

ARE MIDDLEMEN REALLY EXPLOITATIVE? EMPIRICAL EVIDENCE FROM THE SUN-DRIED FISH MARKET IN SOUTHWEST, NIGERIA.

¹MAFIMISEBI, T.E. and ²OKUNMADEWA, F.Y.

¹Department of Agricultural Economics and Extension,
Federal University of Technology, Akure, Nigeria.
E-mail:temafis@yahoo.com

²Department of Agricultural Economics,
University of Ibadan, Nigeria.
E-mail:fokunmadewa@worldbank.org

ABSTRACT

The animal protein intake in Nigeria is grossly insufficient yet the retail price of fish is rising. Market intermediaries, alleged to charge excessive and unjustifiable marketing margins (MM), are often blamed for this. This study examines this allegation using data from 225 sun-dried fish traders classified into three groups. Data for the study were collected by means of structured questionnaire and participant observation method, from market intermediaries sampled by convenience, in three purposively selected markets. Descriptive statistics, gross and marketing margins models and rate of return to investment, were used to analyze data. Empirical analysis showed that a MM of ₦285.15 which translated to 94.8% of farm-gate price, was charged by intermediaries on a kilogramme of fish getting to the end-users. The factors implicated for this high MM included high facilitating costs and risks involved in the trade. The average sales price per kilogramme of fish was ₦390.88, ₦486.20 and ₦585.84 by wholesalers, sub-wholesalers and retailers, respectively. The profit per kilogramme of fish was ₦74.17, ₦75.82 and ₦79.48 while the returns on capital invested were 23.42%, 18.45% and 15.70%. Distributive margins did not show considerable difference among the intermediaries. The conclusion is that there is no evidence of exploitation of consumers in the sun-dried fish trade. It is suggested that the sub-wholesalers be eliminated from the marketing chain by empowering retailers with more trading loans so as to purchase large quantity of merchandise for resale. This will shorten the chain and occasion a lower delivered price.

Keywords: Sun-dried fish, marketing margins, market intermediaries, distributive chain, Nigeria.

PROBLEM STATEMENT

It is widely acknowledged that nutrition is both an outcome of and an input to national development. The nutritional status of a population is a reflection of national development and to a greater extent, serves as an indication of the national resource allocation efficiency. This is probably the reason why focused and human-development conscious governments, policy makers and operators, pay paramount attention to the issues of food and nutrient needs of their citizens. Talking of nutrient shortages, the animal protein situation is worsening by the day in Nigeria. This is probably because of its expensiveness relative to carbohydrate foods and partly because of dwindling animal production per head (a consequence of low production technologies and increasing population). Thus, while the *per caput* calorie intake in Nigeria is put at 2750 per day, a 650 points higher than the recommended minimum (FAO, 1999; 2000; US Department of Agriculture, 1999 and Myer and Kent, 2001), animal protein consumption is in a sorry state. While the recommended level stands at 35.0g *per caput* per day, the actual quantity consumed is about 10.0g (World Bank, 1996; Olayemi, 1996; UNICEF, 1990 and FAO, 2000). The various development stakeholders in Nigeria are extremely disturbed about the low level of readily available and affordable animal protein sources. Their worry is justifiable because animal proteins are so important that the ability of an average family in any nation to sustain its consumption is a barometer for assessing not only the physical but also the economic well-being of that nation (Okunmadewa, 1999, Mafimisebi *et al* 2002).

Out of the popular animal protein sources in Nigeria, fish is reported to have the highest level of easily metabolisable proteins. It is also reputed for its high quality calories, fats, vitamins, calcium, iron and essential amino acids (Olayide *et al*, 1981 and Tobor, 1990). Fish has also been shown to be the cheapest of all the

animal protein sources (Mafimisebi, 2001; 2003) and is widely consumed across all income groups. This wide acceptability has been traced to the absence of religious taboos against its consumption in Nigeria. These attributes confer upon fish the potential to play an important role in alleviating or eliminating the widespread problem of protein malnutrition. If this seemingly unsolvable problem of animal protein shortages, with its adverse effects on health, mental capacity and work efficiency, is to be surmounted, ways must be devised to reduce consumer price. Consumer price, which is at present on the increase (Table 1) allegedly owing to the exploitative activities of market intermediaries, needs to be reduced to allow end-users increase their demand for fish.

Table 1: Average Retail Prices for Selected Fish Species in Nigeria

Year	Price (₦) per kilogramme	
	Smoked	Sun-dried
1993	126.66	102.96
1994	146.47	121.06
1995	182.50	149.18
1996	233.50	198.01
1997	307.08	231.81
1998	333.38	273.92
1999	359.64	290.58
2000	381.65	308.58
2001	405.48	331.51
2002	435.62	356.91

Source: Authors' calculations from Federal Office of Statistics (FOS) data.

Note: Fifteen fish species were used in obtaining these figures.

At the time of this study, 1 US Dollar (\$) is equivalent to ₦127.00.

Given that agricultural price support have not worked well in Nigeria, one avenue to do this is to examine the market for sun-dried fish (which is the cheapest form compared with smoked, frozen and fresh forms) for allegation of exorbitant marketing margins which do not reflect the actual monetary worth of the marketing functions performed by the various intermediaries. According to Mafimisebi *et al*, (2002), the quantity of a product consumed is strongly affected by price among myriads of factors. Marketing is a value-adding activity that provides place, time and form utilities. The final delivered price of a product will almost often depend on the cost of the marketing functions performed in getting the product across to end-users from the producers. A steadily increasing price will serve as a disincentive for further consumption of that product.

Fresh fish is highly perishable and can only be effectively preserved for a long time by cold storage. Most artisanal fishers, which supply about 90% of fish landed in Nigeria, cannot afford this facility. The artisanal fishers in the Northern parts of Nigeria, taking advantage of the intense sunshine, preserve fish by sun-drying (a cheap and effective method of preserving fish). This simple preservation method has reduced the quantum of fish spoilage and has enhanced animal protein consumption especially in low-income families. The trade in sun-dried fish thus exists alongside sale of other fish forms. Sun-dried fish has a longer shelf-life than fresh and smoked fish if properly kept. It is palatable and can be eaten without further cooking. The sun-drying method of preservation does not lead to loss in mineral matter and most of the vitamins remain unchanged. Nevertheless, when exposed to moist air, sun-dried fish grow moulds and decomposition sets in.

The sun-dried fish is transported to the southern part of the country where it is sold to end-users. Against the back-drop of poor storage facilities for fish in Nigeria, the fact that sun-dried fish trade is a long-distance trade and that sun-dried fish is mainly consumed by low-income families, it becomes imperative to examine the allegation of profiteering by intermediaries engaged in the trade.

The study will reveal whether or not market intermediaries are exploitative and the remedial action which government can take to enhance social welfare by protecting consumers, if there is evidence of exploitation. This is particularly necessary for sun-dried fish which is a widely consumed source of protein.

MATERIALS AND METHODS

Study Area

Southwest Nigeria, consists of six states namely Ekiti, Ogun, Ondo, Osun, Oyo and Lagos. It is the economic and intellectual powerhouse of Nigeria. The language of the aborigines is Yoruba. The climate is tropical with rainfall persisting for almost 8-9 months in the year with only 3-4 months of dry season. Thus, relative humidity is very high sometimes reaching up to 90% in the maritime states and this is why the inhabitants depend on northern Nigeria (which has 8-9 months of dry season and very low relative humidity) for its supplies of sun-dried fish. This is in spite of very high artisanal, motorized and aquaculture fish production in the area since three of the states (Ogun, Ondo and Lagos) are along the Atlantic coastline. Also, other river bodies, in which fishing can be carried out, abound in all the states. However, the trade in sun-dried fish is uni-directional as fish caught in Southwest Nigeria is not transported to the north for sun-drying because it is uneconomical to do so owing to the distance and transportation cost involved.

Lagos, the former capital of Nigeria, is one of the most highly industrialized cities in Africa and is thus a microcosm of Nigeria, Africa and indeed, the world. Per capita income is higher in Lagos than any other state in Nigeria. Ibadan, the capital of Oyo State is the largest city in West Africa. Those coming into Southwest Nigeria from the north find it faster and cheaper to pass through Ibadan. The Southwest Nigeria is thus renowned for its high market potentials for both home-produced and imported agricultural and industrial products. Figure 1 shows the map of Nigeria.



Figure 1. The Map of Nigeria Showing the States of the Federation.

Data Source, Data Collection and Sampling Technique

The data used in the study were obtained in the biggest state capital sun-dried fish markets in three purposively selected states of Lagos, Ondo and Oyo. Lagos State was selected as a high-income State while Ondo State is typically a low-income coastal State. Oyo State is the gate-way to the northern states of Nigeria and it is the first point of entrance to Southwest, Nigeria by traders bringing their merchandise from the north. In each state capital market, data were collected by means of three sets of well-structured, pre-tested questionnaires and participant observation methods, from three sets of market intermediaries, during the marketing process. The three sets of intermediaries were wholesalers, sub-wholesalers and retailers. The researchers were able to identify these groups by conducting a reconnaissance survey, prior to field data collection, which showed that these intermediaries were the key players. The factors used to determine to what class a respondent belonged were the quantity of fish handled in a period of one month and the mode of sale.

For the purpose of this study, a wholesaler is an intermediary handling more than 2.5 tonnes of fish per month and sells in units of 100kg and above. A sub-wholesaler manages between 1.5-2.5 tonnes of fish in the period of a month and sells in units of 50kg and less than 100kg. A retailer is the trader handling less than 1.5 tonnes of fish in a month and sells fish in units less than 50kg. These clear-cut demarcations prevented sample overlap. Our intermediaries were selected by convenience, that is, willingness of the market intermediary to respond to the questions and allow the researcher to observe and record their observations during the marketing process. On the basis of relative abundance of the three groups of market intermediaries in the three markets surveyed, 60 wholesalers, 75 sub-wholesalers and 90 retailers were interviewed and closely observed during data collection. The breakdown of these figures on state basis is presented in Table 2.

Table 2: Breakdown of Respondents on State Basis

Category of intermediary	Number of respondents	Number of respondents per state		
		Lagos	Ondo	Oyo
Wholesalers	60	26 (43.33)	11 (18.33)	23 (38.33)
Sub-wholesalers	75	25 (33.33)	15 (20.00)	35 (46.67)
Retailers	90	31 (34.40)	19 (21.11)	40 (44.44)
Total	225	82 (36.44)	45(20.00)	98 (43.56)

Source: Data analysis of questionnaires

Note: Values in parentheses are percentages

Method of Data Analysis

Descriptive statistics such as percentages and frequencies were used to summarize the socio-economic characteristics of traders. Cost component analysis was used to reveal the relative importance of items of marketing expenditures. Gross and marketing margins models and rate of return to investment were used to capture the profitability of trade at the various levels of sun-dried fish distribution. The arithmetical relations used in the study are as follows:

$$\text{Gross margin (GM)} = \text{Total Revenue} - \text{Total Marketing Expenditure} \dots (1)$$

$$\text{Marketing Margin (MM)} = \text{Sales price} - \text{Purchase price} \dots (2)$$

$$\text{Returns on investment} = \frac{\text{Profit}}{\text{Capital invested}} \times \frac{100}{1} \dots (3)$$

RESULTS AND DISCUSSIONS

Socio-economic Characteristics

The socio-economic attributes of sun-dried fish traders are displayed in Table 3. The proportion of males and females involved in the trade varied widely with levels of trade. While the wholesale trade was exclusive to males, the sub-wholesale level was dominated by males (86.7%). Females were preponderant (80.0%) at the retail level. The exclusiveness of the wholesale level of trade to males may not be unconnected with the fact that it involves travelling far and wide and spending between 4 – 7 days away from home. This is to enable the intermediary assemble commercial quantities of fish from peasant producers scattered across the production areas. In Africa, while a male is allowed to embark on such a business trip regularly, it raises important social questions if a female has to do the same. Most men would hardly allow their wives such “excessive” freedom because of the social implications of such an action. The same situation was observed at the sub-wholesale level of trade. On the average, just about 28.4% of traders were females. Thus the sun-dried fish trade is male-dominated as opposed to the situation in fresh, smoked and frozen fish and most other agricultural commodities (Adewale, 1985; Mafimisebi, *et al* 2002; Usman, 2003; Mafimisebi and Okunmadewa, 2004, Mafimisebi; 2006).

Furthermore, the sub-wholesalers were dichotomized into two sub-groups. We have the first group as those actually travelling regularly to the north to purchase sun-dried fish but owing to limitations of trading

cash, cannot buy large quantities of fish as the wholesalers. They constitute 42.3% of the sub-wholesale group. They also travel to the north to buy fish but spend fewer days in their business trips. Thus, they travel more often than wholesalers. They then incur higher transport costs than wholesalers. The other group is sub-wholesalers who do not travel to the north to source sun-dried fish but depend for their supplies on wholesalers who do. This sub-group constitutes 57.7% of the sub-wholesale sample. It is in this group that females were found. Members of this sub-group only travel between towns in the states in which they sell to assemble commercial quantities of fish from wholesalers. Because the land masses of states are smaller in the Southwest compared with the north, the round trips are completed in matters of 8 – 12 hours.

No retailer travels to the north to source fish and none travels between towns in the states in which they live to assemble fish from wholesalers or sub-wholesalers.

Table 3: Socio-economic Characteristics of Market Intermediaries

Variables and categories	Number of wholesalers	Number of sub-wholesalers	Number of retailers
Sex			
Male	60 (100.00%)	65 (86.67%)	18 (20.00%)
Female	0 (0.00%)	10 (13.33%)	72 (80.00%)
Age years			
20-29	0 (0.00%)	17 (22.67)	15 (16.67)
30-39	25 (41.67%)	30 (40.00)	31 (34.44)
40-49	31 (51.67)	16 (21.33)	39 (43.33)
> 50	04 (6.67)	12 (16.00)	05 (5.56)
Marital status			
Single	0 (0.00)	08 (10.67)	12 (13.33)
Married	52 (86.67)	63 (84.00)	70 (77.78)
Divorced	02 (3.33)	04 (5.33)	06 (6.67)
Widowed	06 (10.00)	0 (0.00)	02 (2.22)
Educational Status			
No formal education	13 (21.67)	17 (22.67)	46 (51.11)
Primary school	19 (31.67)	33 (44.00)	30 (33.33)
Secondary school	28 (46.67)	15 (20.00)	10 (11.11)
College/University	0 (0.00)	10 (13.33)	04 (4.44)
Years of Experience			
1-5	12 (20.00)	11 (14.67)	36 (40.00)
6-10	35 (58.33)	30 (40.00)	45 (50.00)
Above 10	13 (21.67)	34 (45.33)	09 (10.00)
Membership of Market Associations			
Yes	60 (100.00)	62 (82.67)	57 (63.33)
No	0 (0.00)	13 (17.33)	33 (36.67)
Source of Initial Business Capital			
Personal fund only	32 (53.33)	54 (72.00)	68 (75.56)
Personal fund plus informal borrowing	17 (36.00)	16 (21.33)	18 (20.00)
Personal fund plus bank loan	08 (13.33)	05 (6.67)	10 (11.11)
Bank loan alone	02 (3.33)	0 (0.00)	4 (4.44)

Source: Field survey, 2005

*Note: 100% = 60 for wholesalers, 100% = 75 for sub-wholesalers and 100% = 90 for retailers
Values in parentheses are percentages*

Majority of the intermediaries (77.5% on the average), fell in the active age brackets of 30 – 49 years where both the strength to work hard and the drive for increased income-generation, are very high. Most of the respondents (82.8% on the average) were married. Responsibilities/ obligations are attached to being married and involvement in sun-dried fish distribution probably yields proceeds to meet the financial aspects of those obligations. Most of the intermediaries (62.3% on the average) can be considered to be of low level of formal education. Thus the sun-dried fish trade has helped to provide job opportunities for this group of people, who have slim chances in the formal labour market because of low or no formal education. The few College/University graduates who were intermediaries at the sub-wholesale and retail levels were part-time sellers, who engaged in the trade after closing from their major formal jobs. This, according to them, was to argument wages/salaries earned from their major formal engagement.

Table 3 further shows that a higher proportion (49.4%) of market intermediaries has been involved in the fish trade for between 6 – 10 years while another 25.7% had traded in sun-dried fish for upward of ten years. It is inconceivable that a person will engage in an unproductive business for upwards of 10 years. However, another 24.9% of sellers were relatively new in the trade having been involved for only 1-5 years.

All wholesalers belonged to the market association while 17.3% of sub-wholesalers and about 36.7% of retailers were not members of the market association. The summarized data on association membership thus seemed to permit the conclusion that the tendency to join the market association increased as volume of sun-dried fish handled increased. This may have been the case as all the market associations in the three markets surveyed provided soft loans to active members. Capital used in running a business is expected to increase with volume of merchandise handled. This probably is the reason why all wholesalers were association members. Another interesting revelation from this study is that most traders obtained their initial business capital from either personal source (70.0%) or personal source plus informal borrowing from friends, relatives, market/co-operative associations (25.8%). While 53.3%, 72.0% and 20.0% of wholesalers, sub-wholesalers and retailers respectively, raised their initial business capital from personal source, only a paltry 2.6% started their business exclusively on bank loans. However another 10.4% of the intermediaries commenced business by augmenting money raised from personal sources with loans from banks. These findings corroborate the report of various studies that formal credit institutions are inactive in advancing credit to small and medium enterprises (SMEs) in Africa (Aryeetey, 1995 and Mafimisebi *et al*, 2002).

Analysis of Marketing Expenditure by Market Intermediaries

Information provided in Table 4 is the result of analysis of components of marketing expenditure. For wholesalers, sub-wholesalers and retailers, cost of purchase of sun-dried fish for resale carried 94.9%, 95.12% and 96.0% respectively. It thus accounts for the lion share of the total marketing expenditure. The balance of 5.1%, 4.9% and 4.0% respectively, for wholesalers, sub-wholesalers and retailers, represented the cost of performing facilitating functions. If the cost of purchasing sun-dried fish is discountenanced, then transportation takes the highest proportion of facilitating cost as it alone accounted for 78.0%, 38.2% and 37.8% respectively for wholesalers, sub-wholesalers and retailers. The value for the wholesalers is far higher than those of sub-wholesalers and retailers since wholesaling involves travelling longer distances to purchase sun-dried fish. This wide difference in transportation cost as an item of facilitating functions between the wholesalers and other intermediaries may have implications for returns to marketing functions. The cost of sun-dried fish and transportation are therefore the critical factors that determine the level of profitability of the trade. In all cases, market levies, rents of stalls/shops and depreciation of materials used in marketing to display the fish, constitutes negligible proportions of marketing expenditure with their values put at just 0.46%, 0.34% and 0.02% respectively for wholesalers, sub-wholesalers and retailers.

Table 4: Average Monthly Marketing Expenditure by Traders

Item of Expenditure	Wholesaler		Sub-wholesaler		Retailer	
	Amount (₦)	%	Amount (₦)	%	Amount (₦)	%
1. Purchase of fish	984,158.38	94.94	719,610.08	95.12	690,404.00	96.02
2. Transportation	40,888.18	3.94	14,112.37	1.87	10,824.47	1.51
3. Depreciation of materials	2,749.92	0.27	3,894.38	0.51	4,283.96	0.60
4. Payment to assistants	-	-	12,824.63	1.70	11,085.44	1.54
5. Depreciation of vehicles	5,281.10	0.51	3,038.53	0.40	-	-
6. Rents (Shops/stalls)	3,272.10	0.32	2,846.77	0.38	2,276.83	0.32
7. Market levies	250.00	0.02	180.29	0.02	153.75	0.02
TOTAL	1,036,599.60	100.00	756,507.05	100.00	719,028.45	100.00

Source: Author's calculations from field data

Marketing Functions Performed by Intermediaries

Wholesalers

They are itinerant middlemen travelling wide to obtain large quantities of supplies from fishing villages and markets especially in rural areas. They sell in bulk. They occupy an important position in the marketing system as they help to equalize supply and demand over time and space. They sort fish purchased according to species, size, extent of dryness and repackage. While repackaging, they sort out fish growing moulds, clean them with groundnut oil and foam and spread the fish in the sun. The fish is then transported to the Southwest. Owing to the long-distance nature of the trade and the poor condition of the roads, transportation costs are high and the risks of theft of fish, destruction of fish by fire and rain, robbery of traders and accidents, are very high. The wholesalers also have the responsibility of informing other intermediaries of availability of supplies. Thus, the wholesalers perform the functions of discovering supplies, buying, storage, transportation, standardization, risk-bearing, advertising and provision of market information and selling. With these functions, the wholesale stage is the one at which form, time and place utilities are created for the consumers. The wholesalers sometimes grant cash and trade discount to the sub-wholesalers and retailers. They also sometimes sell on credit for a period of up to three weeks to other middlemen that they can trust. These functions make possible the smooth running of the marketing system.

Sub-wholesalers

The sub-wholesalers who travel wide to obtain commercial quantities of fish also perform the functions that wholesalers perform. However, they break the large quantities of fish purchased into smaller bulk for sale to retailers. They handled the fish for a longer period than wholesalers and thus bear higher risks of theft, spoilage and fall in price of fish because of changing demand-supply conditions.

Retailers

They sell to final consumers in smaller bits. If the retailer is the itinerant type, as against the sedentary, the fish is hawked round markets, parks, offices and residential areas. The risks of theft, spoilage, quality deterioration and fall in price are highest with the retailers because they handle fish for a longer period than other middlemen. The frequency of cleaning mouldy fish and re-sunning is highest at the retail stage and more time is spent on this.

Profitability, Marketing Margins and Returns on Investment

For each trader category are shown for the five fish species considered (Table 5) gross margin, total profit and returns on investment.

Table 5: Average Price of Fish for Different Traders

Fish species	Scientific names	Price (₦/kg) by Intermediaries		
		Wholesaler	Sub-wholesaler	Retailer
Cat fish	<i>Heterobranchus niloticus</i>	344.61	428.65	516.50
Trunk fish	<i>Gymnarchus niloticus</i>	611.52	760.65	916.54
African bony tongue	<i>Heterotis niloticus</i>	547.44	680.94	820.49
Mud fish	<i>Clarias spp</i>	286.86	356.81	429.93
Tilapia	<i>Tilapia spp</i>	163.96	203.94	245.74
Total		1954.39	2430.99	2929.20
Average		390.88	486.20	585.84

Source: Authors' calculation from field data

The average volume of fish handled per month is 3273kg, 1841kg and 1420kg by the wholesaler, sub-wholesaler and retailer respectively (Table 6). The average sales price per kg was ₦390.88, ₦486.20 and ₦585.84. The cost price of a kilogramme of fish (the five species in question) from the sun-dried fish producer was ₦300.69 per kg. This translates to gross margins of ₦90.19, ₦95.32 and ₦99.64 for wholesalers, sub-wholesalers and retailers respectively.

Table 6: Profit Accruable to Market Intermediaries

Category of traders	Volume handled per month (kg)	Sales price per (kg)	Total revenue per month (₦)	Total profit per month (₦)	Rate of return on investment (%)
Wholesalers	3273	390.88	1,279,350.20	242,750.60	23.42
Sub-wholesalers	1841	486.20	895,094.20	139,587.15	18.45
Retailers	1420	585.84	831,892.80	112,864.35	15.70

Source: Authors' calculations

The highest gross margin was earned by the retailers while the lowest came from wholesalers. This is understandable in the light of the fact that retailers handled smaller quantities of fish and had lower rates of turnover than the other intermediaries. Since they handled stock for a longer period than other intermediaries, they bear more risk for loss (e.g. through spoilage especially) than other traders. They have to periodically expose the fish to intense sun on sunny days and stay by it so that they can easily pack them in if rain threatens. After this, fish already going mouldy is cleaned with the aid of groundnut oil and a piece of foam.

The higher rate of turnover enjoyed by wholesalers gave them an edge over other intermediaries when total profit per month was used. The values were ₦242,750.6, ₦139,587.15, and ₦112,864.35 for wholesalers, sub-wholesalers and retailers respectively. When profitability was examined in terms of profit per kg, the retailers got the highest value at ₦79.48 while the sub-wholesalers and wholesalers received ₦75.82 and ₦74.17 respectively. The difference may have arisen from bulk sales by wholesalers and some sub-wholesalers which often goes with granting of trade or cash discount. This will necessarily depress the profit margin. The smaller margins for the wholesalers and sub-wholesalers compared with those of retailers are more than compensated for by their higher turnover for the same time period.

Using returns to marketing activities per ₦100 invested in the trade as another profitability index revealed that ₦15.70, ₦18.45 and ₦23.42 were received by the retailers, sub-wholesalers and wholesalers respectively. Therefore, investment was most profitable at the wholesale level of trade probably because of the higher capital involved and the ability to rapidly turn stocks over. The rate of returns on investment is not considered too high for any trader category.

Marketing Margins Vis-à-vis Marketing Functions

One way of assessing equity in the distribution of marketing margins is to weigh the cost of marketing functions performed by various intermediaries alongside their share of gross profit. This helps to reveal the level of distributive trade at which exploitation of other stakeholders occurs. Table 7 presents the distribution of marketing margins by the intermediaries. The margin added to a kg of fish as it journeys from the farm-gate to the final consumers was ₦285.15 which amounted to 94.8% of producer price. This indicates that cost of

agricultural marketing functions is very high for developing countries as earlier observed by Timmer (1974), Lawrence (1984) and Geoff and Bennet (1995).

Table 7: Distribution of Marketing Margins by Intermediaries

Producer price ₦ per kg	Wholesale price ₦ per kg	Sub-wholesale price ₦ per kg	Retail price ₦ per kg
300.69	390.88	486.20	585.84
Share of marketing margins (%)	31.63	33.43	34.94

Source: Author's calculations

The marketing margin of ₦285.15 was distributed as follows: wholesalers, 31.6%; sub-wholesalers, 33.4%; and retailers, 34.9%. Going by the marketing functions performed by the various intermediaries, the allegation that intermediaries are getting excessive margins, remain largely unsubstantiated. This conclusion is lent credence by the fact that the sun-dried fish market network is shown in this study to be one in which profit margins increase as the volume of sales per unit time decreases. This was the situation for frozen fish as reported by Ladipo and Fabiyi (1982). For example, the 34.9% share of distributive margins got by retailers could, on a superficial consideration, be interpreted as high vis-à-vis other intermediaries. However, when one considers the average volume of fish sold by a retailer per day (which is about 47.33kg), giving a profit of ₦3,762.14 per day, one will understand that retailers' proceeds from marketing is actually low. In comparison, the profit per day for wholesalers and sub-wholesalers were ₦8,091.70 and ₦4,653.00 respectively as they sold on the average 109.10kg and 61.37kg of fish per day.

SUMMARY, RECOMMENDATIONS AND CONCLUSION

Summary

Investigating the allegation of profiteering by middlemen in sun-dried fish marketing and prescribing remedial measures for eradicating it where evidence supports it, was the major pre-occupation of this study. The *raison detre* of this was to protect low-income consumers from exploitation and enhance their welfare. This was done by examining and analyzing marketing margins and corresponding marketing functions to expose market intermediaries receiving unjustifiable margins and excessive profits.

Data analysis revealed that sun-dried fish market is male-dominated at the wholesale and sub-wholesale levels while females are preponderant at the retail level. The business is fairly capital-intensive at all stages in the chain of distribution. Most of the traders procured the initial business capital from informal credit sources. The single most expensive item of marketing expenditure for all categories of traders was the cost of purchasing sun-dried fish for traders. Closely following this was transportation cost. Considering only facilitating cost, transportation cost was on an average of 51.3% for all traders. The cost of purchase and transportation of fish were revealed to be the critical cost items which impinge on the delivered price of fish in the study area.

The marketing functions performed by market intermediaries include assemblage of product, buying, storage, transportation, standardization, risk-bearing, advertising, provision of market information and selling. These functions were over-lapping among the various middlemen though there exists a difference in degree arising from the quantities of fish involved. There is greater similarity and overlap of marketing functions between the sub-wholesalers and retailers. These functions enhance time, place and form utilities of fish for greater satisfaction of consumers. The various marketing functions allow for a smooth-running of the marketing system.

The gross margin on a kg of fish *en route* the final consumers from the farm-gate was ₦285.15 which was about 95.0% of producer price. The proportion of gross margin earned by each category was wholesalers; 31.6%, sub-wholesalers; 33.4% and retailers; 34.9%.

The average volume of sun-dried fish handled per month by wholesalers, sub-wholesalers and retailers was 3273kg, 1841kg and 1420kg respectively, while the sales price per kg was ₦585.84, ₦486.20 and ₦390.66 respectively. The profit per kg of fish traded in by wholesalers, sub-wholesalers and retailers was ₦74.14, ₦75.82 and ₦79.48 respectively.

Recommendations and Conclusion

Juxtaposing the marketing functions performed by each intermediary with the profit margin received, the allegation that market intermediaries are exploitative cannot be substantiated and is therefore anecdotal without empirical backing.

Since the functions performed by the sub-wholesalers and retailers are similar, it is suggested that the sub-wholesalers be eliminated from the chain of distribution. The only difference between them is the quantity of merchandise handled (determined by volume of trading capital), packaging and units of sale of fish. If retailers are empowered financially more than what they are at present, they will be able to buy larger volumes of fish for re-sale since capital invested determines the level of the distributive chain at which a trader operates. Thus, the Micro-Credit Agencies of the various states in Southwest, Nigeria should increase the volume of loans extended to market intermediaries, which this study identified as retailers. This will lead to a shortening of the distribution chain and a reduction in the final retail price of fish. Final consumers will then pay less than what they are paying at present and purchase more fish for consumption *ceteris paribus*.

However, since the quantity of micro-credit available for lending by each of the State Governments in the Southwest, is limited relative to the demand for it by investors in various sectors of the economy, other means should be devised by the retailers to help themselves out if their quest for more credit is not met. For example, a group of few retailers (say 2-4) who can trust themselves can pool their trading capital together and sponsor one member of the group in search of fish from wholesalers in various towns. This pooling together of resources will enable them to reap the benefits of trade and or cash discount, which most wholesalers grant. On arrival from the trip, the purchased fish should be divided between/among the members in proportion to the amount of cash contributed. All the retailers forming a group should be present during the sharing exercise so that the possibility of cheating anybody will be non-existent. The responsibility of going to buy fish on behalf of other members of the group, should be alternated/rotated among members.

REFERENCES

- Adewale, A.B., 1985, Production, Marketing and Consumption of Fish in Ibadan. Project Report, Department of Agricultural Economics, University of Ibadan. P.96.
- Aryeetey, A. 1995, *Informal Finance in Africa: Filling The Niche*. East African Education Publishers Limited. pp.1-5
- FAO, 1999, *Food Supply Situation and Crop Prospect in Sub-Sahara Africa*. Rome, Italy. Food and Agricultural Organisation.
- FAO, 2000, *Food Balance Sheets and Food Emergencies in Africa*, 1998. Rome, Italy: Food and Agricultural Organisation.
- Geoff, A. and C.J Bennet, 1995, Fish Mammies and Tuna Conglomerates: Private Sector Fish Processing and Marketing in Ghana. In *Marketing Africa's High-Value Foods* (eds) Steven J.R. and John, M. (eds) pp. 375-416.
- Ladipo, O.O. and Y.L. Fabiyi, 1982, An Analysis of the Structure of Fish Marketing and Distribution in Kwara State of Nigeria. In *Developing Nigeria's Fisheries Resources*, B.F. Dada and T.O. Ajayi (eds). Proceedings of the Third Annual Conference of Fisheries Society of Nigeria (FISON). pp. 40-46.
- Lawrence, S.M., 1984, Marketing Efficiency for Frozen Fish in Lagos State of Nigeria". Unpublished Project Report, Department of Agricultural Economics, University of Ibadan, P. 78.
- Mafimisebi, T.E, 2001, Spatial Price Equilibrium and Fish Market Integration in Nigeria. Unpublished Ph.D Thesis, University of Ibadan P. 208.
- Mafimisebi, T.E, Okunmadewa F.Y. and A.D.,Wright 2002, Marketing Margins Differentials at Three Levels of the Egg Distributive Chain in Ibadan Metropolis. *Tropical Journal of Animal Science*, 5 (1): 87-98.
- Mafimisebi. T.E., 2003, Yield Performance of Commercialized Upland Fish Farms in Ondo State of Nigeria. *Nigerian Journal of Animal Production*, 30 (2): 217- 228.
- Mafimisebi, T.E. and F.Y Okunmadewa, 2004, Poverty Analysis at Two Levels of Gari Marketing in Ibadan Metropolis *Moor Journal of Agricultural Research* 5 (2) 135-142.
- Mafimisebi, T.E., 2006, A Comparative Economic Analysis of Two Cassava-Based Business Activities Exclusive to the Female Gender in Oyo State, Nigeria. Paper presented at the National Conference of

- Agricultural Extension Society of Nigeria (AESON) held at the University of Agriculture, Abeokuta, Nigeria between 3rd – 6th April.
- Myer, J.A. and J. Kent, 2001, Food and Hunger in Sub-Saharan Africa. *The Environmentalist*, 21: 41-69. Kluwer Academic Publishers, The Netherlands.
- Okunmadewa, F.Y. 1999, The Livestock Industry as a Tool for Poverty Alleviation. *Tropical Journal of Animal Science*, 2 (2): 21 – 30
- Olayemi, J.K., 1996, Food Insecurity in Nigeria. The Report of a Study Sponsored by Development Policy Center, Ibadan , Nigeria.
- Olayide, S.O., Olatunbosun D. and E.O., Idusogie, 1981, *A Quantitative Analysis of Food Requirements, Supplies and Demand in Nigeria (1968-1980)*. Technical Report submitted to the National Agricultural Development Committee P.56.
- Timmer, C.P., 1974, A Model of Rice Marketing Margins in Indonesia”. *Food Research Institute Studies*, 13 (2: 145-167
- Tobor, J.G., 1990, *The Fishing Industry in Nigeria: Status and Potentials for Self-Sufficiency in Production*. National Institute of Oceanography and Marine Research, Technical Paper No. 54, Pp. 1-23.
- UNICEF, 1990, Strategy for Improved Nutrition of Children and Women in Developing Countries. UNICEF Policy Review Paper, 1990 P.71
- USDA, 1999, Food Security Assessment: Why Countries Are at Risk. Washington D.C. USDA: United States Department of Agriculture.
- Usman, J.M., 2003, Fresh Fish Marketing in Urban Areas of Kogi State, Nigeria: An Application of the Structure Conduct and Performance Paradigm. Unpublished Masters Dissertation, Department of Agricultural Economics, University of Ibadan. P. 88.
- World Bank, 1996, Nigeria, Poverty in the Midst of Plenty: The Challenge of Growth with Inclusion. A World Bank Poverty Assessment Report No. 14733. UNI May 31.