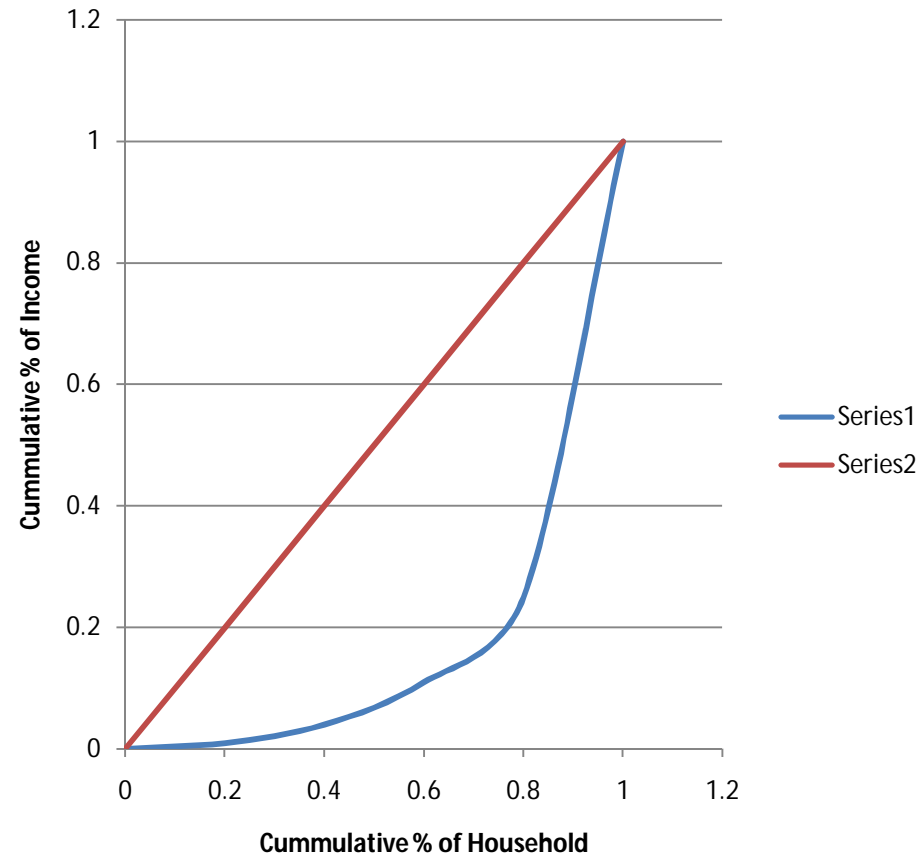
<b>Index obtained</b>	<b>Symbol</b>	<b>Formula Used</b>	<b>Value</b>
Concentration Ratio	CR	$\frac{\sum_1^i (s_i)}{\sum_1^n (s_n)}$	$CR_2 = 25\%$ $CR_4 = 39\%$ $CR_8 = 49\%$
Herfindahl Index	H.I	$\sum_{i=1}^n (s_i)^2$	0.05
Gini Coefficient	G.C	$G = \frac{A}{(A+B)}$	0.64

**Table IX: Computation of Gini Coefficient for Artisanal Fish Marketing in the Study Area**

Quintile	Income	Proportion of Income	Cumulative of Income	Proportion of Quintile
0	0	0	0	0
20	1752962.744	0.01	0.01	0.2
40	5258888.234	0.03	0.04	0.4
60	12270739.21	0.07	0.11	0.6
80	24541478.42	0.14	0.25	0.8
100	131472205.4	0.75	1.00	1.0
• Total	175296274.4			

$$\text{Gini-coefficient} = G = \frac{A}{(A+B)}$$

$$\text{Gini coefficient} = \frac{0.318}{0.50} = 0.636 = 0.64$$



**Fig 4: Lorenz Curve for the Artisanal Fish Marketers**

# CONCLUSION

- It can, therefore, be concluded that artisanal fish marketing is profitable and higher profit margin can be attained by the marketers if attentions are given to the problems identified by the respondents.

# RECOMMENDATION

- Relevant government parastatals, extension workers and non governmental organizations should organize programmes that will improve artisanal fish marketing.
- Awareness should be created on the formation of better organized fish marketing cooperative societies through which some of their problems can be collectively solved and series of benefits can easily be accessed by the members.

- Credit facilities should be made available by credit institutions and agencies to improve fish marketing.
- Sophisticated storage facilities/cold rooms should be provided by the government as well as cooperative societies in order to have easy storage of unsold fish till the following day.



THANK YOU  
FOR  
LISTENING