

# Meat Consumption Trends in Some Selected Households in Accra Ghana

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**ABSTRACT**— *We assessed household meat consumption trends in 188 households in some suburbs in Accra. Only 8.5% of the 188 households used meat in their menu daily, 53.2% used meat in their menu once a week, 2.9% used meat only during weekends. 9% rarely used meat in their menu. The major sources of meat for the households were; cold stores, the open market, Fast food joints and Super markets. Chicken was most patronised at 45.2%, beef 22.9%, chevon 21.3%, grasscutter 7.4%, pork 2.1% and mutton 1.1%. Consumers considered taste most when buying meat, then nutritional value, fat content, meat availability and its affordability.*

*Households reasons for their low patronage of pork and grasscutter were; fat contents 56.9% , expensiveness 17.6% and a taboo, 25.5%. Meat products patronised by households were; sausage 33.5%, bacon 18.6%, ham 16.5% and 31.4% of households would not patronise any meat product. Only 6.9% of households expected increase in meat consumption trends, 74.5% expected a decrease and 18.6% expected it to be static.*

**Keywords**—Households, meat, consumption, ham, bacon, patronage

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## 1. INTRODUCTION

Meat has been part of human diet since the time of the pre-historic man when humans hunted for game. Indeed, Warriss (2010) reported that red meat and poultry contribute about a sixth of all protein consumed by humans. Meat forms a very important component of the human diet being a major source of protein and nutrients such as lysine, bio-available iron, and zinc (Walker et al., 2005.). In addition meat helps to prevent anaemia through the provision of vitamins B and K. For developing countries in particular where micro nutrient deficiency is common, Walker and her colleagues (2005) state that, 'a moderate increase in meat and dairy food consumption will certainly improve the nutritional adequacy of diets and improve health outcomes'. Meat is classified as red (beef, mutton, pork) or white (poultry) muscle fibres with red meat being implicated in certain disease conditions, Daniel et al., (2010). In fact some studies have shown high meat consumption (the saturated fat and cholesterol content) correlating to incidence of conditions such as Coronary Vascular disease, (Bender, 1997, Larson and Wolk 2006). The disease risk of meat consumption to an extent depends on the animal from which the meat is sourced, the rearing/production and processing methods among others. Meat can be prepared by smoking, curing, salting, addition of preservatives etc. In Ghana the most common way of consuming meat is frying, smoking, grilling and boiling in soups and sauces.

According to Kearney (2010), changes in agricultural practice over the past fifty or so years has resulted in the world's capacity to provide food for its people through increases in productivity, greater diversity of food and less seasonal dependence. This is evident in genetic improvement of livestock and better production and management methods to ensure availability of meat for human consumption. Delgado (2003) reported that the amount of meat consumed in developing countries has grown three times as much as it did in developed countries and that people are eating more animal products as their incomes rise and they become urbanized. The intake of meat and meat product varies worldwide with developed countries are known to consume more than the developing countries. However the demand for meat in developing countries continue to grow as the production and consumption of meat increases with available income (Walker et al., 2005)

In Ghana, meat consumption has increased such that domestic production does not meet demand hence the resort to importation. Per capita consumption to a large extent is determined by the average capita income (Cranfield et al., 1998).

In the wake of recent media and public discussion on meat issues, it has become necessary to find out whether consumption patterns of meat have changed. This is even more eminent in the wake of widespread publicity about meat not being good for healthy lifestyle; albeit exaggerated. The study therefore seeks to find the meat consumption trends in Accra and determine the factors that inform consumption.

## **2. MATERIALS AND METHODS**

### **2.1 Study site**

The catchment area of the study lies in the Savannah zone with defined two raining seasons with an annual rainfall of about 730mm (AMA 2002). This peak falls primarily during the main season of May and ends in mid July. The second season begins in August and cuts off in October. There is little variation in temperature throughout the year. The mean monthly temperature ranges from 24 to 28 OC. August is the coolest period whilst the hottest period is March. Relative humidity is usually high ranging from 65% in the mid-afternoon to 95% at night.

As a metropolitan area, the vegetation has been altered in several ways to suit a changing urban landscape as well as directly by changing climatic factors. The hitherto dense tropical forest has been replaced by only a few remnant trees. Currently, the vegetation of Accra and its environs are basically that of Sudan and Guinea savannah types. There exist different species of antelopes, squirrels, monkeys and reptiles. There are also many species of snakes, lizards in addition to many domestic animals such as donkey, sheep, goat and chicken.

To the north east of Accra lies the Shai Hills which has a small game park with several species of monkeys and ground foraging animals as well as birds (AMA 2002).

Accra currently has a population census value of 2,291,352 million people and is one of the most populated and fast growing Metropolis of Africa with an annual growth rate of 3.5%. The Accra Metropolitan Area is the most industrialized in Ghana contributing over 10% of the Gross Domestic Product (GDP). Over 30% of the manufacturing activities, representing over 50% of value added are located in the area and by extension, problems associated with urban sanitation and hygiene exist here. It is manifested in development of slumps, poor solid and liquid waste disposal, pests and vectors breeding sites.

### **2.2 Study Design**

A cross-sectional survey was used using in-person (face-to-face), in depth structured interviews to elicit the required responses. This method has long been used and is recognized as one of the most penetrating methods available for assessing a person's knowledge and attitudes (Novak and Gowin, 1984). The experimental households were delineated by using house numbers depicted on their walls by the Metropolitan Assemblies. These houses were selected randomly by selection of each alternate house. Where house numbers were not available, an agent was selected and trained in the community who readily identified households. The sample size (N=188) was selected based on the total number of households in each study area.

#### **2.2.1 Questionnaire Development**

A preliminary questionnaire was generated through consideration of the study objectives combined with the reviewing of the appropriate literature. The generated questions were ordered and arranged based on recommendations by (Smith and Morrow, 1993). The questionnaire was made up of closed and open ended questions. Precoding of questionnaire was then done and then reviewed for clarity, ease of completion, length, format, appropriateness and its general presentation.

#### **2.2.2 Questionnaire Administration**

The questionnaires were interviewer administered to facilitate completion of all questions, increase response level, and allow cooperation and to clarify any misunderstandings (Margetts, 1991). Heads of households were identified through utility payment receipts and bills.

### 2.2.3 Data Analysis

Information generated was analyzed using SPSS 13.0 and other descriptive methods.

## 3. RESULTS AND DISCUSSIONS

Table 1 showed household meat consumption on daily trends. 8.5% of households used meat in their menu everyday, 53.2% used meat in their menu once a week whilst 29.3% used it at weekends. 9% of the respondents used it irregularly.

Table 2 depicted the sources of the meat households consumed. 39.4% claimed they bought their meat from cold storage sales points, 35.6% from the open market, 16.5% from fast food outlets. Only 8.5% purchased their meat from super markets. For households, chicken was most choice of meat consumed. 45.2% of households patronized chicken, 22.9% patronized beef, 21.3% chevon, 7.4% patronized grasscutter, 2.1% patronized pork and 1.1% patronized mutton as shown in Table 3.

Table 4 showed the characteristics or qualities of meat that influenced household patronage in Table 3. For 58% of the respondents, the taste of the meat was what they considered, whilst 22.9% considered the nutritional value of the meat. 13.3% would consider the fat content of the meat and 3.2% said they would only make do with any kind of meat available. For the rest 2.9% of respondents, it was the affordability of the meat. Only 2.1% of households patronized pork and 7.4% preferred grasscutter. Table 6 also showed that meat products patronized by households were sausage, bacon and ham. 33.5% of households bought sausage, 18.6% bought bacon, 16.5% bought ham and 31.4% bought none of these meat products.

Table 7 showed the expected meat consumption trends. Only 6.9% expected an increase in meat consumption, 74.5% expected a decrease whilst 18.6% thought trends would remain same. 8.5% of households used meat in their menu everyday compared to 53.2% who used it once a week. 29.3% used it at weekends whilst meat consumption was irregular for 9% of households. Meat even in small amount complements food. It provides a relatively rich source of well absorbed iron and also improves the absorption of iron from other foods, its amino acid composition complements that of many plant foods and is a concentrated source of B Vitamins, including B12 which is absent from plant foods (FAO 1990). Hence families need it to complement their protein sources especially for children. This could be the main reason why all the households in one way or the other used it in their menu as shown in Table 1. Cold stores were the most patronized sales points that households got their meat from. Coldstores have been in the Ghanaian market ever since. They are ready sources of meat and safety of products is ensured. 39.4% of households patronized them. As against the open market (35.6%), coldstores are generally cleaner and hygienic than the open markets hence the higher patronage by households. Fast food joints are end product dispensing points and especially at weekends, families throng there for ready meat where the family sits together and make merry. Super markets connote a certain income level especially in a developing country such as Ghana where there are great disparities in income levels. It is generally a preserve of expatriates and the middle to upper classes. Prices of goods are generally above average and services are classic. That could be the reason for the low patronage (8.5%) compared to the other sources mentioned.

Chicken was more patronized by households (45.2%) than other meats, beef 22.9%, Chevon 21.3%, Grasscutter 7.4%, Pork 2.1% and mutton 1.1% respectively as shown in Table 3 and Fig.1 respectively. The average adult requires between 0.8g and 1g of protein per every pound of body weight in his daily diet. Lean meats are of the most potent sources of protein. Poultry are low in fat and packed with proteins which keeps muscles strong, helps control body weight and promotes immunity and heart health. Red meats like beef and pork also offer protein but also contain more saturated fat (FAO 1992). Fats perform a vital role in the human body as a source of stored energy. Calories from fat should make up 20-35% of an adults calorie intake, with saturated fats accounting for no more than 10% of daily caloric intake. Poultry is a strong source of unsaturated fat, which helps control blood sugar and appetite.

Chicken is the highest meat item produced in Ghana. By 2008, Ghana was producing 29.7 thousand metric tonnes of chicken, 27.9 thousand metric tonnes of beef, 11.7 thousand metric tonnes of chevon and 10.8 thousand metric tonnes of mutton. At same period, Ghana imported 13,135.1 thousand metric tonnes of beef, 89,889 thousand metric tonnes of chicken, 5,961.3 thousand metric tonnes of mutton (Oppong-Anane et al., 2008). Taste is an important sensory characteristic when it comes to food. A tasty meat makes it enjoyable and is the most important thing to be considered when classifying food. 58% of respondents thought it was the most important characteristic they considered when buying meat. Taste is perceived differently by different people and a good taste really makes a dish very enjoyable hence the high value respondents gave it. The nutritional value of meat accounted for 22.9% of household respondents. Meat is the source of animal protein. It provides a variety of micronutrients that are difficult to obtain in adequate quantities from plant sources alone. Lack of vitamins like vitamin A, B-12, Riboflavin, Calcium, iron and zinc can cause anaemia, poor

growth, rickets, impaired cognitive performance. These nutrients are readily found in animal protein (Murphy and Allen, 2003). Whilst these important nutrients are also available, others like saturated fats and cholesterol may be harmful to consumers. Grasscutter was said to be expensive because of the seasonal nature of the meat. Again the meat is still regarded as a delicacy and so commands an appreciable price on the market. To combat this situation, domestication, breeding and intensive production of the animal should be encouraged. Since pork was also perceived to be fatty, it is important to breed leaner animals. It is noteworthy that some amount of intramuscular fat and intermuscular fat are important to impart juiciness and taste to meat and this must be factored into breeding programmes.

Consumption trends expected to decrease by 74.5%. Most people cited health concerns as the reason for decreasing consumption. In recent times, meat and meat products have received a lot of backlash as being the cause of most sicknesses. Granted that saturated fat has been implicated in some disease conditions, it is not the singular cause of diseases. It is also against this background that scientists are working hard to produce leaner animals to cut down on the fat consumed as a result of eating meat. Exercising, eating a well balanced diet all contribute to one's good health. Meat is a very important source of protein and other nutrients hence its inclusion in one's diet cannot be over-emphasized. The key factor is to consume in moderation. A lot of work is therefore required to educate the public about the health benefits of meat especially for women and growing children and to disabuse their minds about meat. There are many misconceptions and perceptions about the kind of fat in various meat types and education and sensitization should be encouraged to address the situation

### **3.1 Study Limitations and strengths**

The sample size was small hence the findings would not be generalized across the Ghanaian population. However, the study adds to the existing literature on the meat industry in Ghana.

## **4. CONCLUSION**

Meat continues to be an important part of the diet of most Ghanaians. Poultry appears popular among consumers hence it is necessary to find ways of improving poultry production to meet consumer demands. If animal production in Ghana should enhance, the products must be consumed. Breeding and raising quality animals are therefore important to addressing the health concerns associated with eating meat and meat products. Value addition to meat is also required as a means of diversifying the way meat is consumed in Ghana.

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Table 1. Household meat consumption pattern

Consumption pattern	% Response
Everyday	8.5
Once a Week	53.2
Weekends	29.3
Irregular	9

Table 2. Meat purchase points for households

Purchase point	% Patronage
Cold store	39.4
Open Market	35.6
Fast food joints	16.5
Super Markets	8.5

Table 3. Meat type patronage by households

Meat item	% Patronage
Chicken	45.2
Beef	22.9
Chevon	21.3
Grasscutter	7.4
Pork	2.1
Mutton	1.1

Table 4. Factor influencing Meat Consumption in households

Reasons for the choice	% Response
Taste	58
Nutritional value	22.9
Fat content	13.3
Availability	3.2
Affordability	2.9

Table 5. Consumers reason for low patronage for Pork and Grasscutter

Reason	% Response
Fat content	56.9
Expensiveness	17.6
Taboo	25.5

Table 6. Household Patronage of Meat Products

Meat Product	% Patronage
Sausage	33.5
Bacon	18.6
Ham	16.5
None	31.4

Table 7. Expected Meat Consumption trends

Trend	% Expectation
Increased demand	6.9
Decreased demand	74.5
No change	18.6

