

**Performance Evaluation of Dry White and Yellow Maize (zea mays) Marketing, Implication for Employment and Poverty Alleviation in Anambra State, Nigeria.**

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**Abstract** – The study examined performance evaluation of dry white and yellow maize (zea mays) marketing, implication for employment and poverty alleviation in Anambra State, Nigeria. Specifically, it examine the profitability of dry and white maize marketing, marketing efficiency, marketing channel and problems associated with marketing of dry white and yellow maize in the study area. Multi stage and random sampling procedure were used to select 75 respondents for the study. Data were collected on revenue and cost variables, product price, as well as constraints to dry maize marketing. Profitability of dry maize marketing was achieved using budgetary technique, while constraints to dry maize marketing were realized using a 4-point Likert type scale. From the result, for the wholesalers, white dry maize grains generated gross margin of N9,992,575 and net marketing income of N9,633,634,45 while yellow dry maize grains earned the marketers gross margin and net marketing income of N9,992,125 and N9633,184.45 respectively and recorded net return on investment of 0.6 for dry white maize and 0.5 for dry yellow maize for every N1.00 spent by the marketers. Further result on the retail side generated gross margin of N9,420,115 and net marketing income of N9,274,080.7 for dry white maize while dry yellow maize grains earned the retailers gross margin and net marketing income of N9,491,395 and N9345360,7 respectively and net return on investment of 0.8 for dry white maize grains and 0.8 for dry yellow maize grain. The study revealed that dry white and yellow maize marketing in the study area is a profitable venture. From the result, the retailers were more efficient in dry maize grain marketing than the wholesalers because they expended less of their sales revenue on cost. High cost of transportation wholesalers (M=2.86), inadequate capital (M= 2.63), storage pests and diseases (M= 2.60) and high market levy (M= 2.55) were the most perceived problem facing the enterprise. Government should provide necessary transportation facilities such as good network of roads and mass transit vehicles so as to ameliorate the transportation problems of the marketers, improve marketing efficiency and net marketing income realized by the marketers also the dry maize marketers should form a cooperative so as to build storage facilities and secure soft loans and grants from government were recommended.

**Keywords:** Performance, Efficiency, Profitability , Dry-Maize

**Introduction**

Maize (*Zea mays*), known in many English-speaking countries as corn, is a grain domesticated by indigenous peoples in Mesomari (Bulgaria) in prehistoric times. It is the most widely grown grain crop in the America with 322 million metric tonnes grown annually in USA alone (Raouf, 2011). It is an annual plant belonging to the grass family (*gramineae*) (Oluwatoyin, 2013). According to Visent and Asher (2015), maize is a cereal crop that is grown throughout the world in a range of agro-ecological environments. It was introduced into Africa in the 1500s and has become one of the Africa's dominant food crops. Like in many other regions, it is consumed as a vegetable, although it is a grain crop (Singh, Yadaw and Sharma 2012).

In Nigeria, maize is a very important staple food crops. It is predominantly used as a separate food in the diet of urban and rural inhabitants. It also has vast commercial and industrial uses by agro-based industries through its processing and transformation into corn flakes, flour, baby foods, confectionaries, starch and livestock feeds and other products (Nkamigbo, Atiri, Gbughemobi and Obiekwe, 2015). Maize is equally useful in alternative medicine, chemicals, bio fuel, and ornamentals. It is a major source of cooking oil (Corn oil) and gluten. Maize starch can be hydrolyzed and enzymatically treated to produce syrups, particularly high fructose corn-syrup, a

sweater, and also fermented and distilled to produce grain alcohol for whiskey production and as the starch source for beer. It is equally used for the production of dough ball and fish bait ((Nkamigbo, Nwoye, Makwudo and Gbughemobi, 2018). Maize grains are rich in vitamins A, C and E, carbohydrates, and essential minerals, contain 9% protein and also rich in dietary fibre and calories which are good source of energy (Mboyal, 2011 and Nkamigbo *et al*, 2018).

International Institute for Tropical Agriculture IITA (2010) opined that about 50 varieties of maize exist and are of different colours, textures, grain shapes and sizes. White, yellow and red are the most common ones. The white and yellow varieties are preferred by most people depending on the region. Recommended varieties of maize to improve yield, for early season planting are; yellow open pollinated varieties. Western yellow1: tzsry-I (streak Resistant) dmr-lsry (Downy Mildew & Steak resistant). Yellow hybrids varieties; 8425-8; 8329-15 white, open pollinated varieties; dmr-lsrw (down Mildew & Steak Resistant). dmr-lsrw (Downy Mildew & Steak Resistant).white Hybrids; 8321-18; 9022-19, (stariga Resistant). For late season:- . Yellow open pollinated varieties; tzsry; dm-esryy (Downy Mildew and Steak Resistant) popiorn; White Pop: Yellow composite (IITA, 2012).

In Nigeria, output of maize has continued to increase. Nkamigbo *et al*. (2018) stated that maize production in Nigeria was 7.1 million tonnes and that the contribution of maize to the Gross Domestic Product (GDP) is still low. Maize contributes about 80% of poultry feeds' ingredients with implications for protein intake in Nigeria (FAO, 2008). In terms of total production of cereals, maize is exceeded only by sorghum and millet (FAO, 2009). Some of the attributes of maize are its low cost of production, high yield, significant investment returns, ease of processing and adaptability across agro ecological zones (IITA, 2009).

Agricultural marketing is the performance of all business activities involved in the movement of agricultural commodities from the point of production to consumers yard (Adeleye, 2008). It helps the producer such as the farmer and the middlemen to earn income with which they purchase other useful goods and services (Ebe, 2007; Ofoedu, 2014).The income of the farmers depends to a large extent on the smooth operation of the marketing system, therefore making marketing very useful to agricultural producers (Agbonifoh, Ogwo, Nnolim and Nkamnebe, 2007).

Dry maize marketing itself, is concerned with all the operation that aid movement of the product from the producer to the final consumer. They include assemblage, storage, transportation, grading and financing. They take place in homes, road sides, local/periodic market centres. They can be both wholesale and retail types in both rural and urban markets (Nwauwa, 2012). Wholesalers buy directly from the suppliers and sell to the retailers and consumers. Quantities sold to the retailers and consumers are most of the times measured in buckets weighing about 8-10kg. Some of the consumers also buy in cigarette cups. Major distribution points for dry maize ranges from producer points, wholesale markets and retail markets. Each of these markets especially wholesale and retail markets are characterized by activities of trading associations or unions which do not permit free entry into the business of dry maize marketing. This compels distributors to register with some amounts of money to join the union in addition to buying cola and beer for the union members before being allowed to sell their goods from their locations. Thus, the members fix prices through the union and force members to sell at those prices (Nwauwa, 2012).

Addressing the challenges facing maize production and marketing is vital to the future of hundreds of millions of people in the world and Nigerian in particular. Onuk, Ogara, Yahaya and Nanuim (2012) noted that despite the economic important of maize (dry maize) to the teaming populace in Nigeria, it has not been produced to meet food and industrial needs of the country. A greater percentage of dry maize marketed in the South Eastern States of Nigeria is imported from the Northern parts of the Country. This development might be the reason for souring marketing costs incurred by the marketers, dwindling marketing efficiency, erratic inter market and seasonal price spreads and thus the poor and unsteady net marketing income realized by the marketers.

In many markets in Nigeria, price of dry maize is rising due to the high usage of the product; thereby widening the demand supply gap. This widening demand-supply gap can also be as a result of the existence of inefficiency in the marketing system due to marketing problems such as poor market information, poor market structure, high cost of transportation, lack of capital, poor storage facilities, limited markets and large number of intermediaries (Ebe, 2007, Ugwumba and Obikezie, 2008, Ugwumba, 2009; Ugwumba and Okoh, 2010).

Expansion in maize marketing especially in dry maize is therefore needed as it has the potential of bridging the widening demand and supply gap and enhancing the income and well-being of the rural farmers. It is against this background that this study was initiated to examine profitability of dry maize marketing, efficiency, channel, and constraints to dry maize marketing in the area.

## 2 .Materials And Methods

The study was carried out in Anambra State, Nigeria. It was created in 1991. Its name is an Anglicized version of the original “Oma Mbala”, the native name of the Anambra River. The capital and seat of government is Awka. Onitsha is by far the largest urban city. The States theme is “Light of the Nation”. It lies within latitude 60 45l and 50 44l N and 60 36l and 70 20l E of the area within the Greenwich meridian with a temperature of.25.5 to 30.50C. It has a population of 4,185,032 persons and 21 Local Government Areas (LGAs).

Anambra state is predominantly occupied by the Igbo ethnic group, who by nature are farmers, fishermen, craftsmen and traders. Among the crops produced in the state are; yam, palm produce, rice, maize, cassava, cocoyam, vegetables and different varieties of fruit trees among others (Ugbajah, 2007 as cited by Ozor, 2016). The State is rich in natural gas, crude oil, bauxite and ceramic. The State has many other resources in terms of agro-based cultivations like fishery and farming, as well as land cultivated for pasturing and animal husbandry. The craftsmanship is nationally and internationally recognized as evident in the iron smiting works of Awka people and the bronze sculptures of Igbo Ukwu (Anambra State Ministry of Economic Development, 2010).

Multi stage and random sampling were used to select 75 respondents for the study. This is followed by the selection of one State- Anambra out of the five States in the south eastern Nigeria. Five local governments’ areas were selected from the State; these were Ihiala, Aguata, Nnewi North, Onitsha South and Onitsha North. This was followed by the purposive selection of one daily market from each of the Local Government Area, making a total of five markets in the study area. . The markets were identified by a reconnaissance survey on size, strategic locations, daily nature and number of intermediaries selling dry maize in the area. Subsequently, simple random method was used to select five wholesalers and ten retailers from each of the selected markets to arrive at a sample frame of 75 respondents. Primary data were obtained using structured questionnaire administered through personal interview. Data were collected on revenue and cost variables, product price, as well as constraints to dry maize marketing. Profitability of dry maize marketing was achieved using budgetary technique, while constraints to dry maize marketing were realized using a 4-point Likert type scale. The response indicating the most serious constraints was given the highest score. Response on constraints to dry maize marketing was disaggregated as follows;

Very serious = 4, Serious = 3, moderately serious = 2, not serious = 1, determination of cut-off point  $X =$  To make inferential statement, the mean score was compared with that of critical mean of 2.50. if the calculated mean of the problem was greater than the standard critical venue, then the problem was regarded as very serious. The budgetary technique (Ugwumba, Orji and Wilcox (2012) used in determining enterprise profitability is specified as;

Where:

$NMI/Profit = Net\ Marketing\ Income / Profit$

$\sum = Sum$

$P_{yj}Y_j = Unit\ price\ x\ quantity\ of\ jth\ respondent's\ sales = total\ revenue\ (TR)\ for\ jth\ respondent.$

$P_{xij}Y_{ij} = Prices\ x\ quantities\ of\ jth\ respondent's\ variable\ inputs = total\ variable\ cost\ (TVC)\ for\ jth\ respondent.$

$F_{ij} = Depreciation\ values\ of\ equipment,\ annual\ rent\ for\ store,\ interest\ on\ loan,\ e.t.c.\ for\ jth\ respondent = Total\ fixed\ cost\ (TFC)\ for\ jth\ respondent.$

$TC = Total\ cast\ (TVC + TFC).$

Also the processes and methods it employs in arriving at these prices (Kohls and Uhl, 2002).

Perhaps a logical starting point is for an organization to clearly articulate what objectives it seeks to achieve through its pricing policies and then to evaluate the factors likely to impinge upon the strategies which it seeks to adopt in pursuit of those objectives. Arene (2003), pointed at the use of the Sherpherd-futrell in analyzing the

efficiency of the market. This expresses the total cost incurred in the marketing process to the total revenue generated as percentage. The lower the coefficient, the higher the level of marketing efficiency and vice versa.

The formula is expressed as

$$ME = \frac{TC}{TR} \times 100$$

Where:

ME = Coefficient of marketing efficiency

TC = Total marketing cost incurred

TR = Total value of products sold

## Result and Discussions

### Profitability of dry maize marketing

The enterprise budgeting analysis was deployed to determine the profitability of marketing the dry white and yellow maize grains in the study area. Result of the analysis indicating total cost (TC), total revenue (TR), total variable cost (TVC), total fixed cost (TFC), gross margin (GM), net marketing income (NMI), mean net marketing income (MNMI), and net return on investment (NROI) is presented in Table 1.1

For the wholesalers, white dry maize grains generated gross margin of ₦9,992,575 and net marketing income of ₦9,633,634,45 while yellow dry maize grains earned the marketers gross margin and net marketing income of ₦9,992,125 and ₦9633,184.45 respectively. Further result of the analysis recorded net return on investment of 0.6 for dry white maize and 0.5 for dry yellow maize. This meant that the two types returned ₦0.6 and ₦0.5 for every ₦1.00 spent by the marketers during the marketing period. By implication, the two maize types produced positive net returns on investment for the market to make dry maize marketing profitable business in the area.

Further result of the analysis as recorded on the retail side (Table 1,1), generated gross margin of ₦9,420,115 and net marketing income of ₦9,274,080.7 for dry white maize grains retailers, while dry yellow maize grains earned the retailers gross margin and net marketing income of ₦9,491,395 and ₦9345360,7 respectively. Further result recorded net return on investment of 0.8 for dry white maize grains and 0.8 for dry yellow maize grains, meaning that the dry white maize returned ₦0.8 for every ₦1.00 spent while dry yellow maize grains earned the retailers ₦0.8 for every ₦1.00 spent. By implication, the marketing of dry yellow or white maize grains was profitable. However, dry yellow maize grains returned more net marketing than white maize. The reason could be that most of the consumers who made purchases directly from the retailers preferred dry yellow maize grains to the white ones.

**Table 1: Profitability of Dry Maize Marketing in Anambra State**

PARAMETERS	Wholesalers		Retailers	
	WM	YM	WM	YM
<b>Total Revenue</b>	25,052,450	30,656,000	20,616,230	20,350,320
<b>Variable costs</b>				
Purchases	13,912,800	19,516,800	10,915,700	10,578,510
Loading	136,775	136,775	29,125	29,125
Off-loading	88,975	88,975	14,510	14,510
Association dues	6,050	6,050	2,435	2,435
Transportation	897,275	897,275	216,570	216,570
Miscellaneous	18,000	18,000	17,775	17,775
<b>Total variable cost (TVC)</b>	15,059,875	20,663,875	11,196,115	10,858,925
<b>Gross margin (TR-TVC)</b>	9,992,575	9,992,125	9,420,115	9,491,395

<b>Fixed cost (FC)</b>				
Annual shop rent	330,656	330,656	120,015	120,015
Wheel barrow	5,429.55	5,429.55	4,766.3	4,766.3
Interest on Icon	7,350	7,350	15,503	15,503
L.G.A charges	15,505	15,505	5,750	5,75
<b>Total fixed cost (TFC)</b>	<b>358,940.55</b>	<b>358,940.55</b>	<b>146,034.3</b>	<b>146,034.3</b>
<b>Total cost (TFC+TVC)</b>	<b>15,418,815.55</b>	<b>21,002,815.55</b>	<b>11,342,149.3</b>	<b>11,004,959.3</b>
<b>Net marketing income (GM-TFC)</b>	<b>9,633,634.45</b>	<b>9,633,184.45</b>	<b>9,274,080.7</b>	<b>9,345,360.7</b>
Return on Investment $TR/TC$	1.6	1.5	1.8	1.8
Net Return on Investment $TMI/TC$	0.6	0.5	0.8	0.8

wm = white maize ym = yellow maize.

### 3.2. Marketing Efficiency of Dry Maize in the Anambra State

A marketing system is efficient if the calculated marketing efficiency value is equal to one or 100%. Shepherd-Futrell method was used to compute the co-efficient of marketing efficiency which is expressed as the ratio of total cost to total revenue expressed in percentage. The formula is stated as:  $ME = \frac{TC}{TR} \times 100$

Result of analysis of marketing efficiency levels attained by the intermediaries (wholesalers and retailers) in the area (Table 2,0) indicated that the wholesalers attained marketing efficiency levels of 61% for white maize, and same 68% for the yellow maize while the retailers' marketing efficiency levels for white and yellow maize were 55% and 54% respectively. By this result, the retailers were more efficient in dry maize grain marketing than the wholesalers because they expended less of their sales revenue on cost. The result agrees with Ugwumba (2009) who noted that the retailers of fresh maize were more efficient than the wholesalers in the business. The reason also could be that the retailers sourced their products from nearby markets which resulted to reduced marketing cost, better income and thus better marketing efficiency for the retailers than the wholesalers who incurred more costs. This finding corroborates Obasi *et al.* (2012) that inefficiencies exist in the marketing of dry maize in Abia State, Nigeria by intermediaries.

**Table 2: Marketing efficiency of dry maize in the area**

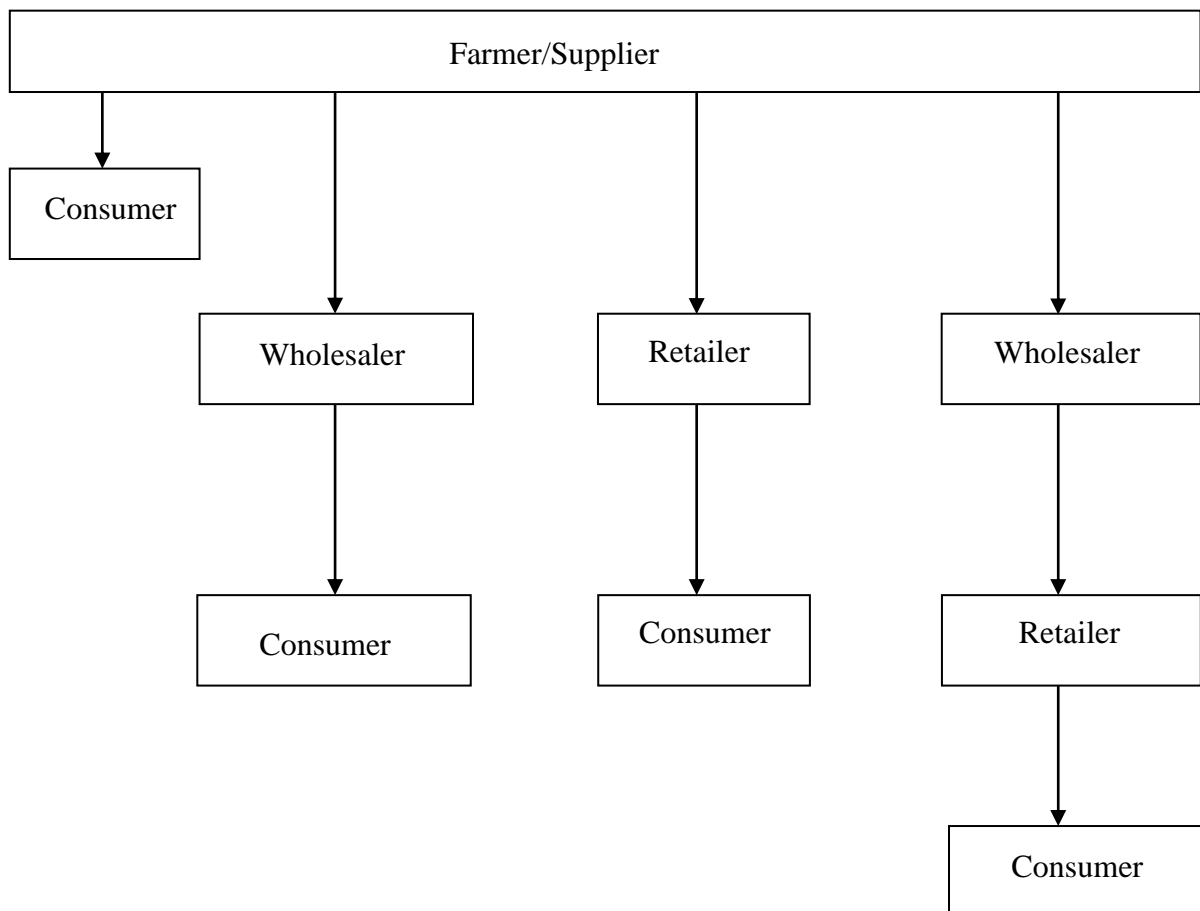
State	Wholesaler		Retailer		Marketing efficiency yellow maize
	Marketing efficiency White maize	Marketing efficiency yellow maize	Marketing efficiency White maize	Marketing efficiency maize	
Anambra	$\frac{15,418,815.55}{100}$	$\frac{21,002,815.55}{100}$	$\frac{11,342,149.3}{100}$	$\frac{11,004,959.3}{20,350,320}$	$\frac{1}{1} = 100\%$
	25,052,450	30,656,000	20,616,230	= 54 %	
	1	1	1		
	= 61%	= 68%	= 55%		

### 3.3. Marketing Channel of Dry Maize in Southeast Nigeria

Most of the dry maize marketers do not sell their products directly to the consumers. This is partly because of the bulkiness of the products and its high costs. Between the producers and the consumers are the middlemen who perform various functions. The dry maize producers, middlemen and consumers link themselves. The linkage forms the marketing distribution channel. The marketing channel of dry maize is the path through which the dry maize product moves from the harvesters until it gets to the final consumers. This distribution channel is shown in Figure 1.0; four channels of selling dry maize were identified in Anambra State Nigeria. The first channel indicated the movement of the product from the producer/supplier direct to the consumer. This happened because maize is a staple crop in the Southeast and is grown by many households. Many households grow it for family consumption, but could as well sell in the nearby markets, directly to the consumers.

In channel two, the producer sold to the wholesalers, who also sold to the consumers. Maize, being a staple food in Southeast is consumed heavily by man and livestock hence farmers who have large livestock farms and institutions who consume maize in large quantities in form of pap and fufu, can afford to buy directly from the producers and wholesalers without passing through the retailers. The third stage was producers/suppliers selling to the consumers via the retailers. This is true of some retailers who can afford the transportation means and costs and who have multiple stores in the markets. Many of them can also buy from many producers from the same village or locality. Finally, the fourth channel, which was the longest and the commonest in the study area involved the products sale flow from producers/suppliers to wholesalers to retailers and to the final consumer. Most of the bulk quantities of dry maize being consumed in the Southeast comes from the northern part of the country, and has to pass through the fourth channels before they get to the final consumers.

Figure 1: Marketing channels for dry maize in Southeast, Nigeria



3.4. Constrains to Dry Maize Grain Marketing

The findings of the study on problems encountered by dry maize grain marketers (Table 3.0 and 4.0) were categorized into sub-sections. The first dealt with general problems experienced by the marketers. The second

section dealt with storage problems while the third was on transportation problems. That of selling and buying problems occupied the fourth and fifth positions respectively. Mean scores of the various constraints in each category were computed and compared with the critical mean of 2.5 so as to determine the seriousness of the problem.

In the general marketing problems, it could be seen from the table that high cost of transportation ranked first to become the most serious problem encountered by the wholesalers (M=2.86) of dry maize in the area. This is in line with the findings of Nkamigbo and Isibor (2019) that transportation is the most critical factor affecting marketers and their performance in many developing countries. This is basically attributed to bad road network which characterizes the area. The transportation problem was closely followed by inadequate capital (M= 2.63), storage pests and diseases (M= 2.60), high market levy (M= 2.55), poor and unstable prices, poor storage facilities and too many other trades (M= 2.50 in each case), inadequate market information (M= 2.36) and the least poor sales (M= 2.30).

The general marketing problem was followed closely by storage problems. It could be seen from the table, (table 3.0) that storage losses due to diseases caused by weevils ranked first (M=2.7). This is basically attributed to the susceptibility of maize grains to weevils and other storage pest. It could also be related to the perishable nature of the product especially when humidity and temperature are very high. The storage losses as a result of pests and diseases was closely followed by high cost of storage (M=2.45), loss as a result of theft (M=2.17), and inadequate storage facilities (M=1.80).

The third section dwelt on transportation problem. It could be seen from the table, (Table 3.0) that poor/bad feeder roads ranked first with mean score of 2.87. This could also be as a result of the same poor road networks. This was followed by inadequate transport facilities (M=2.77), bulkiness of the product (M=2.47) and lastly by high cost of transportation (M=3.10).

Transportation problem was closely followed by selling problem. It could also be seen from the table (Table 3.0) that excessive price instability was noticed as the most serious problem (M=2.76) for the wholesalers. This could be as a result of the seasonal nature of the maize product which experiences price fluctuation over the years. This was closely followed by high market levy (M=2.53), low returns (M=2.40), inadequate market information (M=2.33) and small number of buyers (M=2.00).

Further analysis on the problems of buying the product indicated that instability of prices was the most serious problem with mean score of 2.98. This was closely followed by lack of information about prices (M=2.13), adulteration of goods (M=2.04), and long chain of distribution (M=2.03).

**Table 3.0: Problems of dry maize grain marketing by (Wholesalers) in the area**

	Parameter	Mean score	Rank
A	<b>General marketing problems</b>		
	High cost of transport	2.86	1 <sup>st</sup>
	Inadequate capital	2.63	2 <sup>nd</sup>
	Storage/pest/diseases	2.60	3 <sup>rd</sup>
	High market levy	2.55	4 <sup>th</sup>
	Poor and unstable prices	2.50	5 <sup>th</sup>
	Poor storage	2.50	5 <sup>th</sup>
	Too many other traders	2.50	5 <sup>th</sup>
	Inadequate market information	2.36	6 <sup>th</sup>
	Poor sales	2.30	7 <sup>th</sup>
B.	<b>Storage problems</b>		
	Storage losses (Weevils and pests)	2.75	1 <sup>st</sup>
	High cost of storage	2.45	2 <sup>nd</sup>
	Loss as a result of theft	2.17	3 <sup>rd</sup>
	Inadequate storage facilities	1.80	4 <sup>th</sup>
C.	<b>Transportation problems</b>		
	Poor/bad feeder roads	2.87	1 <sup>st</sup>
	Inadequate transport facilities	2.77	2 <sup>nd</sup>
	Bulkiness of goods	2.47	3 <sup>rd</sup>
	High cost of transportation	3.10	4 <sup>th</sup>

D.	<b>Selling problems</b>		
	Excessive price instability	2.76	1 <sup>st</sup>
	High market levy	2.53	2 <sup>nd</sup>
	Low returns	2.40	3 <sup>rd</sup>
	Inadequate market information	2.33	4 <sup>th</sup>
E.			
	<b>Buying problems</b>		
	Instability of prices	2.98	1 <sup>st</sup>
	Lack of information about prices	2.13	2 <sup>nd</sup>
	Adulteration of goods	2.04	3 <sup>rd</sup>
	Long chain of distribution	2.03	4 <sup>th</sup>

Source, Field Survey, 2018

Table 4.0 shows result of analysis of problems of dry maize marketing by the retailers. Poor and unstable prices and high market levy were the most serious marketing problems of the retailers with mean score of 2.71 each. The second in rank was storage pests and diseases (M= 2.61), then too many other traders (M=2.55), inadequate capital (M=2.47), high cost of transportation and poor storage facilities (M=2.40 in each case), inadequate market information (M= 2.36), and poor sales as the weakest problem (M=2.30). Nkamigbo and Isibor (2019) identified transportation problems, inadequate capital, and poor storage facilities as serious constraints to maize marketing in the different study areas. The general marketing problems were followed by inadequate storage facilities with mean score of 2.86. This could be attributed to the fact that most of the warehouse owners in the various markets were willing to rent their warehouse to wholesalers alone, because they could afford to pay better store rent than the retailers. This was closely followed by storage losses due to diseases and pests (M=2.73), loss as a result of theft (M=2.63) and high cost of storage, (M=2.57).

Bulkiness of the product was noticed as the most serious constraints (M=2.86) in the transportation sector. This is because; many retailers transport their goods using motorcycles and tricycles which could carry few goods. This was closely followed by poor/bad feeder roads (M=2.63), high cost of transportation (M=2.43) and inadequate transport facilities (m=2.34).

High market levy (M=2.79) was noticed as the most serious problem following transportation problem. This could be because of the existence of too many market masters operating in the markets. This was closely followed by excessive price instability (M=2.73), low returns (M=2.50) small number of buyers (M=2.47) and inadequate market information (M=2.43).

Lastly instability of prices was closely followed by lack of information about prices, (M=2.18), long chain of distribution (M=2.30) and adulteration of goods (M=1.84) on the problems of buying the product.

**Table 4.0 Problems of dry maize grain marketing by retailers in the area**

	Parameter	Mean score	Rank
A	<b>General marketing problems</b>		
	Poor and unstable prices	2.71	1 <sup>st</sup>
	High market levy	2.71	1 <sup>st</sup>
	Storage/pest/diseases	2.61	2 <sup>nd</sup>
	Too many other traders	2.55	3 <sup>rd</sup>
	Inadequate capital	2.47	4 <sup>th</sup>
	Poor storage	2.40	4 <sup>th</sup>
	High cost of transport	2.40	5 <sup>th</sup>
	Inadequate market information	2.36	6 <sup>th</sup>
	Poor sales	2.30	7 <sup>th</sup>
B.	<b>Storage problem</b>		
	Inadequate storage facilities	2.86	1 <sup>st</sup>
	Storage losses (Weevils and Pest)	2.73	2 <sup>nd</sup>



Loss as a result of theft	2.63	3 <sup>rd</sup>
High cost of storage	2.57	4 <sup>th</sup>
<b>C. Transportation problems</b>		
Bulkiness of goods	2.86	1 <sup>st</sup>
Poor/bad feeder roads	2.63	2 <sup>nd</sup>
High cost of transportation	2.43	4 <sup>th</sup>
Inadequate transport facilities	2.34	4 <sup>th</sup>
<b>D. Selling problems</b>		
High market levy	2.79	1 <sup>st</sup>
Excessive price instability	2.73	2 <sup>nd</sup>
Low returns	2.50	3 <sup>rd</sup>
Small number of buyers	2.47	4 <sup>th</sup>
Inadequate market information	2.43	5 <sup>th</sup>
<b>E. Buying problems</b>		
Instability of prices	2.91	1 <sup>st</sup>
Lack of information about prices	2.18	2 <sup>nd</sup>
Long chain of distribution	2.30	3 <sup>rd</sup>
Adulteration of goods	1.84	4 <sup>th</sup>

Source, Field Survey, 2018

### Conclusion

Dry maize grains marketing proved a profitable enterprise at both the wholesale and retail levels in Anambra State. The profitability of yellow maize was seen to be greater than white maize due to its preference by many people in the southeast because of the colour of its by-product. Addressing the constraints identified by this study, especially the serious ones such as high cost transportation, inadequate capital, poor and unstable prices, and poor storage facilities through sound policy measures would improve marketing efficiency, profitability and overall welfare of the marketers.

### Recommendations

- i. Government should provide necessary transportation facilities such as good network of roads and mass transit vehicles so as to ameliorate the transportation problems of the marketers, improve marketing efficiency and net marketing income realized by the marketers.
- ii. Government and other concerned agencies, should cooperate in building marketing infrastructures, especially new model markets, stores, conveniences, borehole and refuse dumps in order to ensure good health of the marketers, reduce marketing cost and improve enterprise profitability.
- iii. Government and financial institutions, especially the Agricultural Credit Schemes of the Central bank, should be strengthened to provide soft loans to dry maize marketers at a very low interest rate to make more fund available for the marketers to increase turnover, hence income.
- iv. The dry maize grains marketers should form cooperative societies, which have proven to be the best way of obtaining subsidies, credit facilities and group contributory effort.

### Reference

1. Adeleye, A.D. (2008). COP 112. General Agriculture II . National Open University Nigeria: TL. Peakline publishers.
2. Agbonifoh, B.A., Ogwo, O.E., Nnolim, D.A., & Nkamnebe, A.D. (2007) Marketing in Nigeria concepts principles and decisions (2nd ed). Aba, Nigeria: Afritowers Ltd. 593-613.
3. Arene, C. J, (2003). An introduction to agricultural marketing analysis and policy: Fulladu Publishing Company, Enugu, Nigeria
4. Ebe, F.E. (2007). Economic study of fuel wood marketing and consumption in Enugu State, Nigeria. Ph.D. Dissertation. University of Nigeria Nsukka, Nigeria.

5. Folayin, J. A. (2013). Determinant of post-harvest losses of maize in Akure North Local Government Area Ondo State Nigeria. *Journal sustainable society* 3(2), 12-19.
6. Food and Agricultural Organization, FAO. (2008). Year book.
7. International Institute for Tropical Agriculture, IITA. (2009) /.org/www.iita.org/maize (May 5,2015).
8. International Institute for Tropical Agriculture, IITA. (2010). Ibadan, Oyo State. Annual report on maize production.
9. Iken. J.E, Awusa (2004). Maize Research and Production in Nigeria. *African. J.Biotechnology*
10. , 3(6), 302-307.
11. International Institute for Tropical Agriculture, IITA. (2012). Hybrids-maize-farming in Nigeria Time to start your planting for the season. <http://www.naijafinder.com/threads/4870>.
12. Kohls, R.L. & Uhl, J.N. (2002). *Marketing of Agricultural Products* (5th ed.), New Dehli, India: Hall India, Private, Ltd.
13. Mboyal, R. (2011). The dietary importance of maize in Katumba ward, Rungwi district, Tanzania and its contribution to household food security. *African journal of Agricultural Research*, 6(11), 2617-2626.
14. Nkamigbo, D.C., Atiri, O. A., Gbughemobi, B. O. & Obiekwe, N.J. (2015). Comparative Analysis of Costs and Returns in Hybrid and Non Hybrid Maize Production in Osun State, Nigeria, *Journal of Agriculture and Veterinary Sciences*, 7(2), 55-69.
15. Nkamigbo, D.C., Nwoye, I, I., Makwudo, E.O. and Gbughemobi, B.O. (2018). Economics of
16. Maize Production in Oyi LGA in Anambra State, Nigeria. *Int'l J. of Agriculture and*
17. *Biosciences*, 7(2), 61-64.
18. Nkamigbo, D. C. and Isibor, A. C. (2019). Economic efficiency and profitability of watermelon
19. marketing in Anambra State, Nigeria. *Int'l Journal of Applied Science and Research*,
20. 2(1), 23-29.
21. Nwanna, V. (2009). Nigerian corn study shows production could more than double. *Bloobery innovation publication*. Pp 4-5.
22. Nwauwa, I.O.F. (2012) Palm oil marketing and distribution in Imo State, Nigeria. An application of linear programming model *E3 journal of Agricultural Research and Development*, 2(1), 037-043.
23. Ofoedu, S. I. (2014). *Marketing of African bread fruits (Treculla, African) in Anambra State Nigeria*. M.Sc dissertation, Department of Agric-Economics and Extension, Faculty of
24. Agriculture, Anambra State University, Igbariam, Nigeria.
25. Oluwatoyin, C.M. (2013) A Gender analysis of maize marketing by farmers in Oyo state, *European scientific journal* 9 (2), 18-30.
26. Onuk, E. G, Ogara, I.M, Yahara, H. & Nannim, N. (2010). Economic analysis of maize
27. production in Northern Guinea Savannah of Nigeria, unpublished PhD thesis, Dept. Agric \Econs, and Rural Sociology, Ahmadu Bello University, Zaria, Nigeria.
28. Oyetoro, J., & Okunade, E. (2012). The role of women in maize production in Ejigbo Local Government Area of Osun State, Nigeria. *Advance I Agriculture, Science and Engineering Research*, North America.
29. Ozor, M. U. (2016). Economic analysis of dry maize in the South East States of Nigeria. Unpublished Ph. D Thesis Department of Agricultural Economics and Extention, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus. Anambra State.
30. Ugwumba, C.O.A. (2009). Analysis of Fresh maize marketing in Anambra State, Nigeria. *Journal*
31. *of Research in National Development*, 7 (2), 153-157.
32. Ugwumba, C.O.A. & Obiekezie, A.A. (2008). Impediments to the development of live catfish retail markets in Anambra State, Nigeria. *Journal of Research and Production (NIJOREP)*. 13(1),173-178.
33. Ugwumba, C.O.A. & Obiekezie, A.A. (2008). Impediments to the development of live catfish retail markets in Anambra State, Nigeria. *Journal of Research and Production (NIJOREP)*. 13(1),173-178.
34. Ugwumba, C.O.A., Orji, E.C. & Wilcox, G.I. (2012). Red Sokoto goat marketing in Enugu Metropolis of Enugu State, Nigeria. *International Journal of Applied Research and Technology*, 1(8), 71-77.
35. Raouf, S. S. (2011). Grain yield and physiological growth indices in (2ce Mays. L). hybrids
36. under seed bio priming with plant growth promoting rhizobutinos (P G R R)
37. *Journal of food agriculture and environment* 3(4), 393.
38. Singh, A., Yadaw, N., & Sharma, S. (2012). After of fermentation on physiochemical properties and in vitro starch and protein digestibility of selected cereals. *International journal of agriculture and food science*, 2 (3), 66-70.

39. Visent, K., & Asheri, M. (2015). Profit margin for small maize Business. A corporation study of Green Roasted and dry maize.