

Analysis of Consumption Patterns and Patronage of Ghana Grown Chicken: Evidence from Accra and Kumasi, Ghana

Stephen Opoku-Mensah¹, Lydia Asare-Kyere² and M. Opoku – Mensah³

¹Institute of Entrepreneurship and Enterprise Development – Agropreneurship Department,
Kumasi Polytechnic, Kumasi
E-mail: steopo {at} yahoo.com

²Institute of Entrepreneurship and Enterprise Development – Entrepreneurship and Finance Department,
Kumasi Polytechnic, Kumasi

³Optimal Change Partnership, Kumasi

ABSTRACT— *The consumption patterns of and preference for Ghana grown chicken was analyzed for selected consumers within the two largest cities in Ghana, using both descriptive and quantitative methods. Data was obtained from 300 respondents, mostly working class populations from Ghana two largest cities, using well structured questionnaires. The results from data analysis showed that chicken is consumed on a regular basis and forms part of the menu of Ghanaians. There is a generally high preference for processed chicken than live chicken. The major reasons for the preference of live chicken were because of its perceived freshness, health, and ability to assess state of animal, while convenience, easy-to-cook, and availability of cut-portions were the most important attributes for choice of processed chicken. The patronage of Ghana grown chicken was influenced by socio-economic factors (such as age, marital status, education, household size, household status and monthly income) while purchase decision of chicken was influenced non-price factors (like convenience, cut portions, package, safety and health, taste and trust). Price, though important was not a major determinant or consideration of consumer buying decision and that Ghanaians consumers are willing to patronize Ghana chicken even up to 75% price increase of the prevailing price. Policy reforms spearheaded by the government and actualized by chicken value chain actors is critical to positioning the local chicken industry to enjoy consumer patronage, improve competitiveness and bolster patronage of Ghana chicken by Ghanaian consumers*

Keywords— Ghana Chicken, Willingness to Patronize, Poultry meat, Chicken Attributes, Socio-economic factors, Pearson – Chi Square

1. INTRODUCTION

1.1 Introduction and Background to the Study

Food consumption habits within the Ghanaian population have witnessed dramatic changes within the last two decades. This phenomenon is manifest strongly in the rice and chicken meat consumption market, influenced significantly by massive imports. Wiggins and Lerteque (2011) analyzed that average growth in the production and imports of chicken has increased by 7.2% and 25% respectively over the last 25 years, suggesting a continued strong demand for the product. The major drivers spurring the increased demand for and consumption of chicken products in Ghana includes an increasing population, economic growth and poverty reduction, rapid urbanization, improved income levels and thus purchasing power of especially a growing middle class society. These notable socio-economic indicators have together fuelled a demand for high value agriculture commodities, including chicken products by the population. The ability of the local chicken industry to take advantage of this potentially huge and profitable food market constitutes a critical matter of policy for the state and the major stakeholders within the chicken value chain.

Generally, chicken meat is devoid of religious and cultural obstacles or taboos, which promotes its production and uptake worldwide. Poultry meat offers one of the cheapest and safest sources of animal protein (Anning, 2006). In Ghana, consumption of chicken is no longer restricted to the festive occasions (particularly Christmas, Easter, Tamkharit or Ramadan) as many households now consume the product on a regular basis. This assertion is backed by the fact that the per capita consumption of chicken increased from 3.5kg in 2003 to 4.0kg in 2010 (MoFA-SRID, 2011) and now stands at 6.6kg in 2012 (GAIN, 2013). Poultry consumption in Ghana has therefore seen a significant upsurge from

64,997MT in 2006 to 110,620MT in 2010, with the bulk coming from the U.S.A, the E.U and Brazil. The proliferation of several fast food houses or food joints within the urban and peri-urban areas has also offered improved access to cheap imported broiler meat. A report by GAIN in 2012 indicated that ‘consumption pattern of chicken by urban households is heavily tilted towards imported broiler’. The reasons for this trend is not far-fetched, given the fact that imported broiler meat tends to be 30-40% cheaper than domestic chicken (Anning, 2006; GAIN, 2013). In addition to the cheap prices, the frozen imports which are conveniently packaged in ready-to-cook portions and also in pre-cut forms such a wings, gizzards, rumps, thighs, has grown by 476% since 2002 according to FAO and Eurostat as stated in Wiggins and Lerteque (2011). This appears to be the set of value propositions of imported foreign chicken suppliers as against the locally produced chicken which is sold broadly in live forms. Patronage of the conveniently produced and relatively cheaper imported chicken is popular with supermarket chains, restaurants, hotels, fast food operators and chops bar operators, who constitute a significant end market.

1.2 Problem Statement

The Ghanaian chicken industry, particularly broiler production is in a dire strait, as it has been described by some key industry players as ‘virtually dead’. The ‘apparent slump’ in demand for locally produced chicken can be attributed to the inability of producers to compete on price and product differentiation. Thus in 2011-2012, domestic producers were able to supply only about 10,000MT of broiler meat and 12,400MT of spent layers, which constitutes 10% of total chicken consumed.

Although the livestock industry grew by 51% in 2010, the chicken subsector declined by 12.81% (ISSER, 2011). The broiler sub-sector of the chicken industry appears to be the hardest hit, as production and output has plummeted to an all time low of about 10% in the last decade. And there are a number of reasons that accounts for the slowed growth in the industry. First, value-addition through processing of chicken is minimal. Smallholder producers who dominate the industry have no access or linkage to processing infrastructure. The lack of processing infrastructure with proper packaging units, quality assurance laboratories, cold storage and refrigerated trucks for effective handling and distribution of processed meat (ADP, 2009) has been a major drawback to the competitive strength of local chicken industry. Secondly, the level of agribusiness linkages within the chicken sector appears to be under-developed or weak, according to key industry experts, as manifested in the weak networking between the chicken chain actors such as supermarkets, processors, farmers, chicken input dealers, and financial institutions. Indeed, contract arrangements in the chicken sector are either few and sporadic or non-existent. According to the secretary of the Ghana National Poultry Farmers Association (GNPFA), individual farmers make private arrangements to source for their own inputs and output markets. Another major constraint is the fact that chicken production in Ghana is a relatively high cost, capital intensive enterprise which requires sustainable supply of good and affordable credit. The inability of the chicken producers to adopt improved production technologies and modern trends in production has all together adversely impacted on the economic efficiency of the enterprise. This has translated to the rather high cost of locally produced chicken products in Ghana and hence the over-dependence on cheap imported broiler meat. To the extent that Ghana has witnessed a dramatic switch in the trend of chicken meat supply, from domestic supply base of 90% from the 1980 – 2000 to the current situation where local supply is only 10% of consumer demand (GAIN, 2010).

The chicken industry in Ghana, like most productive sectors of Ghana’s agriculture remains broadly uncompetitive. Given the current trends and projected surge in the consumption of chicken, the question that comes up for discussion, and thus forms the basis of this research, is to what extent are Ghanaian consumers ready to patronize ‘grown in Ghana chicken’, even in the midst of cheap imports? Poultry products enjoy strong and positive income elasticity (Breisinger *et al*, 2008b), and with the well-developed taste for chicken, demand would continue to grow. Consumers are becoming increasing more health conscious and thus pay attention consumption of quality and nutritious foods of high value. But is there an opportunity for local chicken producers to participate or compete in this growing market? In view of the dominance of imported frozen chicken on the Ghanaian consumer market, this study attempts to ascertain whether Ghanaians are willing and ready to patronize locally produced chicken. What are the determinants of consumer preference for local and imported chicken? What are the consumption chicken patterns of Ghanaians? What factors do consumers consider in the selection of chicken products? What are the determinants of patronizing local chicken? How can the patronage and consumption of locally produced chicken improve?

1.2 Objectives of the Study

The goal of this study is to analyze the willingness of consumers to patronize locally grown chicken (broilers and layers), and the factors that drives this determination.

The specific objectives of the study include:

- a) To analyze the chicken consumption patterns and preference of Ghanaians
- b) To establish the relationship between socio-economic characteristics of consumers and preference for Ghana grown chicken
- c) To analyze the factors that motivate consumer patronage for locally grown chicken (broiler and layers)
- d) To make recommendation to improve consumption of local produced chicken

1.3 Significance of Study

The huge demand for and increasing consumption of chicken products by Ghanaian consumers is a reality. There is therefore a significant opportunity for the Ghanaian chicken industry and value chain actors to re-position themselves by strategizing to take advantage of this opportunity. This study thus comes in handy, to fill the knowledge gap, by addressing specifically some of the key determinants of preference for patronage of chicken products produced by the local industry. This is expected to influence policy, that would drive the sector to correct the apparent aberration, that so threatens the local chicken industry.

2. LITERATURE REVIEW

There are several research findings on consumer attitude, perceptions, preference for and willingness to pay for food commodities especially for organic products on the basis of health, safety and environmental concerns (*see for example*, Angulo *et al* 2003; Baltzar, 2003; Smed and Jensen, 2003) and on fresh meat products. The focus of this study and review of related literature follows a more latent assessment of desirability and propensity of consumer preference for locally grown chicken and related factors that drive such patronage. Poultry meat, amongst the conventional meat products, has witnessed massive patronage domestically, and worldwide, partly due its high nutritional value (Văcaru-Opriș, 2007), quality (Almeida *et al*, 2009, Fletcher, 2002), sensorial features (Sow and Grongnet, 2010), cholesterol content (Ava, 2003), lean white meat (Van Horne, 2010; and Windhorst, 2011) and relatively cheaper price.

2.1 Determinants of Consumer Preference for Poultry Products

Rapid urbanization, changing demographics and lifestyles, rising income levels especially for an emerging middle class in Ghana, appears to be the major driving force behind demand for and consumption of animal protein products including chicken. Consumers would generally select or choose from a variety of food products based on perceived optimal utility that could be derived. Decisions on food preference and choices of individuals are thus broadly influenced by a plethora of factors like: demographic/socio-economic personal factors; specific food attributes (extrinsic and intrinsic cues); health considerations; cultural, environmental, geographical factors; convenience and even ethnocentric considerations (Randall and Sanjur, 1991; Khan, 1991; Van Horne, 2010). In the foregoing, some literature on specific factors as captured from empirical evidence is provided.

2.1.1 Demographic/Socio-economic Factors and Consumer Purchasing Behavior

Demographic factors such as gender, age, income, and education have been reported to be significant factors influencing the willingness to pay for food products by consumers (Govindasamy and Italia, 1997). The growing number of females entering the job market has contributed to the demand for more convenient food that is processed, with cut portions, packaged, easy-to-cook and thus reduces the amount of hours spent in cooking. The potential value-added opportunity for the chicken market chain is evident for the Ghana chicken industry to exploit. Laroche *et al* (2001), asserts married females with children have a high tendency to pay for environmentally friendly products. Similarly, Henson (1996) observed that females and younger consumers are more willing to pay for safer food products. In a study of consumer attitude towards meat label and meat consumption Rimal, (2002), Rimal *et al* (2000), Ferazao and Cleveland (1994); and Nayga and Capps, (1994) have all proven that women tend to have a high health concern/consideration compared to men in their meat consumption preferences. Lin (1995) noted that females were more likely to believe food safety was very important in food shopping than were males. Grossman (1972) found a direct relationship between the age of consumers and health consciousness. Ghana, like most developing countries has witnessed a rapidly changing lifestyle especially amongst the working class and urban dwellers. Damisa and Hassan (2009) showed that consumer preference of chicken was influenced by income level, household size and educational status of consumers. Empirical evidence suggests that consumption patterns and behaviors are influenced by factors such as gender (Mintel, 2006; Beus and Dunlap, 1992), household size (Nayga, 2003); urbanization (Park *et al*, 1989), education (Schultz, 1975; Hu *et al*, 2006).

2.1.2 Perceived Attributes of Chicken and Consumer Purchasing Behavior

The decisions and buying behavior of consumers are strongly influenced by their perceptions, attitudes and experiences. Perceptions are in turn influenced by both internal and external factors such as economic, social and cultural environment in which an individual grows. In discussing food attributes, particularly meat products, attention is always drawn to the extrinsic factors that informs consumer choice and purchase Gallup (2008) and Prestat (2001), and these include freshness, visible fatness, color, perceived food safety, expiry date, purchase convenience, branding, packaging, and palatability. For meat products like chicken, consumers are particular about nutritional and sensorial attributes such as appearance, meat quality, color, amino acids, smell, flavor, juiciness, freshness, taste, leanness, meatiness, hygiene, fat content and cholesterol, tenderness, (Grunert, 1997; Almeida *et al*, 2009; Fletcher, 2002; Ava, 2003; Sow and Grognet, 2010). There are also other non-sensorial attributes that consumers look out for in their purchase decision. Ingr (2004) showed that wholesomeness of meat, quality and price of meat influenced consumer choice. Reicks (2006), also indicated that taste, price and product consistency were the three most important attributes for consumers. In a conjoint analysis of consumer preference for broiler meat in Ghana Kwadzo *et al* (2013) revealed that the most important attributes considered by consumers were the form of broiler meat, availability, price, taste and proximity respectively. In that same study, it was shown that while locally produced broiler was ranked topmost for its taste, consumers scored/ranked imported broiler meat higher in terms of price, availability, proximity, and packaging. Household income is also a major determinant of the amount and type of food purchased. Though the overall percentage of money spent on food decreases with rising incomes, demand for quality protein and lean meat increases for most consumers, as income level rises. Egyir *et al*. (2012), in a study of Ghanaian consumer choice for 'made in USA' labeled chicken concluded that product packaging, meat quality and expiry date greatly influenced consumers' decisions and that ethnocentrism and country of origin do not influence consumer choice of broiler meat. Consumer sophistication in Ghana is gradually increasing, and so is their expectation of attributes such as safety, health, quality, taste, packaging and labeling, convenience, country of origin (made in) etc plays an important role in food choice decision, hence their inclusion in the econometric model. However, it must be quickly noted that, for most consumers, these attributes and preferences are subject to the individuals' budgetary constraints (Padel and Foster, 2005). Indeed, Mahgoub *et al.*, (2007) revealed that for most low income earners, food price was a major determinant of food types purchased. Philips *et al.*, (2010) and Charles (2002) have shown that the price, country of origin, taste and expiry date of food products plays a significant role in food purchasing behavior of consumers. Becker *et al* (2000) in a consumer survey in Germany found that price had failed to be an indicator of quality.

2.2 Ethnocentrism, Country of Origin and Buying Behavior of Consumers

Sharma and Shrimp (1987), asserts that ethnocentrism is the tendency for consumers to show a favorable predisposition toward locally made products over and above foreign made products and that high ethnocentrism scores are related to reluctance to purchase foreign goods. The underlying assumption of ethnocentrism is based on the fact that consumer attitudes and buying intentions are influenced by nationalistic tendencies. For example, previous researches from several countries have shown that the origin of food significantly impacted or influenced consumer's decision with regard to attitude, evaluation and willingness to pay (Luomala, 2007). Alfnes (2004) showed that Norwegian consumers preferred beef from developed countries like Norway and Sweden than those from developing countries like Botswana. For many consumers, a product's COO is an important cue in evaluating both domestic and foreign products, and its consumption (Alvensleben, 2001; and Guerrero, 2001) especially for agro-products. A study by Akorli and Opoku (2009) on consumer choice for rice and textiles concluded that Ghanaian consumers held 'Made in Ghana' label in low esteem compared to foreign labeled goods and that superior quality and taste are the two most important reasons for the Ghanaian consumer preference foreign goods. However, a contrary observation was made by Okechuku and Onyemah (1999) who observed that country-of-manufacture is an important attribute than price and other product attributes for Nigerian consumers. Egyir *et al* (2012) in their regression analysis showed that determinants of intention to purchase chicken found that country of origin image were important factors but did influence choice of US chicken meat by Ghanaians consumers. Several authors including (Umberger *et al*, 2003; Umberger, 2004; Loureiro and Umberger, 2003, 2005, 2007), have concluded that on the whole, there is a strong and positive relationship in consumer willingness to pay for own country food in terms of health, quality and origin. Based on foregoing literature and empirical data this study proposed the following hypothesis to address the questions posted.

H₁: Patronage of locally grown chicken products is influenced by socio-economic characteristics of respondents eg. age, gender, income, educational status etc)

H₂: Patronage of locally grown chicken products is influenced by perceived attributes of chicken meat - safety, price, convenience, access

H₃: Patronage and consumption of Ghana grown chicken is associated with price of chicken, income levels and ethnocentric considerations

3. METHODOLOGY

3.1 Study Area

The study was carried out in the two largest cities in Ghana namely, Accra and Kumasi. Accra is Ghana's capital city and found in the Greater Accra Region, has a population of about 2,456,980. Greater Accra Region lies between longitude 1°8'E–0°30'W and latitude 5°70'–6°8'N of the equator. A very cosmopolitan city, it represents a typical vibrant urban city with a growing middle class society but also exhibit visible sprawling slums usually associated with emerging cities across the globe. The Ashanti Region has Kumasi as its capital and the Ghana's second largest. The Ashanti Region lies between longitude 0° 15'W– 2° 15' and latitude 6° N– 7° 30'N of the equator. The region has a population of about 1,208,226 located in the transitional forest zone and is about 270km north of the national capital, Accra. Ashanti region and Kumasi is one of the major chicken production zones, and currently has the single largest production outfit, Akate Farms with about 1,000,000 bird size population.

3.2 Sampling Techniques and Procedures

In selecting a sample for this research, both probability and non-probability sampling method was adopted. The study first targeted individuals within the working class, in both the formal and informal sector. Thus a combination of purposive and random sampling technique was used to select respondents from the down-town working capitals of Accra and Kumasi. Respondents mainly working class group were selected from institutions and supermarkets located within the downtown business hub. More specifically, the research targeted the working class population who consume chicken products or patronize chicken meat in one form or the other.

3.3 Methods of Data Collection

Data collection instrument used in this research was a well structured questionnaire that was mostly closed ended. Three hundred consumers were interviewed in all, with 120 and 150 respondents conveniently selected from Accra and Kumasi respectively. The questionnaire was composed mainly of four sections. Section A was on the demographic characteristics of respondents; Section B dealt with the general consumption habits and preference for chicken; Section C was on the attributes and preference for locally grown chicken; and Section D focused on propensity to patronize locally grown chicken. The last section was further decomposed into four sub-titles, where Likert scale rating questions which aimed to ascertain consumers' degree of agreement to specific items bordering on a perceptions, attitudes and opinions on specific sets of chicken meat attributes and its consumption. On a five – point Likert scale, consumers were asked to rate their perceptions on whether they 'strongly agree – 5' to 'strongly disagree – 1'.

3.4 Analytical Techniques and Methods.

Data collected were analyzed using both qualitative and quantitative methods. Specifically data was analyzed using means, standard deviations, pie charts, graphs, correlations, and χ^2 -test. Qualitative analysis involved the use of simple descriptive statistics like percentages, mean, pie charts and graphs to determine the socio-economic characteristics of respondents and consumption patterns. The chi-square test was performed to measure the relationship between socio-economic characteristics of consumers and their willingness to patronize Ghana chicken.

4. RESULTS AND DISCUSSIONS

4.1. Demographic Characteristics of Respondents

The 300 respondents interviewed in the study were dominated by female 58% and 42% males. Descriptive analyses of data showed that respondents were fairly youthful and active with a mean age of 38.7 years, with more than 75% aged between 18-40 years. Almost half (51%) of sample were married and 49% were either single or widowed. Majority of the respondents, that is about 216 (73%) were either household heads or co-breadwinners, with males forming about 56% and females making up 34%. The status of the household has implication for purchasing and preference decisions for consumables, so is the number of dependents in a household. The mean household size was 5 members per household. The respondents selected for the survey, all of whom were workers or income earners, had a relatively good level of education with the distribution of illiterates – 3%, basic education – 13.7%, secondary – 27.4%, vocational/technical – 25.8% and tertiary – 40.5%.

4.2 Poultry Consumption Patterns of Respondents

Analysis of the consumption pattern of respondents is presented in Table 1 and Figure 1 and 2. The results show that out of the 300 respondents interviewed, 23% consumed chicken on a daily basis, 37% weekly, 27% monthly, 10% bi-annually and only 4% on a yearly basis. This supports the assertion by Umberger *et al*, (2010 and Egyir *et al* (2012) that chicken consumption has become a major and regular source of protein in the diet of many people, especially the urban dwellers. The relatively high frequency of consumption amongst respondents offers opportunities for value chain actors (particularly producers and traders) to exploit that market. When asked to indicate the form in which chicken was purchased, 28% indicated they bought live birds, 39% indicated processed and 33% indicated both. In a follow up question, 38% indicated the preferred live bird, 35% liked processed and 27% did not really care about state/form of birds. The relative high response for live birds by respondents suggests some shift or preference for locally produced birds, since no live chickens are imported into Ghana. However, the fact that majority purchased/preferred processed chicken indicates a propensity towards processed chicken, which come with some convenience. The market source from which chicken was purchased also determined the form of chicken. Although majority of respondents purchased chicken meat in the processed state, it was realized that the general market or chicken market happened to be the common source of chicken (50%), followed by supermarket/cold store (24%) and farm-gate (22%). It must be stated that, vendors in most markets visited provided some form of processing (plucking, eviscerating, cutting and dressing chicken for buyers). Next, respondents were asked to indicate the attributes of chicken that was considered in their buying decisions. It turned out that safety and health ranked highest at 67%, followed by taste/texture – 46%, nutritional value–42%, meatiness–31% and fat/cholesterol contents–31%. The source of meat and palatability were not major attributes considered by respondents. Thus for most consumers, the health, safety, taste and other nutritional attributes of processed chicken were the driving consumption attributes, which corroborates with the assertions of Sow and Grognet 2010; Almeida *et al*, 2009; Gallup (2008) and Prestat (2001)

Table 1: Poultry Meat Consumption Patterns of Respondents

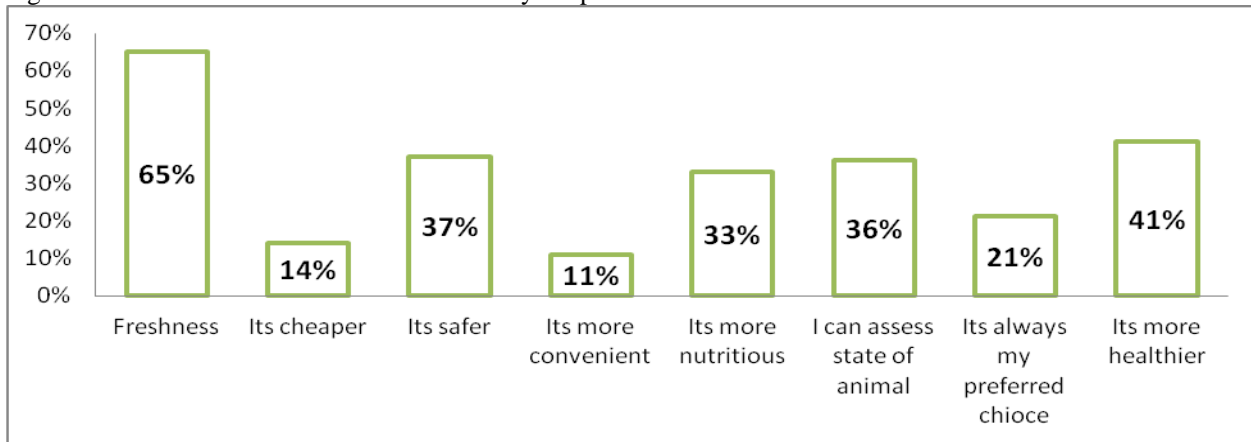
Factors	Frequency	Percentage (%)
Rate of Chicken Consumption		
Daily	68	23
Weekly	109	37
Monthly	82	27
Biannually	29	8
Annually	11	4
Form in which chicken is purchased		
Live bird	84	28
Processed-Dressed	116	39
Both Live and Dressed	99	33
Preferred Form Chicken – Live or Processed		
Live	114	38
Dressed-Processed	104	35
Do not really care	80	27
Source of purchase of Chicken		
Farm-gate	65	22
Market/Chicken market	122	50
Street vendors	39	13
Super market/Cold store	72	24
Preferred Sensorial Attributes of Chicken		
Taste and Texture	139	46
Palatability	25	8.0
Safety and health	200	67
Fat content-cholesterol	92	31
Nutritional value	125	42
Meatiness	93	31
Source of meat	87	29
Size/weight	87	29

Source: Field Survey, 2012

In a follow up evaluation, respondents were asked to indicate the reasons and factors considered in the choice of live chicken and processed chicken. The results, as presented in Fig. 1 indicate that for lovers of live chicken and invariably Ghana grown chicken, freshness – 65%, health status – 41%, safety – 37%, ability to access the state of chicken – 36% and nutritional value – 32%, were the most important attributes considered in their preference. At the

extreme end, only a small percentage of respondents agreed that price (14%) and convenience (11%) were positive attributes or drivers motivating the consumption of Ghana chicken. In other words, most consumers did not find Ghana chicken to be cheap or convenient, a situation which calls for action by industry players. The results here support the findings of Becker *et al* (2000), which proved that freshness instead of price was a major indicator of quality and therefore preference for consumers of chicken in Germany.

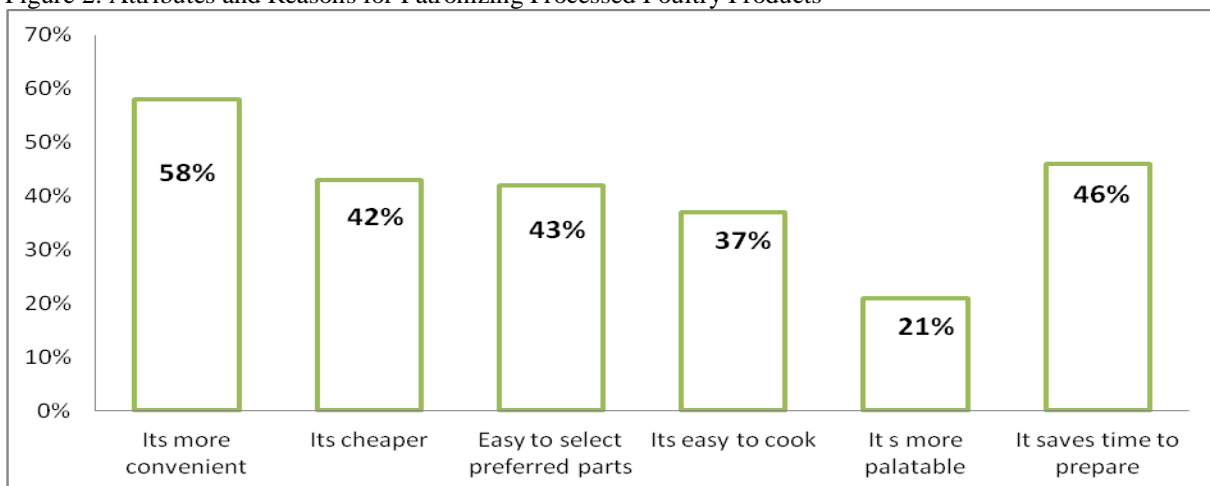
Figure 1: Attributes of Live Chicken Preferred by Respondents



Source: Field Survey, 2012

In a similar vein, respondents who preferred or patronized processed chicken stated that the most important considerations were convenience—58%, time saving—46%, cut portions—43%, and cheapness/price—42%, as depicted in Figure 2. The results are a signal of the significance of non-price factors in the purchase considerations of most consumers in the study area, particularly convenience and time saving. Changing demographics (working mothers, improved incomes, youthful populations etc) especially amongst the working class, and who constitute the majority of respondents in this survey, suggest that value-addition through processing has a strong place within the chicken value chain, for which industry players must take advantage of.

Figure 2: Attributes and Reasons for Patronizing Processed Poultry Products



Source: Field Survey, 2012

Next, respondents were asked to rank their purchasing/preference decision based on five key factors, as presented in Table 2. The Friedman’s test of ranks was significant at 1% ($p < 0.001$), with a $\chi^2 = 26.103$; and $df = 4$. The analysis recorded mean scores for convenience 2.07; followed by safety/health of chicken 2.78; form of chicken 2.89; price of chicken 2.91 and then country of origin of chicken 4.35. Consumers therefore considered the safety, form (live or processed) and convenience of chicken, to be more important decision criteria than the price and origin of chicken, which is similar to finding reported by Egyir *et al* 2012 but contrary to the finding by Kwadzo *et al* (2013) who showed that price is the most important attribute influencing consumer preference for Ghana chicken.

Table 2: Rankings of Preferred Factors in the Purchase of Chicken

Factors	Mean of Rank	Position
Form - Live or processed	2.89	3
Price	2.91	4
Safety & Health	2.78	2
Country of Origin	4.35	5
Convenience – cut portions, packaged etc	2.07	1

Test Stats: N=23; $\chi^2 = 26.103$; $df = 4$; *Asymp Sig .000* ($P < 5\%$)

4.2 Perceived Attributes of Ghana Grown Chicken

To ascertain consumer perception on chicken produced in Ghana, a descriptive statistics using the Likert scale was conducted. The results as presented in Table 3 indicate to a large extent, that, consumers have some positive perceptions about Ghana chicken. This is shown by the fact that, more than 50% of respondents voted to either strongly agree or agree for the top three ranked items in this section. Thus the mean rate score for health and safety, taste and trust were captured as 3.86, 3.74 and 3.47 respectively, while high price had a mean rate of 2.81. The mean scores or mean rate for the statements confirms yet again that health, safety, and taste and also trust were important attributes consumers look out for, as opposed to price. The fact that majority of respondents were working must have some effect on the outcome of these responses, however value chain actors must critically consider the non-price attributes.

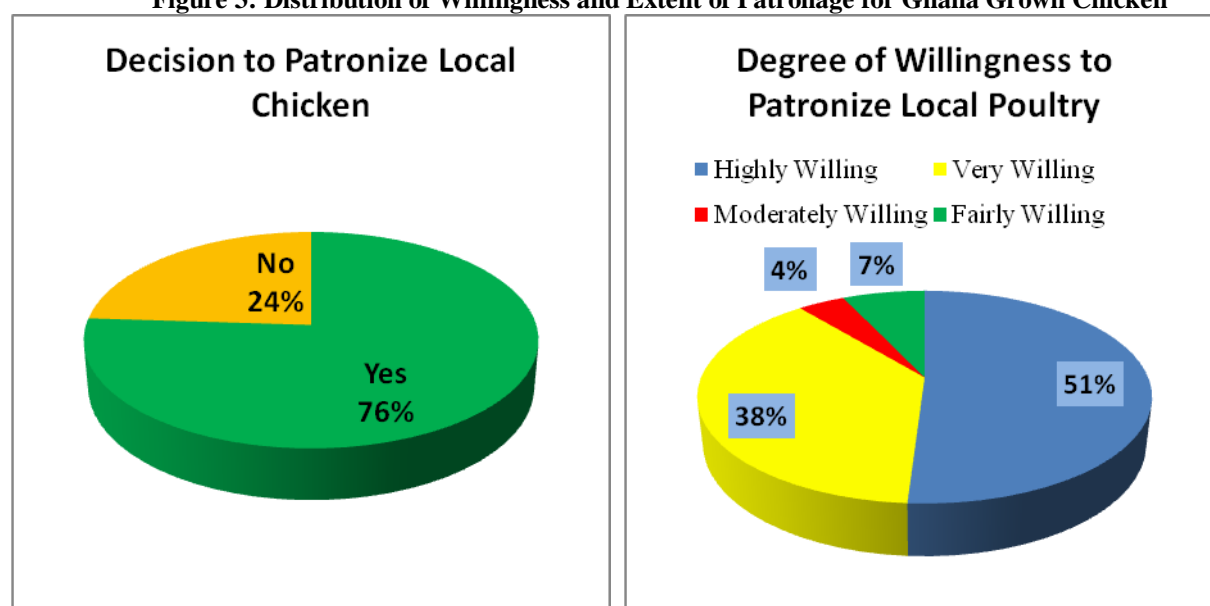
Table 3: Distribution of Perceived Attributes of Ghana Chicken by Respondents

Statements on Perceived Attributes	Percent Likert Response					Mean	Rank
	1	2	3	4	5		
Ghana Chicken is healthier and safer	0	9	21	43	27	3.86	1
Ghana Chicken is tastier	4	14	10	50	22	3.74	2
Ghana Chicken can be trusted	5	19	22	32	22	3.47	3
Chicken is grown under ethical conditions	8	25	26	21	10	3.35	4
Ghana Chicken is not grown with hormones	5	23	26	31	15	3.28	5
Ghana Chicken is not contaminated	5	24	35	25	11	3.14	6
Ghana Chicken is less fatty	6	25	32	23	13	3.12	7
Price of Ghana chicken is high	18	25	26	21	10	2.81	8

Source: Field Survey, 2012: Where 1 – Strongly disagree; 2 – Disagree; 3 – Fair; 4 – Agree; 5 – Strongly Agree.

4.3 Relationship between Demographic Characteristics and Patronage of Ghana Grown Chicken

Figure 3: Distribution of Willingness and Extent of Patronage for Ghana Grown Chicken



Source: Field Survey, 2012

Descriptive results of consumer preference and willingness to patronize Ghana grown chicken yielded some responses. The results as presented in Figure 3, indicated that out of the 299 responses captured in the survey, a whopping 222 (74.2%) of respondents declared their willingness to patronize Ghana grown chicken – (WTPGC), while 77 (25.8%) responded in the negative. When pressed further to ascertain the degree or extent of willingness to patronize Ghana chicken, 51% of the 222 respondents indicated they were ‘highly willing’ and 38% stated ‘very willing’, while 7% and 4% indicated a ‘fair’ and ‘moderate’ degree of willingness to patronize Ghana chicken.

A Pearson chi-square statistic test was performed to determine the individual relationship between the dependent variable (willingness to patronize Ghana grown chicken–WTPGC) and five socio-economic variables. The results as presented in Table 4, indicated that age, marital status, household status, number of dependents, educational level and monthly income were significantly related to willingness to patronize Ghana grown chicken, while gender and amount of money spent on chicken per month were not significantly related. The Pearson chi-square test results revealed that there was a significant relationship between WTPGC and the age of respondents ($\chi^2 = 18.029$; $df = 4$; and $P < 0.001$). Similarly, the educational level of respondent was significantly related to WTPGC with ($\chi^2 = 27.934$; $df = 5$; and $P < 0.001$), as 21%, 18% and 14% of tertiary, secondary and postgraduate holders were more likely to patronize Ghana grown chicken. A significantly large proportion of respondents who were bread winners/co-bread winners (60%) were more likely to patronize Ghana grown chicken compared to those who were not. Thus, the household status of respondents related significantly to WTPGC with a ($\chi^2 = 28.160$; $df = 3$; and $P < 0.000$). Three other characteristics, marital status ($\chi^2 = 6.478$, $df = 1$; and $P = 0.050$), number of dependents ($\chi^2 = 18.461$; $df = 4$; and $P = 0.018$) and estimated monthly income ($\chi^2 = 9.750$; $df = 8$; and $P = 0.083$), of respondents were all significantly related to WTPGC. On the other hand, WTPGC was not significantly related to or influenced by two other socio-economic traits namely gender ($\chi^2 = 2.129$, $df = 1$; and $P = 0.144$) and the amount spent on chicken ($\chi^2 = 8.45$; $df = 5$; and $P = 0.133$). The findings affirm the evidence from Grossman, 1972; Nayga, 2003; Schultz, 1975 and Hu *et al*, 2006 that socio-economic characteristics influences food consumption patterns.

Table 4: Rankings of Preferred Factors in the Purchase of Chicken

Hypothesis	χ^2 –Value	P-Value	Inference
H10 WPGC is highly influenced by the gender	2.219	0.114	Not supported
H11: WTPGC is influenced by age	18.029	0.001	Supported
H12: WTPGC is influenced by educational status	27.934	0.000	Supported
H13: WTPGC is influenced by monthly income	9.750	0.083	Supported
H14: WTPGC is related to amount spent on chicken	8.459	0.133	Not Supported
H15: WTPGC is related to marital status	3.835	0.050	Supported
H16: WTPGC is influenced by no. of dependents	18.461	0.018	Supported
H17: WTPGC is related to household status of respondent	28.160	0.000	Supported

Source: Field Survey, 2013

4.4: The Relationship between WTPGC, Price and Preferred Country Source of Chicken

A Pearson chi-square test to ascertain the relationship between the preferred source of chicken and patronage of Ghana chicken, showed that 54% of respondent’s preferred chicken from Ghana, 22% chose chicken from the U.S.A, 11% chose Brazil, 9% opted for E.U chicken, and 2% selected chicken from other sources as shown in Table 5. The results yielded a $\chi^2 = 26.347$ and $P < 0.000$ indicating that there is a relationship country of origin and preference for chicken (Ghana chicken) and thus supports the assertion of (Loureiro and Umberger, 2003; Umberger *et al*. 2002; Muladno and Thiemi, 2009) and findings of Egyir *et al*, (2012), about the high preference for and premium attached to locally produced food products.

Table 5: Relationship between WTPGC and Preferred Source of Chicken

Source of Poultry	Frequency	Percentage
USA	65	22.0
Brazil	34	11.5
China	6	2.0
Ghana	159	53.9
E,U	27	9.2
Others	4	1.4
Total	295	100.0

Test stats: N=295; $\chi^2 = 26.347$; $df = 5$; $p < 0.000$

Next, the study analyzed the relationship between price and consumer preference since consumers are generally sensitive to price changes. To test the response of consumers with respect to various price levels of Ghana chicken, a

Pearson chi-square test was performed. An analysis of the relationship between WTPGC and the maximum price at which respondents would quit purchasing Ghana chicken shows that 30% could afford up to GH¢25; while 36% would buy at GH¢30 and yet another 34% indicated they would still buy at GH¢35. The average market price for a 2.0kg chicken during the study period was GH¢20. The Pearson chi-square test revealed that the threshold at which consumers were still ready to patronize Ghana grown chicken, was statistically significant even if prices increased between 25%–75% with ($\chi^2 = 10.831$ $df=2$ and $p<0.004$) as shown in Table 6. In effect, there is a strong consumer preference for Ghana grown chicken, and that proponents of Ghana-grown chicken will to a large extent, still patronize the commodity irrespective of the price increase. This result supports the findings of Becker *et al* (2000) and Egyir *et al* (2012) but contrary to Kwadzo *et al* (2013) that price was not considered as a major determinant of consumer preference.

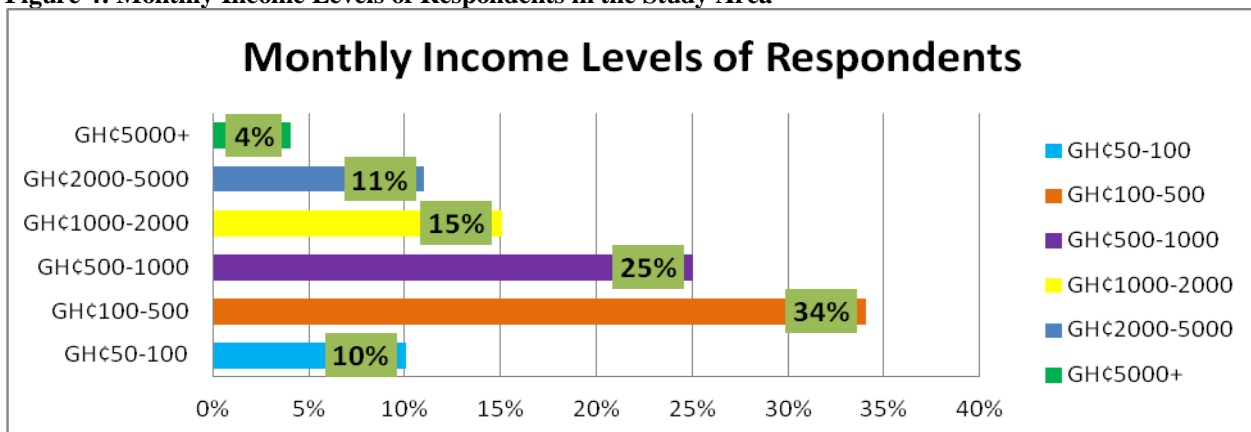
Table 6: Consumer Willingness to Pay at Threshold Prices

Accepted Price Increase	Percentage Increase	Frequency	Percentage
GH¢25	25%	85	29.7%
GH¢30	50%	103	36.0%
GH¢35	75%	98	34.3%
Total		286	100.0%

Test Stats: N = 286; $\chi^2 = 10.831$; $df = 2$ and $p<0.004$

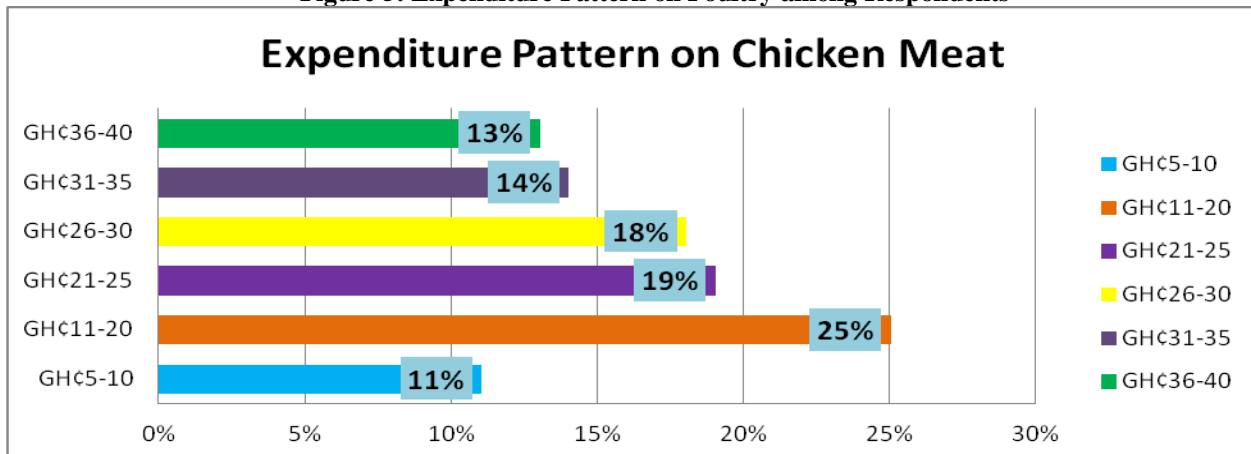
The last factor considered under the chicken consumption and preference analysis is the monthly income levels and the expenditure pattern of consumers. Analysis of data as presented in Figure 4, indicated that 35% of respondents earned between GH¢50 – GH¢500 per month, (the lower bracket); 40% earned between GH¢501 – GH¢2,000 per month (middle bracket) and 15% earned between GH¢2,001 – 5,000+ per month (top bracket). The income level of an individual has a direct bearing on his or her purchasing power and thus ability to purchase good protein source like chicken.

Figure 4: Monthly Income Levels of Respondents in the Study Area



Source: Field Survey, 2013

Figure 5: Expenditure Pattern on Poultry among Respondents



Source: Field Survey, 2012

Analysis of data as presented in Figure 5 below, also indicates that 26% of the respondents spent between GH¢5-20 per week on chicken, 37% spent between GH¢21-30 per week, and the remaining 27% spent GH¢31 – GH¢40 per week on chicken.

The consumption and therefore purchase of chicken is dependent on or influenced by the purchasing power and income levels of consumers, as shown in Figures 4 and 5. The fact that about 55% of respondents constituted the least spenders (GH¢5-25) compared to 45% that constitute the highest spenders on chicken (GH¢26-40) suggest that income levels has an impact on the purchasing power of consumers as far as chicken purchase is concerned. Indeed a Pearson correlation analysis indicated that the estimated income of respondents was significant and positively related to the expenditure on chicken with ($r = .512$; $N=297$, and $p<0.001$). Thus the expenditure pattern of consumers on chicken is moderately influenced by the income levels.

5. CONCLUSIONS

The consumption patterns of and preference for Ghana grown chicken was analyzed for selected consumers within the two largest cities in Ghana, using both descriptive and quantitative methods. The results from data analysis showed that chicken is consumed on a regular basis and forms part of the regular meal of Ghanaians. The major attributes of chicken that consumers considered in their consumption practice were stated as the safety, health, taste, and nutritional value. There is a much higher demand for processed chicken than live chicken. Attributes that were important to proponents of live chicken (which seeks to connote Ghana chicken) include freshness, healthiness and ability to assess state of the chicken, while for lovers of processed chicken, factors such as convenience, time saving and availability of cut portions were very important. The major reasons for consuming or preferring Ghana grown chicken as the choice product were because of its perceived healthiness, safety taste and trust of the product compared to imported stuff. Subsequently, the study showed the patronage of Ghana grown chicken was related to and influenced by socio-economic factors such as age, marital status, household status, household size and monthly income of respondents. In the purchase decision of consumers, the most important and topmost ranked factors were convenience, safety and health, and the form of chicken (live or processed) while price and country of origin was ranked low among the select factors. Finally, the study showed that there is a relationship between patronage of Ghana chicken and price and that strong preference for Ghana grown chicken is influenced more by non-price factors, since consumers were still prepared to patronize Ghana chicken even with price increases. Ghanaian consumers are thus ready to patronize processed Ghana grown chicken that comes with its freshness, safety/healthy status, and good taste and the convenience of cut portions and easy of availability. The ability of value chain actors to respond appropriately to these revealing consumer demands can go a long way to salvage the local chicken industry, especially in the wake of threats of imported chicken that has almost collapsed the broiler industry in Ghana.

6. RECOMMENDATIONS

These findings have important implications for actors in Ghana's chicken value chain. Based on the findings of this research, the study propounds some recommendations. First, the governments' intention or support for patronage of made-in-Ghana products (no matter how feeble it might seem) should be backed with enabling value chain upgrading policies that enhance incentives for local chicken processing. Secondly, with a growing demand for processed, ready-to-cook, safe and conveniently packaged chicken products, value chain actors led by the private sector should as matter of urgency adapt innovative marketing strategies for local chicken. More specifically, private chicken marketers and traders should be encouraged to take advantage of consumer trends and develop locally processed chicken products that meet consumer demands. Thirdly, since price is not a very critical factor in product choice, the Ghana chicken value chain should be well-positioned to strategically harness and capture a good market share of the chicken market in Ghana through innovative processing and marketing practices as already indicated. This would probably be the beginning of revamping and improving the competitiveness of the Ghana's chicken industry.

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