THE STRUCTURE OF WHOLESALE AND RETAIL MARKETING OF FARM RAISED CATFISH (*Clarias gariepinus* BURCHELL, 1822) IN SOUTHWEST, NIGERIA

**A.O. AYANBOYE*, **M.O. IPINMOROTI**
**AND O.Z. OLANIYI**

* *Oyo State College Of Agriculture, Igboora ayanoluyemi@yahoo.com*
**Osun State University, Osogbo**
The African catfish *Clarias gariepinus* (Burchell, 1822) is one of the most suitable species for aquaculture in Africa.

The market for African catfish in sub-Saharan Africa is developing and demand for it is continuously increasing.

Over 70 percent of cultured African catfish is currently sold fresh.
Structure influences the performance of a market
Knowledge of the structure gives an indication about market competitiveness
Market structure is measured by variables like
  • Degree of market concentration
  • Condition of entry into the market and
  • Magnitude of product differentiation (Acharya and Agarawal, (2004))
Farm raised catfish \((Clarias gariepinus)\) is concentrated in few and designated markets. It is consumed by some classes of people, and there are fewer number of sellers and buyers in Nigeria. This study is therefore necessary to look into the structure of the market of farm raised African catfish.
OBJECTIVES

To determine

- the degree of market concentration,

- the condition of entry in the market and

- the magnitude of product differentiation.
MATERIALS AND METHODS

- A multi stage random sampling method was employed to select the respondents for the study.

- The six urban towns chosen for the purpose of the survey were: Ibadan, Abeokuta, Ikeja, Osogbo, Akure and Ado Ekiti all in Nigeria.
64 wholesalers and 137 retailers of farm raised *Clarias gariepinus* were selected. Data were collected in each markets on a fortnightly basis for fifteen months. Data were analysed using descriptive statistics of frequency distribution, and Lorenz curve with the accompany Gini coefficient.
RESULTS AND DISCUSSION

- The wholesaling and retailing in the area of study revealed an oligopolistic competition.
- The products sold were not completely homogenous (size differs) and there is an evidence of price discrimination.
- The markets are characterized by existence of barriers to entry for potential entrepreneurs due to
MATERIALS AND METHODS

THE LORENZE CURVE

It was obtained by plotting the cumulative percentage of each category of distributor of the catfish arranged in order, from the smallest number to the largest, against the cumulative percentage of their sales/earning.

A line of equal distribution (LED) is a straight line from the origin, which is $45^0$ to the origin.
Lorenze curve contd

- The extent to which the plot obtained by the Lorenz curve swings away from the LET (Line of equal distribution) is a measured of the inequality in the distribution of the variables of interest (Harqer 1977).

- The degree of inequality in sales is estimated by reading the curve at a point where it lies farthest from the line LED.
Ginni Coefficient: $1 - \sum XY$

Where

$X = \% \text{ of distributors}$

$Y = \text{Cumulative } \% \text{ of total sales of distributors}$
RESULTS AND DISCUSSION CONT'D

The presence strong fish seller associations in each market
Lack of access to start up and working capitals from banks (Tables 1)
# DISTRIBUTION OF FISH SELLERS ACCORDING TO SOURCE OF START UP CAPITAL

<table>
<thead>
<tr>
<th>Start up capital</th>
<th>Wholesalers</th>
<th></th>
<th>Retailers</th>
<th></th>
<th>Both sellers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
</tr>
<tr>
<td>Personal saving</td>
<td>38</td>
<td>59.4</td>
<td>88</td>
<td>64.2</td>
<td>126</td>
<td>62.7</td>
</tr>
<tr>
<td>Friend and relatives</td>
<td>3</td>
<td>4.7</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>1.5</td>
</tr>
<tr>
<td>Co – operatives</td>
<td>7</td>
<td>10.9</td>
<td>-</td>
<td>-</td>
<td>7</td>
<td>3.5</td>
</tr>
<tr>
<td>Esusu</td>
<td>12</td>
<td>18.8</td>
<td>49</td>
<td>35.8</td>
<td>61</td>
<td>30.3</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>100</td>
<td>137</td>
<td>100</td>
<td>201</td>
<td>101</td>
</tr>
</tbody>
</table>


The estimated Ginni coefficient for wholesalers is 0.66 (Table 2) while that of retailers is 0.60 (Table 3). Similarly, Ugwumbai, et al (2010) found the same result for the marketing of live Catfish.
RESULTS AND DISCUSSION

- Some degree of concentration was observed in the wholesale than the retail market subsector of *Clarias gariepinus*. Similar report was given by Godara et al. (2004) in the marketing pattern of fisheries in Haryana.

- The Lorenze curves reveals a wide swing away from the Line of Equal Distribution (LED), indicating high concentration of imperfection in both markets (Fig 1).
Table 1: Distribution of Wholesalers by weekly sales in Southwest, Nigeria

<table>
<thead>
<tr>
<th>Sales Interval</th>
<th>Number of Wholesaler</th>
<th>% of Wholesaler</th>
<th>Cumm of Wholesaler</th>
<th>Total Value of Sales (₦)</th>
<th>Total % of Sales</th>
<th>Cumm % of Total Sales (Y)</th>
<th>Σxy</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20,000</td>
<td>19</td>
<td>29.69</td>
<td>29.69</td>
<td>285,000</td>
<td>8.68</td>
<td>8.68</td>
<td>0.0256</td>
</tr>
<tr>
<td>20,000&lt;40,000</td>
<td>11</td>
<td>17.19</td>
<td>46.89</td>
<td>352,500</td>
<td>10.73</td>
<td>19.41</td>
<td>0.0334</td>
</tr>
<tr>
<td>40,000&lt;60,000</td>
<td>12</td>
<td>18.75</td>
<td>65.63</td>
<td>360,000</td>
<td>10.97</td>
<td>30.38</td>
<td>0.0570</td>
</tr>
<tr>
<td>60,000&lt;80,000</td>
<td>7</td>
<td>10.94</td>
<td>46.88</td>
<td>434,000</td>
<td>13.22</td>
<td>43.60</td>
<td>0.0477</td>
</tr>
<tr>
<td>80,000&lt;100,000</td>
<td>7</td>
<td>10.94</td>
<td>87.50</td>
<td>595,000</td>
<td>18.13</td>
<td>61.73</td>
<td>0.0675</td>
</tr>
<tr>
<td>100,000&lt;120,000</td>
<td>5</td>
<td>7.81</td>
<td>95.31</td>
<td>595,800</td>
<td>18.15</td>
<td>79.89</td>
<td>0.0624</td>
</tr>
<tr>
<td>&gt;120,000</td>
<td>3</td>
<td>4.69</td>
<td>100</td>
<td>660,000</td>
<td>20.11</td>
<td>100</td>
<td>0.0469</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td></td>
<td></td>
<td>3,281,800</td>
<td></td>
<td></td>
<td>0.3406</td>
</tr>
</tbody>
</table>

Mean Value of Weekly Sale = ₦ 51,578.13 = $326

Ginni Coefficient = 1−0.3406
                = 0.66
Table 2: Distribution of Retailers by weekly sales in Southwest, Nigeria

<table>
<thead>
<tr>
<th>Sales Interval</th>
<th>Number of Wholesaler</th>
<th>% of Wholesaler (X)</th>
<th>Cumm of Wholesaler %</th>
<th>Total Value of Sales (₦)</th>
<th>Total % of Sales</th>
<th>Cumm % of Total Sales (Y)</th>
<th>Exy</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5,000</td>
<td>31</td>
<td>22.63</td>
<td>22.63</td>
<td>139,500</td>
<td>8.12</td>
<td>8.12</td>
<td>0.0184</td>
</tr>
<tr>
<td>5,000&lt;10,000</td>
<td>27</td>
<td>19.71</td>
<td>42.34</td>
<td>176,800</td>
<td>10.29</td>
<td>18.41</td>
<td>0.0363</td>
</tr>
<tr>
<td>10,000&lt;15,000</td>
<td>25</td>
<td>18.25</td>
<td>60.58</td>
<td>251,250</td>
<td>14.63</td>
<td>33.04</td>
<td>0.0603</td>
</tr>
<tr>
<td>15,000&lt;20,000</td>
<td>21</td>
<td>15.33</td>
<td>75.91</td>
<td>319,200</td>
<td>18.58</td>
<td>51.62</td>
<td>0.0791</td>
</tr>
<tr>
<td>20,000&lt;25,000</td>
<td>20</td>
<td>14.60</td>
<td>90.51</td>
<td>402,000</td>
<td>23.40</td>
<td>75.03</td>
<td>0.1095</td>
</tr>
<tr>
<td>25,000</td>
<td>13</td>
<td>9.49</td>
<td>100</td>
<td>429,000</td>
<td>24.95</td>
<td>100</td>
<td>0.0949</td>
</tr>
<tr>
<td>Total</td>
<td>137</td>
<td></td>
<td>100</td>
<td>1,717,750</td>
<td>24.95</td>
<td>100</td>
<td>0.3985</td>
</tr>
</tbody>
</table>

Mean Value of Weekly Sale = ₦12,538.32 = $79

Gini Coefficient = 1−0.3985 = 0.60
Lorenz Curves of Farm-reared Clarias gariepinus Wholesalers and Retailers
CONCLUSION

- Higher seller concentration in a market is associated with poor market performance.
- This implies more opportunities for middlemen to exploit either the consumers by charging them higher prices or the producers by paying them lower prices.
RECOMENDATION

- There is need to remove any impediments to barrier to entry to reduce the degree of market concentration.
- Increasing access to credit facilities,
- providing sufficient market shops and storage facilities at both levels.
THE END

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