

ECONOMICS OF SPICES MARKETING IN KWARA STATE, NIGERIA

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ABSTRACT

Spices are regarded as a valuable commodity crop grown for medical and nutritional purposes in Nigeria, its economics and factors influencing marketing margin are scarce in the literature. Specifically, the objectives are to: describe the organization of ginger and garlic marketing, estimate the costs and returns of ginger and garlic marketing and determine factors affecting ginger and garlic marketing in the study area. Using the snow-balling approach, 150 respondents were selected from the three major ginger and garlic markets in the Ilorin metropolis of Kwara state. Data collected were analyzed using descriptive statistics, Herfindahl- Hirschman Index (HHI), marketing margin and linear multiple regression. Results indicated that a large proportion of ginger and garlic marketers are male and are of active age. The HHI value revealed that both ginger and garlic markets are competitive and non-concentrated. Furthermore, the marketing margin showed that every ₦1 of sales evolve to a price spread of 0.49k and 0.40k among the ginger and garlic marketers respectively. The predictors of ginger and garlic marketing are household size, monthly income, years of experience, marketing associations, number of customers and public relation strategies (PR) employed by the respondents. Furthermore, poor credit facilities are the major constraint facing marketers in the study area. The policy aimed at providing both formal and informal credits to marketers should be encouraged. Also, marketers should be trained on the effective use of PR strategies for enhanced marketing margin. Lastly, it is important to raise awareness about the economic, medical, and nutritional benefits of these spices to enhance marketing.

Keywords: *Garlic, ginger, marketing margin, marketers and spices*

INTRODUCTION

Spices and condiments are products of plants which are mostly used for seasoning, flavouring and thus enhancing the taste of foods, beverages and drugs. Spices can also be used as medicines, perfumes, preservatives and dyes for colouring (Iwu, 2012; Manandhar, 2015). Many spices have antibacterial characteristics and are utilized in medical, religious ceremonies, cosmetics and perfume manufacturing. Spices produced from seeds have significant fat, protein, and

carbohydrate content by weight, and they tend to add a few calories to food (Gulshan *et al.*, 2019). Spices have a distinct flavour due to the presence of essential oils, and the primary chemical compounds contained in them have a number of distinctive properties, including contributing colour and taste, as well as enhancing food preservation and storability. Almost all spices are commendable due to their industrial and cosmetic applications (Devi, 2018).

The global seasonings and spices market is on an upward trend. The spice market was valued at about USD 15.11 billion in 2017 and is expected to reach approximately USD 20.99 billion by 2024, a growth rate of about 5.0% per annum between 2018 and 2024. The USA is the largest importer of spices, followed by Germany and other parts of Europe and the Middle East. The world's major producers of spices include India (1.6 million tonnes/annum), China (99,000 tonnes/annum), Bangladesh (48,000 tonnes/annum), Pakistan (45,000 tonnes/annum) and Nepal (15,000 tonnes/annum). India exports spices to more than 150 countries. The share of India is about 44% in output and 36% in the global spice trade (RMRDC, 2019).

In Nigeria, spices are mostly used for flavouring and are usually of high value (Akinpelu *et al.*, 2011). They are generally found in the Forest (including mangrove and rainforest), Dried Savanna, Guinea Savanna and Sudan Savanna. The bulk of the spices is found in the Southern rainforest zone of the country, while others such as garlic and ginger are found predominantly in the dry Northern zone (Adelaja *et al.*, 2008). Nigerian farmers cultivate spices such as curry (*Murraya koenigii*), sweet basil (*Ocimum basilicum*), bush tea (*Ocimum gratissimum*), ginger (*Zingiber officinale*), guinea pepper (*Xylopia aethiopica*), African black pepper (*Piper guineense*) and turmeric (*Curcuma longa*). Ginger and African black pepper are the major Nigerian spices in the international market, the rest are consumed locally. Black pepper is the largest traded spice worldwide, attracting the highest amount per ton, followed closely by chilli

pepper. The most popular Nigerian spices in the international market are ginger and African black pepper; the majority are consumed locally (RMRDC, 2013). Garlic for example has become a more popular spice among producers, marketers, and consumers in recent years as more people discover its culinary importance. Growers have discovered it to be a highly profitable crop (Hasan and Khalequzzaman, 2017).

Despite spices' potential as food and industrial crops, their production, processing, marketing, and utilization are still mostly localized (RMRDC, 2012). In Nigeria, agricultural commodity prices have undergone significant fluctuations and continuous increases, and these resulted to price instability. Furthermore, spice marketing is not well structured and there are no standard and uniform scales of measurement among marketers. Worst still, public relations (PR) strategies are often overlooked in agricultural marketing in Nigeria, PR strategies are the strategies marketers use to send the right marketing message to the right customer using the right medium at the right time to get high market shares (Salau *et al.*, 2021). These strategies include using phone calls, signage, direct supply, text message, honouring invitations, WhatsApp, off-season visits, Facebook, through fellow customers, and gifts among others. A study of the spice marketing system is necessary to understand the complexities involved and to identify challenges facing marketers. Thus, this study assessed the economics of ginger and garlic marketing and determined the influence of PR strategies on spices marketing in Kwara state, Nigeria.

METHODOLOGY

Study area

This study was carried out in the Ilorin metropolis. Ilorin, the capital of Kwara State is located in the Guinea Savannah zone of Nigeria. Kwara state is located midway between the Southern and Northern parts of the country as seen in figure 1. The climate in Ilorin is tropical with distinct dry and wet seasons. The wet season is around April and November and the annual rainfall ranges between 1000-1500 mm. The relative humidity is 77.50% and the mean temperature ranges between 30⁰c-35⁰c

(KWADP, 2000). Agriculture is the main economic activity in the state because of its proximity to river Niger, rich fertile soil and arable land, agricultures employ a large number of its population. There are various ethnic groups, but it is inhabited mainly by farmers, traders and artisans. The major spice markets in the state are Ipata, Mandate, Oja-Oba, Zango and Oko-olowo markets. Spices are normally brought to the state by the Hausas from the northern part of the country such as Sokoto, Kano, Kastina and Niger States.

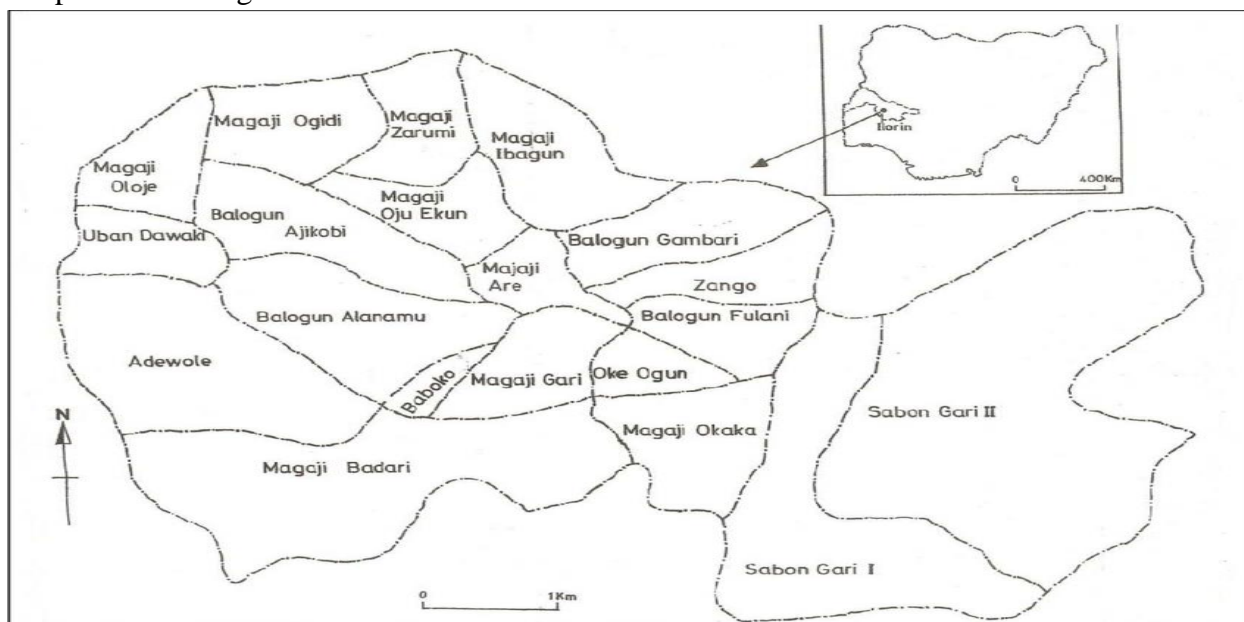


Figure 1: Map of Ilorin Metropolis

Data collection and sampling methods

Primary data was used for this study. Data were collected with the aid of a well-structured questionnaire and interview schedule. A two-stage sampling procedure was employed for this study. The first stage involved a purposive selection of 3 major markets (Ipata, mandate and Oja-oba) within Ilorin metropolis. In the second stage,

Snowball sampling or chain-referral sampling a non-probability sampling approach was used to gather 136 ginger and 142 garlic marketers for this study. This is a sampling technique in which existing subjects provide referrals to recruit samples required for a research study. It involves a primary data source nominating other

potential data sources that will be able to participate in the research studies.

Analytical techniques

Descriptive statistics, Herfindahl index, marketing margin and regression analysis were deployed to achieve the research objectives.

The Herfindahl index was employed to examine the organization of ginger and garlic markets.

The Herfindahl index (HI), $HI = \sum Si^2$,

where,

S_i is the market share for respondent i , calculated as $S_i = Q_i/Q$,

Q_i is sacks of ginger/garlic sold by respondent i per cycle, and

Q is the total number of sacks sold per cycle by all respondents.

The return of ginger and garlic marketing was determined using marketing margin (MM) analysis. The model is given as:

$$MM = \frac{CP - SP}{CP} \times 100$$

Where:

MM is Marketing Margin

CP is consumer or Selling Price (₦)

SP is farm-gate or Supply Price (₦)

Regression analysis was used to examine the predictors of garlic and ginger marketing.

The model is given as:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + e_i$$

Where; Y = marketing margin of both garlic of ginger marketers

X_1 is the household size (number)

X_2 is education level (number of years spent in school)

X_3 is the monthly income (Naira)

X_4 is marketing experience (years)

X_5 is membership of cooperative (($D = 1$ if member, 0 if otherwise),

X_6 is the number of customers per cycle

X_7 is public relation strategies (proxied by the number of PR strategies - phone calls, signage, direct supply, text message, honouring invitations, WhatsApp, off-season visits, Facebook, through fellow customers, gifts etc - used by each respondent)

e_i = Error term

A five-point Likert scale was used to rank the constraints facing ginger and garlic marketers. The response options and values assigned were as follows: Strongly disagree (SD) = 1; Disagree (D) = 2; Agree (D) = 3; Moderately Agree (MA) = 4 and Strongly Agree (SA) = 5

RESULTS AND DISCUSSION

Table 1 presents the socio-economic characteristics of the respondents. The distribution indicates that ginger and garlic marketing is dominated by males (90.5% and 86.6%) with an average age of 36.9 and 37.4 respectively. The result is consistent with the findings of Akinpelu *et al.*, (2011) who reported 100% of male spices marketers in Kano. This is, however, consistent with the religious and cultural outlook of the northwest geo-political zone. The average age of the respondents implies that the marketers are at their productive age and can go about doing their business with strength and energy. A majority (79.6% and 81%) of

ginger and garlic marketers are married. This is expected as married couples have increasing financial commitment and therefore engage in other livelihood activities to source more income. According to Mafimisebi *et al*; (2000), married people tend to have more financial commitment and home upkeep than singles and, therefore, need to have a source of income such as marketing spices in order to cater for these responsibilities.

Furthermore, a total of 64.2% of ginger marketers and 63.4% of garlic marketers have just primary and secondary education. This implies that spices marketing doesn't require a high level of education to venture into. With this level of education, information regarding spices can be easily disseminated among themselves. This depicts clearly that the respondents' literacy level can positively enhance the marketing of spices in Nigeria. A large proportion (67.2% and 64.8%) of ginger and garlic marketers have a household size of 1 to 5 members. The ginger and garlic marketers have significant years of marketing experience between 1 to 10 years with 78.1% and 84.5% respectively. More so, only a few (3.6% and 2.8%) of ginger and garlic marketers belong to cooperative associations. One of the importance of being a member of an association is to constantly have access to

credit facilities. This is evidenced since the majority (97.1% and 97.9%) of ginger and garlic marketers do not have access to credit.

Organization of ginger and garlic markets

The Herfindahl Index value of 0.01 and 0.0094 are obtained for ginger and garlic marketers respectively. These values imply that both ginger and garlic markets are highly competitive and non-concentrated. The markets tend toward perfect competition which is characterized by homogenous products, free entry and exit and many buyers and sellers.

Marketing margin of Ginger and Garlic marketers

The total average marketing cost per cycle is highest for garlic with ₦35, 328.44 and lower for ginger with ₦16,905.64. The percentage marketing margin of ginger and garlic marketers was 49.91% and 40.76% respectively. This indicates that every ₦1 invested by the ginger and garlic marketers, evolves in a price spread of 49k and 40K respectively (Table 2). Similarly, the findings of Akinpelu *et al*; (2011), reveal that spices marketing in three selected states of Nigeria was efficient and profitable.

Table 1: Socio-economic features of marketers

Variable	Class	GINGER		GARLIC	
		Frequenc y	Percentage	Frequenc y	Percentag e
Age	21-30	38	27.7	35	24.6
	31-40	56	40.9	61	43.0
	41-50	36	26.3	38	26.8
	51-60	6	5.1	8	5.6
Average		36.9		37.39	
Gender	Male	123	90.5	123	86.6
	Female	13	9.5	19	13.4
Marital status	Single	27	19.7	26	18.3
	Married	108	79.6	115	81.0
	Divorced	1	0.7	1	7
Education	No formal	49	35.8	52	36.6
	Primary	73	54.0	76	53.5
	Secondary	14	10.2	14	9.9
Household size	1-5	91	67.6	92	64.8
	6-10	45	32.4	50	35.2
Mean		4.89		4.97	
Monthly income	1000 - 20000	81	59.1	80	56.3
	21000-40000	38	28.5	42	29.6
	41,000-	12	8.8	13	9.2
	60,000	5	3.5	7	3.9
	61,000-80000				
Monthly savings	1000-10000	112	82.5	117	82.4
	11,000-20000	16	11.7	13	9.2
	21,000-	6	4.4	7	4.9
	30,000	2	1.5	5	3.5
	31,000-40000				
Experience	1 -10	106	78.1	120	84.5
	11-20	30	21.9	22	15.5
Primary occupation	Ginger/Garlic marketing	29	21.2	31	21.8
	Others	107	78.8	111	78.2
Membership of cooperative	Yes	5	3.6	4	2.8
	No	131	96.4	138	97.2
Access to credits	Yes	4	2.9	3	2.1
	No	132	97.1	139	97.9

Source: Field analysis, 2022

Table 2. Marketing margin of ginger and garlic marketers

Item	Ginger (₦)	Garlic (₦)
Average cost of 50kg of ginger/garlic	10700	30602
Average cost of shop	1027.90	1027.90
Average cost of a wheelbarrow	1750	515.34
Average cost of spoiled ginger/garlic	570.87	470.67
Average cost of transportation	1355.25	1047.85
Average cost of commission	1157.44	1157.44
Average cost of marketing service	344.18	507.24
Total cost	16905.64	35328.44
Average revenue generated	33753.28	59644.00
Return per capital investment	0.99	0.68
Percentage marketing margin	49.91	40.76
Marketing efficiency	199.65	168.8

Source: Field analysis, 2022

Factors Influencing the Marketing Margin of Ginger

The predictors of the marketing margin of ginger are presented in Table 3. The regression result reveals that the R square (R^2) was 0.9801, implying that 98.01% of the total variation of the ginger marketing margin is explained by the estimated explanatory variables. The predictors of the marketing margin of ginger are monthly income, the number of customers received per cycle and public relations strategies at various levels of significance. The number of customers received per cycle and public

relations strategies is both positive and significant at a 10% level. Salau and Omotosho (2021), also stressed the importance of public relations among yam marketers in Lagos state, Nigeria. Furthermore, monthly income is also positive but significant at a 1% significance level. This implies that an increase in the monthly income of the ginger marketer will increase the marketing margin by 25%. Surprisingly, the coefficient of household size, years of experience, and number of customers received per cycle were not significant.

Table 3. Predictors of marketing margin of ginger marketers

Variables	Coefficient	Std. Error	t-ratio	p-value
Years of education	0.0270917	0.199179	0.1360	0.8921
Household size	-0.110778	0.155542	-0.7122	0.4784
Monthly Income	0.241491	0.0502487	4.8059	<0.0001***
Years of experience	0.0170638	0.113797	0.1499	0.8812
Public relations strategies	0.395744	0.204261	1.9374	0.0562*
Number of customers per cycle	0.181422	0.0983379	1.8449	0.0688*

Source: Field analysis, 2022

*, **, *** Significant at 10%, 5% and 1% respectively. R-squared = 0.9801

Factors influencing the marketing margin of garlic marketers

The predictors of the marketing margin of garlic marketers are presented in Table 4. The R² value of 0.9865 implies that 98.65% of the total variation of returns of ginger marketers is explained by the estimated predictor variables. The predictor variables are monthly income, years of education, and public relations strategies adopted by marketers. The public relations strategies are positive and significant at a 5% significant

level while monthly income is significant at a 1% level. A positive coefficient of monthly income and public relations strategies implies that an increase in the monthly income and public relations strategies of garlic marketing will increase the marketing margin of the marketers by 25% and 48% respectively. However, years of education is negatively significant, implying that an increase in the years of education of the marketers may decrease the returns from the venture.

Table 4. Predictors of marketing margin of garlic marketers

<i>Variables</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>
Years of education	-0.300368	0.164703	-1.8237	0.0718*
Household size	-0.0246102	0.126689	-0.1943	0.8464
Monthly Income	0.258717	0.0451959	5.7243	0.0001***
Years of experience	-0.0160088	0.085962	-0.1862	0.8527
No of customers per cycle	0.0477753	0.0935412	0.5107	0.6109
Public relation strategies	0.481222	0.189039	2.5456	0.0127**

Source: Field analysis, 2021

*, **, *** Significant at 10%, 5% and 1% respectively. R-squared = 0.9865

Challenges facing garlic marketers

As presented in Table 5, the most important factor hindering ginger marketing in the study area is the lack of credit facilities and insufficient startup capital. This is expected as a large percentage of the respondents are not members of any cooperative association. Slightly following credit facilities and insufficient startup capital is the no standard

weighing scale. An inadequate storage system is the least ranked constraint in the study area.

Challenges of ginger marketing

Similarly, lack of credit facilities and insufficient startup capital are the major constraints hindering ginger marketing in the study area (Table 6.)

Table 5: Challenges of garlic marketing

Constraints	SD	D	A	MA	SA	Mean	SD	Rank
Lack of credit facilities	0(0)	0(0)	0(0)	3(2.1)	139(97.9)	4.98	0.144	1 st
Insufficient startup capital	(0)	0(0)	3(2.1)	42(29.6)	97(68.3)	4.66	0.518	2 nd
Lack of training opportunities	(0)	4(2.8)	8(5.6)	98(69.0)	32(22.5)	4.11	0.620	4 th
Inadequate storage facilities	(0)	10(7.0)	25(27.6)	70(49.3)	37(26.1)	3.94	0.849	7 th
Improper market knowledge	1(0.7)	7(4.9)	30(21.1)	58(40.8)	45(31.7)	4.00	0.907	6 th
No standard weighing scale	(0)	4(2.8)	8(5.6)	36(25.4)	93(65.5)	4.56	0.739	3 rd
Marketing theft	(0)	15(10.6)	14(9.9)	68(47.9)	45(31.7)	4.01	0.919	5 th

Source: Field analysis, 2021

Table 6: Challenges of ginger marketing

Constraints	SD	D	A	MA	SA	Mean	SD	Rank
Lack of credit facilities	0(0)	0(0)	0(0)	3(2.2)	133(97.8)	4.98	0.147	1 st
Insufficient startup capital	0(0)	0(0)	3(2.2)	39(28.5)	94(69.3)	4.67	0.5164	2 nd
Lack of training opportunities	0(0)	4(2.9)	8(5.8)	95(70.1)	29(21.2)	4.09	0.617	4 th
Inadequate storage facilities	0(0)	9(6.6)	23(16.8)	68(50.4)	36(26.3)	3.96	0.835	7 th
Improper market knowledge	1(0.7)	7(5.1)	24(17.5)	62(46.0)	41(29.9)	4.01	0.883	6 th
No standard weighing scale	0(0)	4(2.9)	7(5.1)	32(24.1)	92(67.2)	4.58	0.735	3 rd
Marketing theft	0(0)	11(8.0)	15(10.9)	67(49.6)	43(31.4)	4.04	0.865	5 th

Source: Field analysis, 2021

CONCLUSION

RECOMMENDATIONS

Having analyzed the economics of ginger and garlic marketing in Kwara state, the result shows that the ginger and garlic markets are non-concentrated and highly competitive. Furthermore, the predictors of ginger

AND

marketers are monthly income, the number of customers received per cycle and public relations strategies employed. On the other hand, factors influencing garlic marketers are monthly income, years of education, and public relations strategies. Furthermore, the most important challenges among marketers

are lack of credit facilities, insufficient startup capital and the absence of a standard weighing platform. Based on the findings of this study, we suggested that policy aimed at providing both formal and informal credits to marketers should be encouraged. Also, the government should finance PR tools and provide training to marketers on how to utilize them effectively to increase marketing margins.

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