



Market Structure Analysis in Local Stimulants Marketing among Women in Osun State, Nigeria

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Abstract: This study investigated the structure and marketing efficiency of local stimulants in selected Local Government Area of Osun State, Nigeria. A total of two hundred and forty (240) respondents was sampled. Structured questionnaires was used in obtaining data from the respondents. Specifically, the study described the socio-economic characteristics of the respondents, examined the market structure for local stimulants, the marketing margin, marketing efficiency, examined the degree of market concentration for the marketers of the local stimulants and described the constraints encountered in the marketing of local stimulants in the study area. Results from the study revealed that majority (75.8%) of the respondents had at most primary school education earning at least N53,321 per month. The market structure of local stimulants in the study revealed that kolanut was the most traded with a typical kola nut marketer selling about 3.88591 tonnes (i.e 388,591kg) per month. Analysis of the marketing margin of the local stimulants revealed that typical retailers earned ₦323.50, ₦274.40, ₦162.50, ₦285.65 and ₦33.26 per Kilogram for bitter kola, kolanut, ginger, alligator pepper and pepper respectively. The marketing efficiencies is between 2.48 and 4.62 across markets for all the stimulants. An evaluation of market concentration revealed that pepper stimulant have the highest market concentration of 2,083 while bitter kola had the least market concentration of 871 across the LGAs. High transportation (51.5%) and middlemen rip-offs (42.6%) constituted the most common challenges confronting the respondents while low demand (3.3%) was the least challenge or constraint faced by local stimulant marketers. Therefore, in order to ensure a better marketing efficiency for the local stimulants in the study area, farmers should seek help from cooperative societies, borrowing through soft loans from commercial banks or government parastatals and ministries such as ministry of commerce trade, and industries to source more funds.

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Keyword: Agriculture; Stimulant; Efficiency; Middlemen; Market

JEL Classification: D40

1. Introduction

Agriculture is a significant sector in the economy of Nigeria, providing employment for more than 70% of the population (Ekaete, 2017). Most of the farms focus on the production of cash or arable crops. Some of the crops grown in Nigeria are; rice, rubber, beans, pepper and cashew among others. Other types of food crops being cultivated are stimulant crops such as Bitter kola (*Orogbo*), *Garciniakola*, Pepper (*Ata*) *Capsicum spp*, Ginger (*Ataale*) *Zingiber officinale*, Alligator pepper (*Ataare*) *Aframomum melegueta* and Kolanut (*Obi*) *Kola nitida*

The processing of agri-products in Nigeria is growing and is more than 24% of the country's Gross Domestic Product. Samuel (2017) hinted that the demand for agricultural products both in Nigeria and the world at large, will always be on the high side because food is one of the basic needs of men.

The agricultural sector is the largest employer of labour and is associated with a key contributor to wealth creation and poverty alleviation in Nigeria (Adamu, 2018). Yet, there are several problems that are associated with various activities that are involved in the production and marketing activities of these products. The major role of marketing is enhancing rural income and increasing the overall development of the nation. One of the functions of agricultural marketing is to bring items of trade from surplus to deficit areas in order to ensure an even distribution of such commodities (Manga, 2012).

The word "stimulant" is an existing and familiar term to most people. It evokes the imagery of someone with boundless energy, heightened mental capacity and a lively vivacious attitude ready to take on large projects and challenges. They are all characteristics that most of us seek in modern day life to meet the demands that evolution is placing on us.

All of these stimulants come from natural plants and have beneficial properties if used in moderate quantities. However, when these powerful plant substances become addiction, they work against us causing kidney stress, adrenal depletion and bone out. The activation actions in these plants are due to strong alkaloid elements as well as chemical components. Unfortunately, when over used, they tend to dull the very vitality that we sought to increase by consuming them (Allen, 2017).

These herbs help to increase the function of the energy levels, circulation and eliminate toxics. Stimulant herbs can induce temporary improvements in either mental or physical function or both, like enhancing alertness, awareness, wakefulness, endurance, productivity and motivation, among others. Increase arouser, locomotion,

heart rate and blood pressure. Many stimulants are also capable of improving mood and relieving anxiety and some can even induce feelings of euphoria. Some immunostimulants that enhance or boost the body's natural defense against illness and diseases are considered stimulants. Stimulants are often present to enhance the effect or actions of other herbs used to treat different disorders (Allen, 2017).

Platel (2004) opined that the digestive stimulant actions of stimulant crops are largely empirical. Animal studies have shown that many stimulant crops induce high secretion of bile acids which play a vital role in fat digestion and absorption. When consumed through the diets, these crops produce significant stimulation of the activities of pancreatic lipase, amylase and proteases. A few of them also have been shown to have beneficial effects on the terminal digestive enzymes on small intestinal mucosa. Concomitant with such a stimulation of either bile secretion or activity of digestive enzymes by these plants, leading to an accelerated digestion, a reduction in food transit time, in the gastro-intestinal tract has also been shown. Thus, the digestive stimulant action of these crops seems to be mediated through two possible modes:

- i) By stimulating the liver to secrete bile rich in bile acids, components that are vital for fat digestion and absorption.
- ii) By a stimulation of enzyme activities that are responsible for digestion (Platel, 2004).

This research covers five major types of local stimulants produced in the south western Nigeria, specifically Osun state. It also contains the analysis and marketing of the stimulants as they benefit the producers, consumers and the country's foreign exchange at large. Also, from these five types, generalization of findings on other categories could be achieved from the analysis of these ones. They are: Bitter kola (*Orogbo*) *Garciniakola*, Pepper (*Ata*) *Capsicum spp*, Ginger (*Ataale*) *Zingiber officinale*, Alligator pepper (*Ataare*) *Aframomum melegueta* and Kolanut (*Obi*) *Kola nitida*

Garcinia kola is a product of the kola tree. It is one of the country's cash crops and has a social-economic significance in the Nigerian societies. *Garcinia kola* is cultivated throughout West Africa for its edible fruits and seed. African medicine regards the plant in high esteem (Popoola & Adaramoye, 2015). *Garcinia kola* is characterized by a slow rate of growth. Difficulties are always encountered in attempting to raise its seedlings. The tree has a naturally long gestation period which can last up to 10 to 15 years before flowering and fruiting (Adebisi, 2004). Its fruits around July and October about 6cm in diameter, orange colour pulp is an attribute of the fruit and the seeds are edible. The tree is found in the humid low land forest area of Nigeria, Cameroun, Ghana and Benin Republic. *Garcinia kola* are commonly eaten as snacks and used for their stimulant effects due to their caffeine content (Popoola & Adaramoye, 2015).

Nigeria is a principal producer of kola, producing 150,000 tonnes annually of which over 90% are locally consumed. Kola is usually in two varieties namely bitter kola and kola nuts. (*Garcinia kola*) Orogbó is one of the varieties of kola that can be found in Nigeria. They are mostly found in the South western part of the country. The product is usually available in the market between March to November of the year. The stimulant can be sourced mostly from southern part of the country in the following state in Ondo, Osun, Oyo, Ekiti and Ogun. The average selling price is usually ₦200 per kg. It can be traded on a large or small scale. Kola trees are natives of central and West Africa and are distinguished primarily by the medicinal and stimulant properties of their nuts (Moshood et al, 2007; Abah et al, 2022). Pepper *Capsicum*spp is one of the most important spices as well as stimulant used in making most Nigerian foods. Pepper belongs to the family Solanaceae which is an important group of vegetables.

FAO (2015) estimates world production of capsicum peppers in 2015 at 34.5 million tonnes. Nigeria's production is 67,156 tonnes from 90,000 per hectares and Ghana with the production of 984, 586 tonnes from 75,000ha as the largest producers in Africa. The statistics for Africa does not include home farms and garden production (FAO, 2015). Peppers can act as a heart stimulant which regulates blood flow and strengthens the arteries, possibly reducing heart attacks.

The price of pepper in Nigeria has been subjected to seasonal fluctuation. In South West Nigeria, pepper has been massively conveyed from Northern Nigeria despite the fact that it is also grown in the South West. This indicates that there is a great and urgent need for increased production of pepper in Nigeria and most especially in the South.

The domestic demand for pepper has increased overtime which has resulted in the decline in the quantity of pepper being exported in several producing countries. This signifies that there is the need for an increase in the supply of pepper to make up for the increase in the domestic demand and also give room for exportation. Pepper accounts for about 20% of the average vegetable consumption per person per day in Nigeria (Alegbejo, 2002). The average price of pepper is 300 per kg.

Despite the local production level of pepper in Nigeria, pepper is still being imported. General increase in pepper yield in Nigeria could be enhanced by an increase in cultivation of improved cultivars and intensification of cultural practices. High potential pepper- producing areas in Northern Nigeria are Kaduna, Kano, Jigawa, Katsina, Sokoto, Plateau and Bauchi states. In the South West we have Ogun, Oyo, Ondo, Osun, and Ekiti. It is used extensively in food flavouring in daily diet of over 120 million Nigerians irrespective of the socio-economic status.

Ginger (*Zingiber officinale*) is another type of local stimulant. The variety cultivated in southwestern Nigeria is known as Tumeric (Red ginger). Ginger is a monocotyledonous crop plant which produces rhizomes. It takes its name from the word "stringa -vera" which means "with a body-like a horn". Ginger is a root crop

with characteristic pungent taste and pleasant aroma used in the production of various pharmaceutical products, beverages and confectionaries (Obinatu, 2003).

Three major types of Ginger are cultivated in Nigeria are; yellow ginger, black ginger and red ginger. The yellow ginger is mostly cultivated in the Northern parts of Nigeria; Kaduna, Nasarawa, Benue, Niger and Gombe states. The black ginger is mostly cultivated in the Eastern part of the country while the red ginger is produced in the South western states of Nigeria; Ogun, Oyo, Ondo and Osun in particular. (Eddy, 2016), opined that the yellow ginger yields much more than the black and red ginger. Based on his research, the yields are 35 tonnes per hectare for the yellow ginger and 25 tonnes per hectare for the black and red ginger. The quality of fresh ginger produced in Nigeria is the best in the world and is highly valued for its stimulant properties, aroma, pungency, high oil and oleoresin content (Babaranti, 2015). Ginger is a tonic stimulant. It is known to help reduce fever and cleanse the body of toxins. It is used as appetite stimulant making the digestive juices revved up so that the meal is digested better. It can also be used as a mild and can be used to promote circulation. (Eddy, 2016) opined that ginger is used to stimulate the production of saliva. In Nigeria, precisely Osun state, which is the study area of this research work, harvesting of red ginger starts from October and normally continues until April or May. This largely depends on the market situation as ginger can be left inside the ground for two years (Dominic *et al*, 2018).

Another type of locally grown stimulant being investigated is Alligator pepper (ataare) *Aframomium melegmeta*. This is a non-timber forest product species from the sub humid tropical environment. These are canna-like plant except that leafy stems and flowering stems are separate. *A. melegmeta* arises from a creeping rhizome. Alligator pepper is cultivated in the tropical forest of Nigeria; Ogun, Oyo, Ondo, Ekiti and Osun states. The plant is about 1m high with bamboo-like narrow leaves in two rows. *A. melegmeta* is the source of aromatic seed known as grain of paradise which are usually used for African medicine and other economic values. Due to its stimulating properties and peppery pungent taste, the alligator pepper is normally chewed as a stimulant to keep the body alert. It could also be used to stimulate thirst especially in cases where the body is low in water but the taste buds do not have appetite for water (Blessing, 2016).

Kolanut (Obi) *Kola nitida* is a locally grown stimulant largely in the tropical forest of Nigeria. About 90% of the kolanut produced in Nigeria is consumed within the country while 10% is exported (Evarestus *et al*, 2012). The cultivation of kolanut in Nigeria is ecologically limited to the rain forest zones of south western of the country such as; Ondo, Osun, Ekiti, Oyo and Osun. It is a tree crop with over 20 species grown out of which *Kola nitida* (Gbanja) and *Kola accumulata* (Abata) are the two major species grown in Nigeria. The consumption of *Kola accumulata* is greatly cherished by the

Yoruba of south-west of Nigeria. Kola nitida is used as a stimulant substitute for alcoholic drinks. It is also used as masticatory stimulant (Akinbode, 2011).

Objectives of the Study

The broad objective of the study is to conduct the structural analysis and marketing efficiencies of local stimulants in selected Local Government areas of Osun State.

The specific objectives are to:

1. describe the socio- economic characteristics of the marketers of local stimulants in the study area.
2. analyze the market structure and channels of distribution of local stimulants in Osun state.
3. analyze the marketing margin for the local stimulants.

2. Methodology

2.1. The Study Area

The study was conducted in Osun State. The State is one of the 36 States of the Federal Republic of Nigeria. It is made up of 30 Local Government Areas (L.G.As). Osun State is bonded in the north by Kwara State, in the East partly by Ekiti State and partly by Ondo State, in the south by Ogun state and in the west by Oyo state. The global location of the state is between longitude 4⁰30^l east of the Greenwich meridian and also between latitude of 7⁰ 30^l north of the equator. The state occupies an area of approximately 14,875 square kilometers and has a population of 3,416,959 (NPC, 2006). About 70% of this population engages in peasant farming. There are two marked seasons the dry windy season and the rainy (wet) seasons. The wet season is usually from April through October. On the average, the state enjoys a rainy season of about seven months. The mean annual temperature for Osun state varies between 21.1 and 31.1⁰C. Annual rainfall is within the range of 1000mm in the derived savannah agro-ecology to 1200mm in the forest belt. (OSSADEP 2007). Though, a land locked state, it is blessed with the presence of many rivers and streams which serve the water need of the state. (See Fig. 1)

2.2. Methods of Data Collection

The study used both primary and secondary data. The instrument used in the collection of primary data was a set of well-structured and pre-tested questionnaire. Secondary data was obtained through relevant publications which included journals, bulletins, textbooks and unpublished materials of importance to the study.

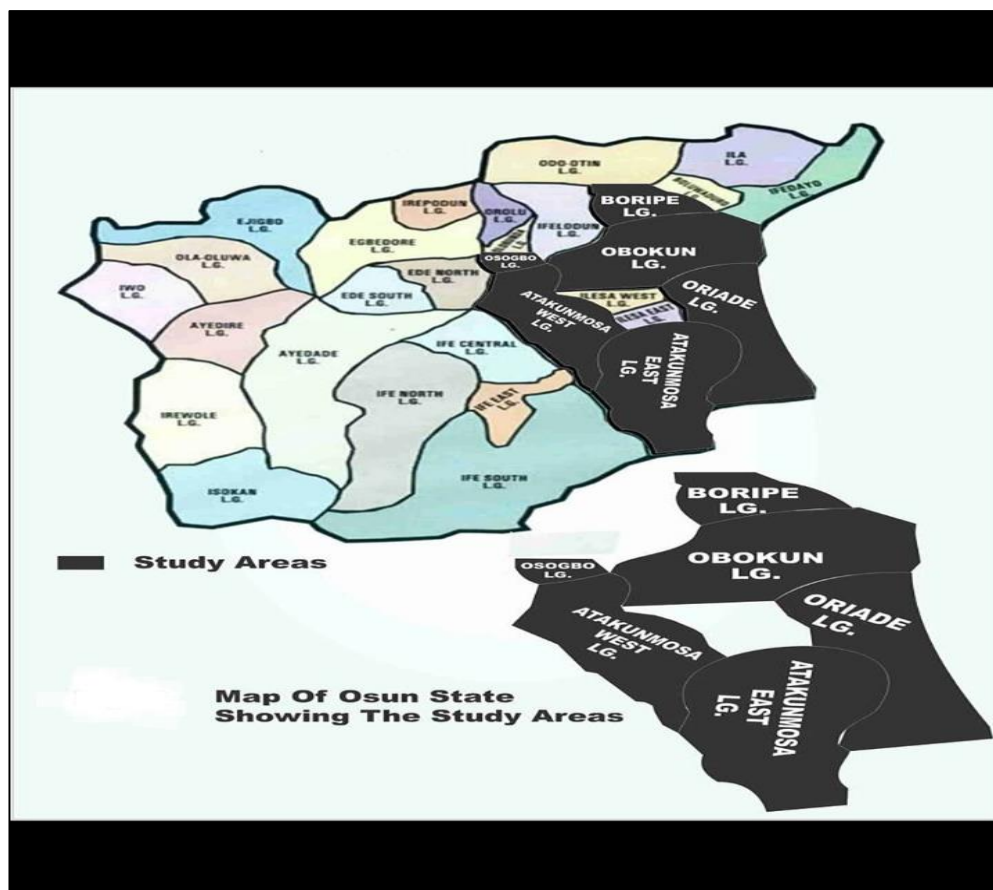


Figure 1. Map of Osun State showing the study Areas.

2.3. Sampling Procedure

Purposive sampling method was used to select six Local Government Areas from Osun state. The Local Government Areas (LGAs) are Boripe, Osogbo, Atakumosa East, Atakumosa West, Obokun and Oriade Local Governmet Areas. From Boripe LGA, the total stimulant trading markets were 12 villages. From Osogbo LG, the total stimulant trading markets were 7 villages, also from Atakunmosa East LG, the total stimulant trading markets were 22villages, in Obokun LG, the total stimulant trading markets were 26 villages. While in Ori ade LG, the total stimulant market were 31villages.

Secondly, The multi-stage random sampling was used to select the respondents. Firstly, towns were selected in each Local Government Area according to the availability of local stimulant marketers. secondly, markets were selected based on the sales of local stimulants. Thirdly, respondents were selected from each market based

on the size of stimulants traders in the respective markets. This makes up of farmer/producer-trader of local stimulants, middlemen, wholesaler and retailer. This finally brought the sample size to two hundred and forty (240) respondents.

Markets were selected based on the sales of local stimulants sold in the towns selected from each local government. From Boriye LGA 3 towns were selected from the total of 12 towns, from Osogbo LGA, 2 towns were selected from the total of 6 local stimulant trading towns. Also from Atakunmosa East LGA, 4 towns were selected from the total of 21 towns that have local stimulant marketers. In Obokun LGA, the total number of town selected were 5 towns for the purpose of sampling while in Oriade LGA, the number of towns selected were 6 towns. The selection of towns was based on taking at least 20% of the total market that have the number of local stimulant marketers.

Respondents were selected from the markets based on the size of stimulants traders in the respective markets. This makes up of retailers and wholesalers. This formally brought the sample size to two hundred and forty (240). The reason is that the agro-climatic conditions prevalent in these local government areas have allowed the commercial production and marketing of local stimulants like bitter kola, kolanut, pepper, alligator, bitter and ginger.

2.4. Method Data Analysis

Analysis of data was achieved using descriptive statistics and the concept of cost margins. Objectives i, ii and vi were analyzed through the use of frequency counts, percentages, means and ranks. The objective ii which analyzed the market structure with emphasis laid on market concentration and gave a crucial insight on how the local stimulants market operates. Variables such as number of sellers, entry and exit, product differentiation, relative size (bags), source of information and average price of the local stimulants were examined.

Objective I. The socio economic characteristic of local stimulant marketers will be analysed through descriptive statistics.

Objective II. The market structure for local stimulant was analysed with the use of descriptive statistics

Objective III. The marketing margin of local stimulant was analysed through the use of marketing margin

3. Results and Discussion

The age is an important factor that affects decision-making (Ojo & Ajibefun, 2000). Age may affect exposure to new ideas and products. The decision to venture into local stimulants trading and access to vital market information may have significant correlation with age. Results obtained on the respondents' age revealed that majority (59.2%) of them were older than 35 years. This implies that those engaging in local stimulants' trading are mainly adults who are more likely to take logical trade-related decisions given market information. According to Rothman *et al.* (2002) age bracket between 28-50 pre-disposes respondents to responding relatively more positively to any intervention (e.g. market information) aimed at improving their productivity or their enterprise.

Marital status is expected to influence respondents' level of responsibilities which could have positive or negative influence on their savings, business size and viability of their local stimulant trading businesses. The study findings, presented in Table 2, showed that majority (75.9%) of the respondents were married while only 2.9% of them were single. This shows that the majority of the respondents were settled family people and have family responsibilities. The majority of the respondents being married could their household size and availability of cheap labour for traders in the local stimulants' market.

Household size of the respondents may influence the respondents' responsibilities and capability to save to increase their business size. It can, however, improve the local stimulant labour access and higher efficiency in stimulant marketing workday. For instance, a household with a single individual may have less access to cheap labour compared to a household with six (6) individuals. The findings, shown in Table 2, revealed that the majority (79.6%) of the respondents had less than 6 individuals as household size. This might limit the number of cheap labour available to the stimulants' traders thereby reducing manpower efficiency.

Education is very important in various facets of human life. The more educated a local stimulant seller is, the better he/she may be able to manage his/her local stimulants trading businesses, the types of stimulants traded and perhaps how he/she manages market information that are beneficial or detrimental to the business. Evidence from Table 2 reveals that the majority (75.8%) of the respondents possess, at most, primary school education. This is a considerably low level of education which might have a negative effect on how well they manage their local stimulant trading businesses.

Income is an important determinant of working capital in business. The higher the income size, the tendency for increased business size and investment in marketing the business. Evidence the Table 2 revealed that only the minority (14.6%) of the respondents earned less than the recently approved minimum wage of N30,000 in Nigeria. Besides, the majority (51.7%) of the respondents earned more than N50,000

per month. This income is considerably a middle-level income considering that the respondents, generally, were married women who probably have financial support from their men. The income level could help in expanding the size of the respondents' businesses all things being equal.

Table 2. Distribution of Respondents by their Socio-Economic Characteristics n = 240

Variable	Value	Frequency	Percent	Cumulative percent
Age \bar{x} = 43.7 years	21-25	29	12.1	12.1
	26-30	29	12.1	24.2
	31-35	84	35.0	59.2
	36-40	61	25.3	84.5
	41-45	21	8.8	93.3
Marital status	>45	16	6.7	100.0
	Single	7	2.9	2.9
	Married	182	75.9	78.8
	Widowed	44	18.3	97.1
	Separated	7	2.9	100.0
Household size	<5	191	79.6	79.6
	6-10	42	17.5	97.1
	>10	7	2.9	100.0
Education	Non-formal	74	30.8	30.8
	Primary	108	45.0	75.8
	Secondary	37	15.4	91.3
	Tertiary	21	8.8	100.0
Income \bar{x} = N53,321	N21,000-N30,000	35	14.6	14.6
	N31,000-N50,000	81	33.7	48.3
	N51,000-70,000	103	42.9	91.2
	N71,000-N90,000	15	6.3	97.5
	\geq N90,000	6	2.5	100.0

Source: Field Survey, 2020

3.1. Market Structure for Local Stimulants in the StudyArea

Market structure is the environment in which the firm operates. It includes the following elements: buyers/ sellers concentration, product/service differentiation, and entry barriers (Pomeroy & Trinidad, 1995). It is defined as the characteristics of the organization of a market, which seem to influence, strategically, the nature of competition and pricing behavior within the market. Structural characteristics can be used as a basis for classifying markets. Among the major structural characteristics of a market is the degree of concentration, that is, the number of market participants and their size distribution and the relative ease or difficulty for market participants to secure an entry into the market (Gebremeskel *et al.*, 1998). In food marketing, very large number of producers and consumers at each end of the marketing chain is suggestive of competitive conditions and, therefore, the focus in analyzing market structure is on the numbers and sizes of enterprises within the system, and the potential access of additional participants to it (Teka, 2009).

3.2. Types of Local Stimulants being Traded

For the purpose of appreciation of the types of local stimulants traded in the study area, it is important to analyse them. In Table 3, the results of the analysis are presented. It is evident in Table 6 that the respondents marketed variety of local stimulants. However, those that marketed pepper only were more than those that traded any of the four other stimulants or a combination of the stimulants. A cursory look at the table revealed that the most traded stimulants by the producer-retailers is pepper (41.3%). Among the producer-wholesalers, pepper was also the most traded with majority (52.8%) of them trading in pepper only.

The majority (51.1%) of the retailers traded in pepper only. This is also true for the wholesalers as the majority (51.3%) of them traded in pepper only. Looking at the distribution of the stimulants that various types of marketers traded, it is evident that there was high level of specialization on pepper only. This is not surprising because pepper enjoyed better demand than any of the other stimulants locally. The higher level of pepper demand, when compared to the other stimulants is suspected to be responsible for higher number of market participants specializing on its trading.

Table 3. Distribution of respondents by the type of local stimulant being sold

Statisticians	Market Participants								Total	
	Producer-retailer		Producer-wholesaler		Retailer		Wholesaler		Pepper	Other stimulants
Frequency	26	37	19	17	47	43	33	18	125	115
Percentage	10.8	15.4	7.9	7.1	19.6	17.9	13.8	7.5	52.1	47.9
Within group %	41.3	58.7	52.8	47.2	52.2	47.8	64.7	36.3	100.0	100.0

Source: Field Survey, 2020, Other stimulants include bitter kola, ginger, kolanut and alligator pepper.

3.3. Volume of the Stimulant Traded per Week

It is informative to understand the market participants' concentration in each product segment but it is also necessary to know the volume (kg) of the products traded on weekly basis. Thus, the volume traded by the respondents were analysed and the results presented in Table 4. It is evident in Table 4 that in terms of total volume traded in kilogrammes, the Kola nut was the most traded. The volume of trade in Kola nut was 3.88591 tonnes (i.e. 388,591 kg). There are variations in the volume of the stimulants traded across the LGAs by various market participants. For example, the

highest volume of ginger traded in the study area occurred in Atakumosa LGA (26.8%) while the lowest volume occurred in Oriade LGA (11.5%). Volume (particularly producer volume) has been found to have inverse relationship with price. Therefore, a trader or consumers within and outside the Atakumosa East LGA may be able to find good price owing to higher volume of ginger being traded by producer-retailers in the LGA. Unlike ginger, the highest trading volume of kolanut occurred in Osogbo LGA (45.7%) while the least trade volume occurred in Oriade LGA (4.9%). The alligator pepper, just like the kolanut, had highest trading volume in Osogbo (26.3%) but the least trading volume in Boriipe LGA (9.0%) among the producer-retailers. The highest volume of pepper trading among the producer-retailers also occurred in Osogbo (36.0%) while the least volume was traded in Oriade LGA (8.0%). This implies that easiness in transportation and availability of more retailers in the area brought about reduction in price (Chinecherem, 2018).

Like the producer-retailers and producer-wholesalers, volume traded of any of the stimulants varied widely. The volume traded of any of the stimulants appears to vary by the stimulant nature and the LGAs. For instance, the bulky nature of kolanut influenced the volume (tonnes or kg) traded while the lightweight nature of the ginger and alligator pepper have direct effect on the volume traded in terms of kilogrammes or tonnage. Evidence from Table 7 showed that the highest volume of kolanut was traded by retailers in the Boriipe LGA (35.1%) while the least traded volume of kolanut occurred in Oriade LGA (5.4%). Highest volume of ginger (28.7%), alligator pepper (26.0%) and pepper (21.3%) were traded by retailers in Osogbo LGA in the study area. This might be connected with the large population in the LGA. The wholesaler traded volume also followed similar trend trading the highest volume of the stimulants in Osogbo LGA.

Table 4. Relative Volume (Size) of Local Stimulants Traded by Market Participants in Various LGAs Per Week

Categories of Marketers		Boripe		Osogbo		Atakumosa East		Atakumosa West		Obokun		Oriade		Total	Min Vol. (Kg)	Max Vol. (Kg)	Average/ week (Kg)	
		Vol. (Kg)	%	Vol. (Kg)	%	Vol. (Kg)	%	Vol. (Kg)	%	Vol. (Kg)	%	Vol. (Kg)	%					
Producer-retailers	GG	75	16.0	60	12.8	126	26.8	110	23.4	45	9.6	54	11.5	470	100	45	126	78.3
	KN	31,500	28.1	51,250	45.7	11,600	10.3	5,765	5.1	6,520	5.8	5,500	4.9	112,135	100	5500	51250	18,689.2
Producer-Wholesalers	AP	36	9.0	105	26.3	78	19.5	81	20.3	43	10.8	57	14.3	400	100	36	105	66.7
	PP	21	14.0	54	36.0	28	18.7	19	12.7	16	10.7	12	8.0	150	100	12	54	25.0
	GG	115	27.8	162	39.1	46	11.1	25	6.0	34	8.2	32	7.7	414	100	25	162	69.0
	KN	2,590	10.2	4,560	17.9	5,980	23.5	5,645	22.1	3,680	14.4	3,045	11.9	25500	100	2590	5980	4,250.0
Retailers	AP	42	16.8	65	26.0	39	15.6	51	20.4	24	9.6	29	11.6	250	100	24	65	41.7
	PP	69	15.3	142	31.6	48	10.7	65	14.4	72	16.0	54	12.0	450	100	48	142	75.0
	GG	83	13.8	172	28.7	167	27.8	90	15.0	45	7.5	43	7.2	600	100	43	172	100.0
	KN	36,200	35.1	22,500	21.8	17,500	17.0	12,450	12.1	8,960	8.7	5,590	5.4	103200	100	5590	36200	17,200.0
Wholesalers	AP	190	15.8	255	21.3	325	27.1	150	12.5	180	15.0	100	8.3	1200	100	100	325	200.0
	PP	125	12.2	210	20.5	245	23.9	219	21.4	121	11.8	105	10.2	1025	100	105	245	170.8
	GG	214	24.0	255	28.6	127	14.2	124	13.9	93	10.4	80	9.0	893	100	80	255	148.8
	KN	43,460	29.4	35,800	24.2	23,540	15.9	17,850	12.1	13,600	9.2	13,506	9.1	147756	100	13506	43460	24,626.0
Total	AP	59	10.2	164	28.4	80	13.8	75	13.0	112	19.4	88	15.2	578	100	59	164	96.3
	PP	26	8.8	57	19.3	38	12.9	47	15.9	56	19.0	71	24.1	295	100	26	71	49.2

Source: Field Survey, 2020, GG = ginger, BK = bitter kola, AP = alligator pepper, PP = pepper

3.4. Price of the Local Stimulants

The buying and selling prices of the local stimulants will determine to a large extent, the marketing margin. Hence, it is important to analyse the price of the products. The results are presented in Table 5. Results on the table show that average buying price of bitter kola per kg was ₦ 430.81 while the average selling price per kg was ₦ 433.50. The average buying and selling price of kola nut was ₦ 504.13 and ₦ 521.30 respectively. While the average buying price per kg of ginger was ₦ 104, its average selling price per kg was ₦ 256.73. The buying and selling prices of alligator pepper were ₦ 401.74 and ₦ 256.73 respectively while the average buying and selling price of pepper per kg were ₦ 407.29 and ₦ 436.55 respectively. The implication of these findings is that all the local stimulants had positive price margin which justifies the marketing of the produce in the area.

Table 5. Buying and Selling Price of Stimulants.

Local stimulants	Buying Price/kg				Selling Price/kg			
	Mean	Min	Max	Std. Dev	Mean	Min	Max	Std. Dev
Bitter kola	430.81	400.00	550.00	143.37	654.21	433.50	750.00	110.13
Kola nut	504.13	435.25	610.00	273.49	729.5	521.30	600.00	142.31
Ginger	104.46	96.00	170.00	58.29	256.73	200.00	310.00	50.50
Alligator pepper	401.74	321.00	674.50	235.11	647.5	540.00	615.00	112.38
Pepper	407.29	396.5	415.75	78.22	436.55	400.00	501.00	78.22

Source: Field Survey, 2020

3.5. Sources of Market Information

Market information is very important in business and can make a difference between profitable dealings or market loss. Besides, an assessment of market information source could help new or potential local stimulant sellers in understanding where to focus on to get timely information for their business. The results are presented in Table 6. Evidence from the Table reveals that the majority (60.0%) of the respondents got market information mainly from person-to-person source. This may be risky particularly in the market where there is stiff competition among sellers. It may also imply that the market is not very competitive.

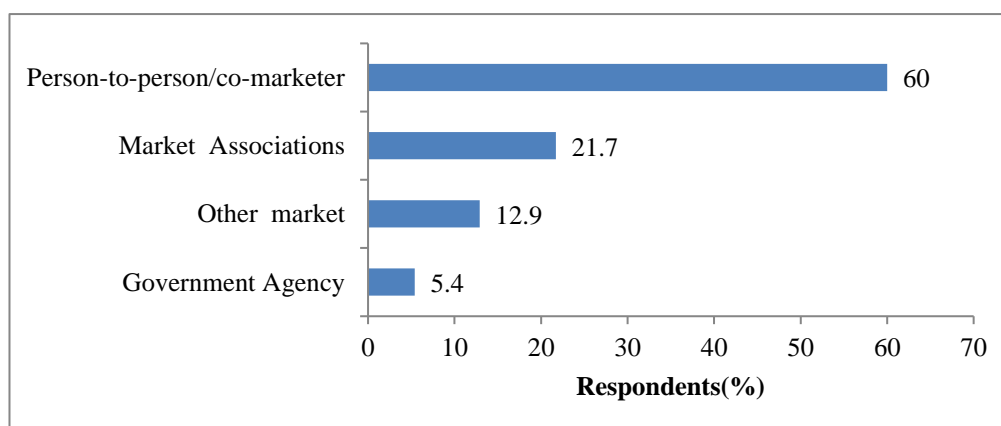


Figure 1. Distribution of Respondents by Sources of Market Information

Source: Field Survey, 2020

3.6. Sources of Stimulants' supply

Understanding the sources of supply of stimulants to the traders can provide vital information on how the traders get their supplies with implication on marketing margin and efficiency. For instance, it might be more profitable for a seller to get supplies from village market than farm gate if transport cost differentials outweigh positive price differentials between farm gate and urban market. On this basis, the sources of supply of the stimulants to the traders were analysed and the results presented in Table 7. The results reveal that the marketers got their supplies from variety of sources including farm gate (39.6%), village (24.2%) and urban markets (36.2%). A large percentage of the respondents claimed to get their supplies largely from farm gate (39.6%) or urban market (36.2%). This is in relation to price because at the farm gate level of purchase, a buyer will have market margin in purchase which in turn leads a better marketing efficiency; also, purchase from the urban market mostly from the middlemen will allow buyers to have better access to the purchase of local stimulants though a bit higher in price (Abah, 2022).

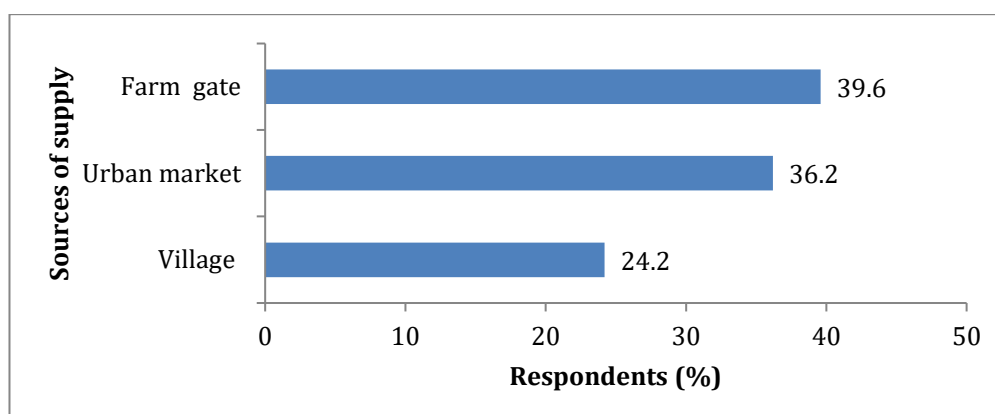


Figure 2. Distribution of Respondents by Sources of Supply

Source: Field Survey, 2020

3.7. Measuring Apparatus for Local Stimulants

An assessment of the measure in use can serve as a guide to would-be local stimulant sellers on what to expect in the business. It could also help in doing proper cost, return and profitability analysis. On this basis, the measure in use for local stimulant trading in the study area were analysed and the results presented in Table 8. It is evident in the table that 25cm³ basket was the measuring apparatus in use by majority (82.1%) of the respondents. Other apparatus in use include 225 cm³ bag (14.6%) and 35 cm³ Congo (3.3%). The use of basket by the majority of local stimulants sellers has been in existence since the primitive times and this made the buyers and sellers to have a greater percentage of assurance that measuring with basket ensure a fair market with no exploitation in cost or price (Michelle, 2019).

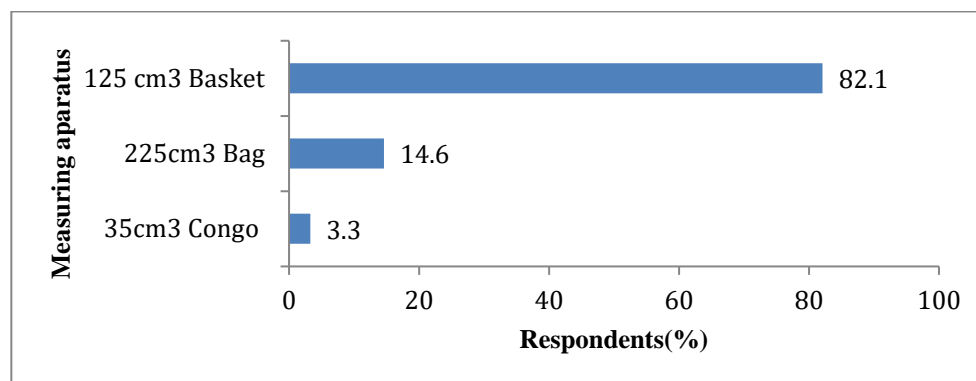


Figure 3. Distribution of the Respondents by Measure in Use for the Local Stimulants' Business

Source: Field Survey, 2020

4. Conclusion

The purpose of this study is to assess the market structure and marketing efficiency of local stimulants in selected markets in Osun State, Nigeria. The markets were generally efficient across the stimulants but the alligator pepper had the highest marketing efficiency. In terms of market concentration, the pepper markets were the most concentrated which might have accounted for relatively higher marketing margin recorded in pepper trading/marketing. Pepper is a local stimulant that is in high demand across the study area. It is needed daily by many households in the study area. The high demand for pepper over time prompted the high number of pepper traders and high concentration rate. The least concentrated market was the bitter kola market. Bitter kola is often used occasionally in the study area usually for special purposes. It is not highly consumed like peeper and bitter kola. The low use might have accounted for the low incentives for many marketers to enter the market, hence, the low market concentration. The middlemen rip-offs constituted higher impediments to marketing of local stimulants in the study area followed by high cost of transportation. Supply chains for stimulants apart from those pepper and kolanuts are less organized and the demands are erratic. The middlemen with resources and who can wait-the-time gather the stimulants and sell it at exorbitant prices to the retailers when they need it.

5. Recommendations

Based on the study findings, it is recommended that:

- (i) The government should combat or totally eliminate the problems of middlemen to ensure a better efficient market of local stimulants among the buyers and sellers;
- (ii) There should be sensitization for the male gender to see the need why they must involve in the buying and selling of local stimulants in the study area;
- (iii) There should be provision of better storage facilities from the government and non-governmental association to enhance availability of local stimulants during scarcity;
- (iv) More sensitization of the consumers will increase the demand and purchase of these local stimulants;
- (v) The marketers should embrace association to continue to strengthen their position in the market. By forming association, the marketers can solve control either price or supply to maximize profitability of the business.

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