

Consumers Perception on Meat Handling in Ghana

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ABSTRACT—188 households in Accra sampled from 4 suburbs were selected for the survey. 86.2% of the households thought meat handling in Ghana was unhygienic, 4.8% cared less about the meat handling process whilst only 9% of the households thought handling issues were adequate. On criteria used to purchase meat, 42% said they used observation to purchase, 30.3% considered only the price, 25.5% considered neatness of the selling environment, whilst 2.1% of the homes considered the colour of the meat. For urgent considerations to ensure improvement in the meat industry, 42.6% of households thought meat inspection laws be enforced, 36.2% thought meat handlers (butchers) be trained on animal slaughtering, handling and other relevant issues, 6.9% thought meat prices should be affordable, 6.4% thought livestock diseases be prevented, whilst 5.3% wished for good feed regime for livestock, 2.7% thought good abattoirs and slaughter facilities be provided.

Household respondents thought the meat handling chain in Ghana needed improvements in the handling processes including provision for slaughter facilities and training of butchers. We also recommend an enhanced vigilance and meat inspection laws enforcement.

Keywords— Abattoirs, butchers, meat, environment, livestock, wholesomeness

1. INTRODUCTION

More and more countries are appreciating the need to assess the safety and quality of foods, because of the wider recognition of the role of foods in spreading diseases and food poisoning (Newell *et al.*, 2010). In Ghana there are different markets that are controlled by the Local Authorities, however they do not control how the food are handled, packaged, processed, transported and much less check the quality of the food. In this regard, the Ghana Food and Drugs Authority, the Ghana Standard Authority and the public health authorities have put in place important policies to prevent the production and marketing of contaminated foods and food products intended for the market both local and export and to ensure that consumers get the best value in terms of health and nutrition (WHO, 2010).

Meat and meat products are necessary in the daily menu of many homes as it is the readily known source of protein. Many characteristics of meat are important to the consumers as a surety of its wholesomeness.

Consumers are concerned about the appearance of the meat they purchase. However a major attribute that most times may be overlooked is the microbial quality of the meat. Microbiological infection starts from the farm and ends at the final consumer. Once the life support of an animal is removed, the body becomes a perfect medium for invasion of micro-organisms some of which could be dangerous to the consumer's health and also results in the loss of nutritional values (Lawrie, 1991). The Veterinary Services Directorate is responsible for the control of meat hygiene, meat inspection and animal health that is during ante mortem and post-mortem and the management at abattoirs (WHO, 2010). However due to limited human resource, education in food safety and lack of national policy on food safety has contributed to the production of unsafe meat as many farmers and meat vendors slaughter their animals in unapproved facilities without any regulation or standards. In a study by King *et al.*, (2000) they found out that most of the meat consumers purchase are from unlicensed sources and the consumption of this uninspected or uncertified meat may expose the consumers to anthrax, bovine tuberculosis, trichinellosis and taeniasis. This development has led to a rapidly growing diversity of micro biological methods of examining foods.

The objectives of this study were to assess households' perception of meat handling in Ghana, factors that influence them when they buy meat as well as their outlooks on expected improvements in the meat industry in Ghana.

2. MATERIALS AND METHODS

2.1 Study site

Accra 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 °C. 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.

2.2.3 Data Analysis

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

3. RESULTS AND DISCUSSIONS

86.2% of the households thought the meat handling chain in Ghana was unhygienic whilst only 9% thought it was good. For 4.8% of the households they thought it was neither good nor bad (Table 1).

For what were their determining factors in deciding to purchase meat, 42% thought they would look for the wholesomeness of the meat, whilst 30.3% said their decision would be based on the price of the meat. 25.5% considered the neatness of the dispensing environment (Table 2). On their expectations in the meat industry, 42.6% hoped for a strict and competent Inspection regime, 36.2% hoped for a comprehensive training programme for butchers, 6.9% hoped meat prices should be moderate or low, 6.4% looked for disease free livestock, 5.3% said they would look for the provision of good livestock feed whilst 2.7% asked for the building of modern abattoirs or slaughter facilities (Table 3 and Fig.1). 86.2% of target households thought meat handling in Ghana was unhygienic whilst 9% thought the process was good. In Ghana, slaughter facilities (Fig.2) are visited daily by people who witness how animals are slaughtered. Carcasses are loaded into open top vehicles whilst the butchers sit on them on their way to the markets. These open displays should therefore be responsible for the high negative response from the households. The 9% could be the few who were yet to be exposed to this transport chain from slaughter facility to the market. The undecided 4.8% could be households that compared the open market meat handling chain with the handling chain in the super markets. Exposed meat along the value chain become an ideal environment for microbial contamination and thereby compromising the safety of the meat. Meat wholesomeness was most important characteristic that consumers considered before meat purchase. Whilst 42% of households looked for it first, the price of the meat was considered by 30.3% of the households. Meat is held in high esteem in most communities. It has prestige value, it is often regarded as the central food around which meals are planned (FAO, 1990a), hence the price factor in considering patronage by households. 25.5% of households considered the neatness of the meat environment, sales points, and the appearance of general environmental factors. Only 2.1% of households purchased meat by its colour. Most consumers (42.6%) thought the immediate area to be tackled in the issue of improvement in the meat industry in Ghana should be Meat Inspection. In Ghana, The Veterinary Service Directorate (VSD) under the Ministry of Food and Agriculture (MoFA) is responsible for the control of meat hygiene, inspection, animal health during ante mortem and post mortem and the management of abattoirs (WHO, 2010). For these processes to be efficiently undertaken there need to be improvement in staff strength and other logistics for effective monitoring. If the problems still exist and consumers still think meat inspection must be improved, it meant not much has been done. Consumers' expectation (36.2%) that value chain operators such as butchers must be trained is relevant. Environmental issues are very important in slaughter facilities so as to prevent contamination with microbes and other parasitic agents that could cause food poisoning. Cleaning of slaughter bench tops, disinfecting knives and other instruments in the slaughtering of animals as well as clean dresses are very important in controlling bacteria and parasites. 6.9% of household consumers thought the price of meat should be made affordable. Meat is held in high esteem in most communities. Various types of meat are sometimes made the basis of festive and celebratory occasions, and from the popular as well as the scientific point of view, it is regarded as a food of high nutritive value (FAO 1990a). The price of the meat therefore is very paramount in fulfilling the family's protein requirements especially for children. 6.4%, 5.3% and 2.7% of households respectively thought livestock diseases prevention, good feed for livestock and good abattoirs be provided. All these are needed to improve meat quality.

Respondents also thought disease prevention was an integral part of the meat industry that must see an improvement as 6.4% of households responded for it. About 50% of the Ghanaian population depends on livestock keeping as a form of livelihood (MoFA-DFID, 2002). Aside poultry, cattle are one of the major sources of meat in the country. The cattle industry is however faced with several challenges key among which is health. According to Research Extension Linkage Committee (RELC) and VSD reports, bovine tuberculosis is a major constraint in livestock production especially in the Northern and Ashanti Regions, which are major cattle rearing areas in Ghana. Tuberculosis (TB) is a very important disease of cattle, caused by *Mycobacterium bovis*. It is zoonotic in nature and transmitted through the inhalation of aerosols and/ or ingestion of undercooked/raw meat or unpasteurized milk. It can also be transmitted through sputum, uterine material and faeces. In animals, tuberculosis results in emaciation, low feed conversion ratios, increased cost of production and even death. *M. bovis* also causes tuberculosis in humans and has serious public health implications. A study by Byarugaba et al., (2009) reported that *M. bovis* was responsible for 3.1% of all forms of human TB worldwide. Other important diseases of livestock that affect meat quality include anaplasmosis, Ehrlichiosis, and heart water. Good feed would provide the necessary nutrients for the development of the animals for consumption whilst good abattoirs are needed to maintain good hygiene and meat processing for distribution to markets and other value chain activities.

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.

4. CONCLUSION AND RECOMMENDATIONS

It can be deduced from the study that the respondents are clear about the meat safety issues in Ghana and want the various arms of the Government to initiate the necessary actions to check in adequacies in the meat value chain. We therefore recommend an increase vigilance and enforcement of meat inspection laws and bye-laws by both Central Government and the Local Authorities.

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Table 1. Consumers' perception of meat handling in Ghana

Perception	% Response
Good	9
Unhygienic	86.2
Undecided	4.8

Table 2. Consumers' criteria for meat purchase

Criteria	% Response
Meat wholesomeness	42
Price	30.3
Neatness of environment	25.5
Colour	2.1

Table 3. Expected improvements in the Meat Industry by Consumers

Expectation	% Response
Meat Inspection	42.6
Training of butchers	36.2
Low Price	6.9
Disease Prevention	6.4
Good feed for Animals	5.3
Good Abattoirs	2.7

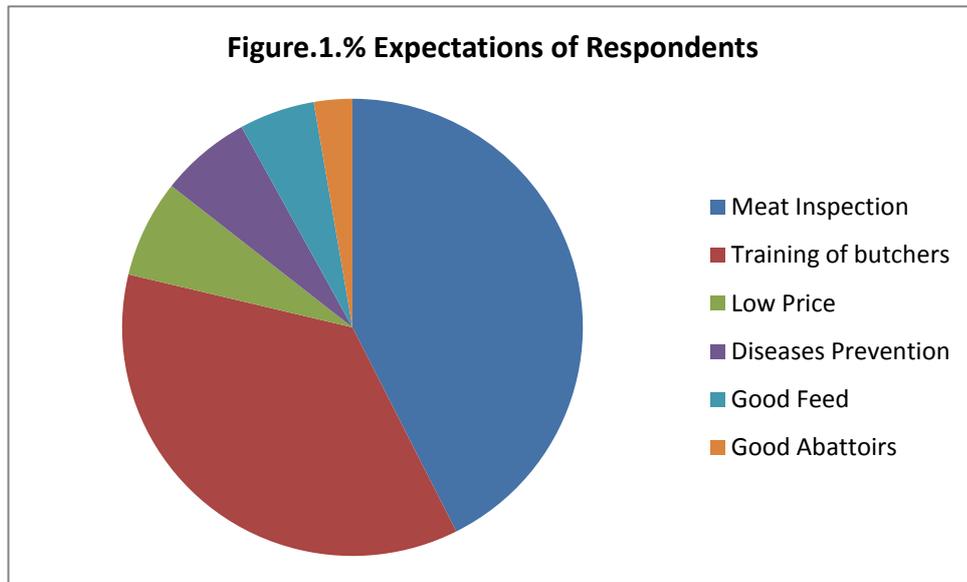


Figure.2. A typical slaughter facility in the study area.