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REGULAR ARTICLE

CONSUMER PERCEPTIONS AND PREFERENCES OF MEAT TYPES IN HARAR AND HARAMAYA TOWNS, ETHIOPIA

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ABSTRACT

A study was conducted to investigate the acceptability and preference of meat in Harar and Haramaya towns. The study was carried out from January to March, 2012. One hundred twenty (120) questionnaires were randomly distributed, completed and retrieved for analysis. The results showed that gender had no effect on livestock meat consumption. However, religious had impact on the types of meat consumption. Accordingly, pork was not consumed by both Muslim and Christian, camel meat was consumed by Muslim. Majority of consumers had prefer chicken, beef, and chevon meat as their first choice followed by mutton as compared to other meat. In addition, the study showed a high level of acceptability for the meat of middle aged than old aged. Lean and red color meat got highest acceptability by majority of the consumers than fatty and white meat. The result confirmed that religious and socio-cultural taboos as the major variables that would affect meat preference and consumption of a population in the study area. This study suggested that current preference trend of consumers were not inclusive in that some potential meat animals were hardly utilized or totally ignored from the dish. Therefore, professionals and other stakeholders should made intervention and promote widely utilization of this species to meet animal protein requirement of the community.

Keywords: Consumer acceptability, livestock meat, fish

INTRODUCTION

Meat is the most valuable livestock product and for many people serves as their first-choice source of animal protein. There are different kinds of meat depending on the source from sheep, goat, beef, pig and poultry (**Soniran and Okunbanjo, 2002**). Meat is defined as the skeletal muscle, connective tissue, fat naturally associated with the muscle and may also include all edible parts of an animal (**Jeremiah, 1978**). Meat and meat products are concentrated sources of high quality protein and their amino acid composition. They supply easily absorbed iron and assist in the absorption of zinc, and are rich sources of some of the vitamins in the B group. By providing such nutrients, meat consumption can alleviate nutritional deficiencies.

It is anticipated that demand for food of animal origin in developing countries will double by the year 2020, thereby creating markets for animal products (**Juma et al., 2005**). Moreover, **Obi (2000**) explained that global demand for meat production will increase by 58% in 2020 and the consumption of meat will increase remarkably in the same year. Growth of meat markets will depend on the consumption patterns of consumers, among other factors. Consumer meat preferences will act as the determining factor for the development of the livestock sector in the globe and in the regions to penetrate high and stiff domestic and export markets competitions. Information about consumers' meat preference is crucial to implement appropriate livestock development strategies and policies accordingly. However, there is lack of documented information in this line. Hence, the study was conducted to determine preferences, level of acceptability and limitation of meat consumption trends of consumers in the study area.

MATERIALS AND METHODS

Location of study area

The study was conducted in Harar and Haramaya towns located in east Hararghe zone. East Hararghe covers an area of about 90,620 square kilometers with an altitude ranging between 700 and 3,400 meters above sea level, and mean annual rainfall ranges between 315 and 1040 mm. (**Zonal Office of Agriculture, 1996**). Majority of the inhabitants were Muslim, with 96.51%, while 3.12% of the population were Christian (**CSA, 2007**).

Sampling and data collection

A pre tested semi-structured questionnaire was prepared for the study. The study was carried out from January to March, 2012. A total of 120 respondents, 26 females and 94 males, were selected from study area using random sampling technique **(ILCA, 1990).** Information about livestock (e.g. beef, pork, chicken, chevon, mutton, camel) and fish meat preferences, degree or pattern of choices, preferences based on age and sex of livestock, shelf life of livestock and fish meat and limitation of meat consumption trends of consumers were gathered from the respondents.

Statistical analysis

Statistical Package for the Social Sciences (**SPSS, 2003**) was used to analyse survey data using descriptive analysis such as mean, standard error, frequencies, percentages and presented using tables, bar and pie charts.

RESULTS AND DISCUSSION

Effect of gender and religion on meat consumption

A total of 120 respondents were used for data collection and out of them 94 were males and 26 females with an average age of 37.8±3.7 and 35.3±3.2, respectivelly. Among the respondents 99 of them were muslim whereas 21 Christians. Regardless of gender and religion variations all respondents were consumed meat. Accordingly, meat of all livestock and fish except pork were consumed by both gender. Moreover, almost all livestock and fish meat were consumed by both religions but pork was not consumed by both religions though camel meat was only consumed by Muslim (Table 1). Accroding to this findings, **Odo et al. (2004)** found that religious and socio-cultural taboos dictate consumption of pork.

Table 1 Effects of gender and religion on the type of livestock and fish meat preference

Gender	Eat meat		Types of meat						
	Yes	No	Chicken	Beef	Chevon	Mutton	Camel	Fish	Pork
Male	94	0	√	√	√	√	√	√	x
Female	26	0	√	√	√	√	√	√	x
Total	120	0							
Religion									
Muslim	99	0	√	√	√	√	√	√	x
Christian	21	0	√	√	√	√	x	√	x
Total	120	0							

√ = consumed; x = not consumed

Pattern of livestock and fish meat preferences

Preferences of the respondents to various livestock and fish meat are shown in table 2. Among these chicken, beef and chevon were the most preferred source of meat with 119 out of 120 respondents and closely followed by mutton with 113 respondents. However, choice revealed a rapid decline starting from camel (94), fish (16) and finally with no preference of pork (Table 2). In consistent to this study, **Akinwumi et al. (2011)** reported beef and chicken as the most preferred meat in Nigeria. However, pork also was consumed in Nigeria (**Akinwumi et al., 2011; Adetunji and Rauf, 2012).** This high degree of variation could be due to availability, cost, sensory value, income level, religion and socio cultural factors. Simmilarly, **Akinwumi et al. (2011)** indicated that cost, avaialbility and income as the most limiting factors of meat preference. For example, pork consumption was negatively influenced by religion and socio-cultural taboos (**Odo et al., 2004**).

Table 2 Ranking of livestock and fish meat

Meat	Preference	Degree of preferences				
		1st	2nd	3rd	4th	5th
Chicken	119	44 (36.7%)	24 (20.0%)	11 (9.2%)	10 (8.3%)	30 (25%)
Beef	119	32 (26.7%)	21 (17.5%)	34 (28.3%)	22 (18.3%)	10 (8.3%)
Chevon	119	23 (19.2%)	24 (20%)	29 (24.2%)	27 (22.5%)	6 (5%)
Mutton	113	13 (10.8%)	38 (31.7%)	36 (30%)	20 (16.7%)	6 (5%)
Camel	94	8 (6.7%)	13 (10.8%)	8 (6.7%)	21 (17.5%)	44 (36.7%)
Fish	16	0 (0%)	0 (0%)	1 (0.8%)	11 (9.2%)	4 (3.3%)
Pork	0	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Moreover livestock meat preferences of respondents based on job description is showed in figure 1. Accordingly, despite the variation in the number of respondents most categories of workers preferred chicken meat, beef, chevon, mutton, camel and fish in descending order. Civil servant and other business workers showed best preference on chicken, beef, chevon and mutton as the most preferred livestock meat. This could be as a result of variation in living standards of consumers and sensory value of the produt.

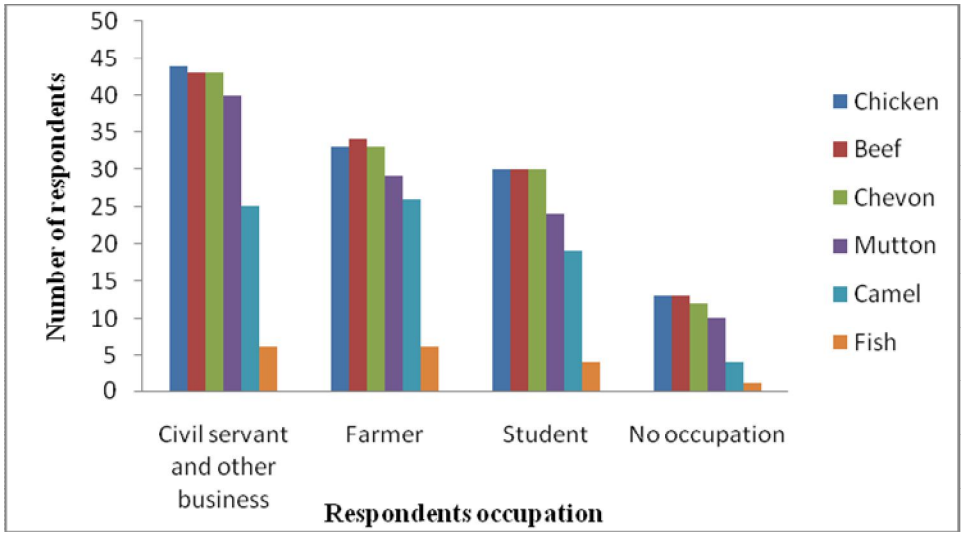

Figure 1 Consumer's meat preferences based on job category

Meat preferences based on sex and age of livestock species

Meat preferences of consumers on different sex and age of livestock species is shown in figure 2 and 3, respectively. From that reason, meat of almost all livestock were consumed by the respondents though degree of variations on number of respondents on meat produced from different sex and age classes were observed; as a result meat produced from male was highly preferred followed by female and meat from both sexes had got least preference by respondents in almost all livestock species. This could be variation of mass and sensory test of meat produced from different sexes of livestock.

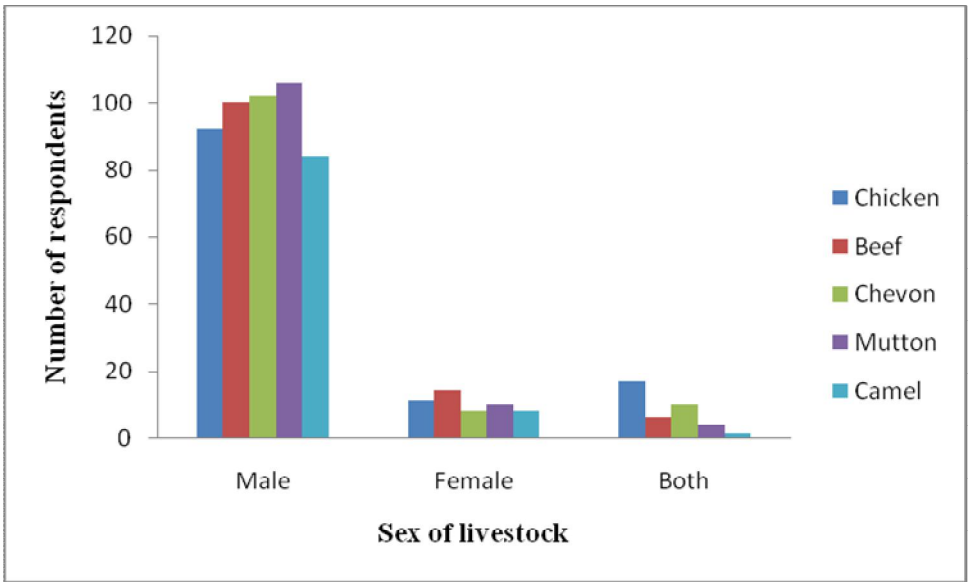

Figure 2 Meat preferences based on sex class of livestock

Large number of respondents preferred meat produced from middle age of livestock as their first choce followed by young and meat produced from old aged was least preferred (Figure 3). This could be the sensory attributes of meat produced from middle and relatively young livestock is by far better than old aged.

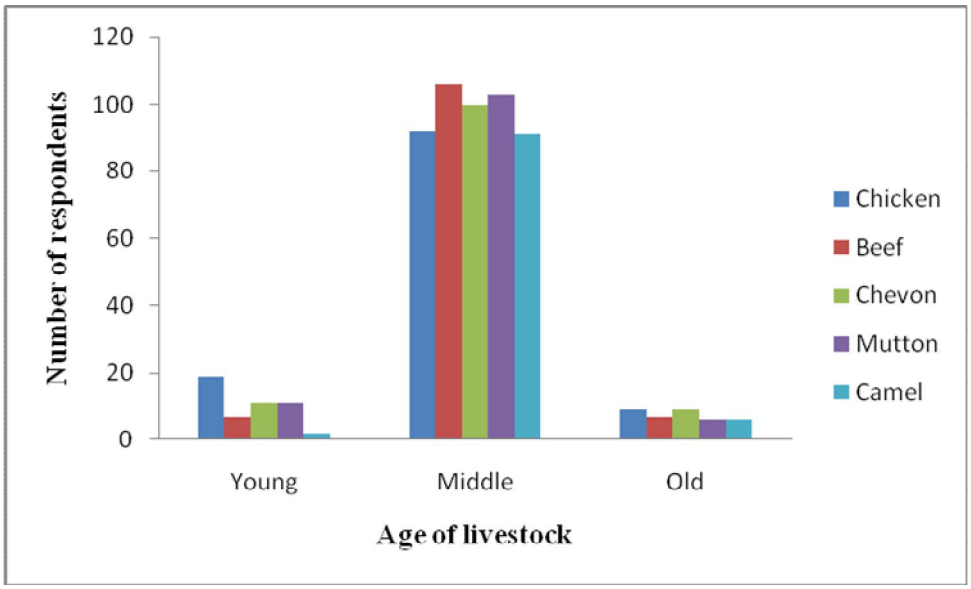

Figure 3 Meat preferences based on age class of livestock

Consumer preferences on the type and color of livestock meat

Respondents choice on the type and color of livestock meat is shown in figure 4 and Figure 5, respectively. Hence, result in pie chart showed that highest number of the respondents preferred lean followed by lean with moderate fat and fatty meat was least preferred by the consumers.

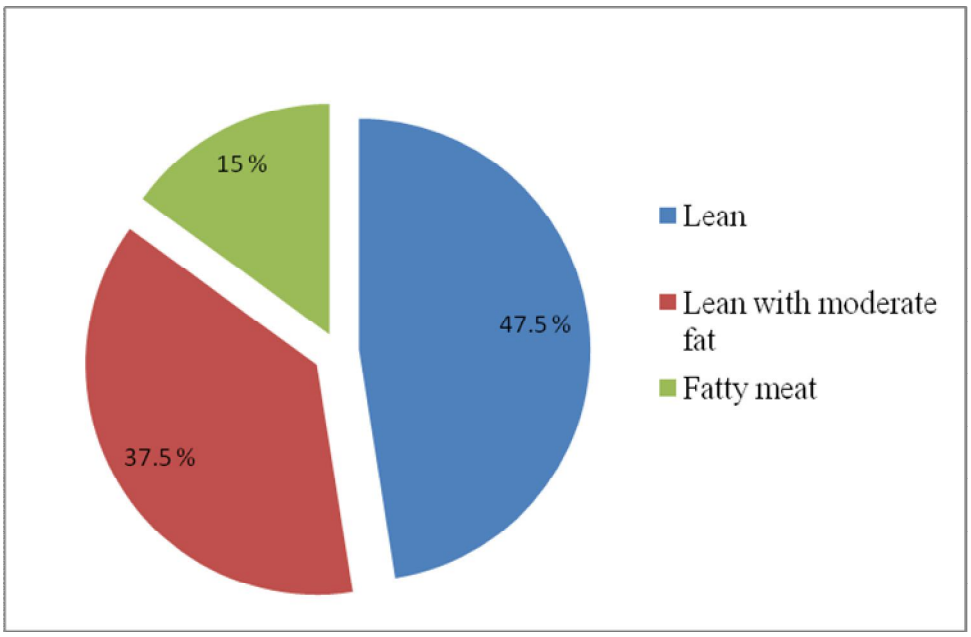

Figure 4 Consumers' choice on the type of livestock meat

Regardless of variations on proportion of respondents on the color of meat; all respondents consumed all types of color. Accordingly, consumers showed highest preference on red followed by white while least acceptance on both red and white meat were noted. This is because of consumption culture and trend of consumers in the study area. In agreement to this findings, **Williams et al. (2006)** indicated that lean red meat has a relatively low fat content, moderate in cholesterol, and is rich in protein, many essential vitamins and minerals. Moreover, red meat, regardless of feeding regimen, is nutrient dense and regarded as an important source of essential amino acids, vitamins A, B_6, B_{12}, D, E, and minerals, as iron, zinc and selenium (**Williamson et al., 2005**)

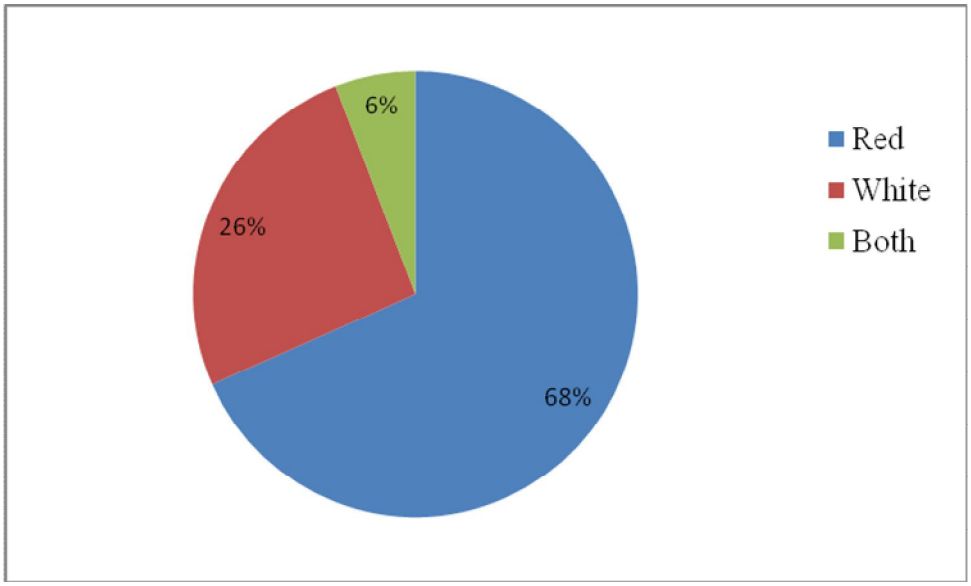

Figure 5 Consumers' choice on the color of livestock meat

Limitations of meat consumption trend of consumers

As it was mentioned above meat consumption trend of the respondents were skewed towards some livestock species. However, other potential meat producing animals were hardly utilized. This may lead to over utilization of the already existing livestock and underutilization, neglecting or ignorance of other meat animals. This is the reflection of potential constraints, listed in order of importance by the respondents in table 3. Most of respondents agreed on religious as the most limiting factor followed by socio-cultural impacts. In fact, Christians did not consume camel meat and pork and similarly pork was not consumed by Muslim (Table 1). Likewise, respondents strongly argued that as if consumed camel and pork meat they would be assumed that violated the norm and being neglected from the society. However, few respondents declared that both cost and availability had little contribution to exacerbate under or no utilization of meat animals.

Table 3 List of constraints on meat consumption trends of consumers

Constraints	Number of respondents	Percent of respondents
Religious	100	83.3
Socio cultural	14	11.7
Availability	2	1.7
Cost	4	3.3
Total	120	100

Shelf life of livestock and fish meat

Consumers reply with regard to shelf life of meat is dipicted in table 4. Most of respondents noted that meat produced from fish was easily perishable followed by chicken meat unless it is consumed immediately or preservation measures considered. In addition respondents assured that mutton had shorter shelf life and hence not usually consumed in the study area than meat of other ruminants. However, consumers revealed that meat from ruminants like beef and chevon had fewer tendencies to be perishable in short time.

Table 4 Respondents on shelf life of livestock and fish meat

Livestock meat	No of respondents	Percent
Fish	80	66.7
Poultry	20	16.6
Mutton	15	12.5
Camel	5	4.2
Goat	0	0
Cattle	0	0
Total	120	100

CONCLUSION

This study revealed that consumers showed different preference or acceptability on meat of different livestock species. Chicken, beef and chevon were the most preferred followed by mutton whereas; camel and fish meat got least acceptance and pork was not consumed in the study area.

The result showed that age, sex, types and color clearly had impact on acceptability or preference of livestock meat.

The current result concluded that religious and socio-cultural taboos as the most limiting factors in the current trend of meat preferences. Accordingly, that present trend of meat consumption was skewed towards some livestock species whereas other potential species were hardly utilized in the study area.

Therefore, any development and improvement strategies considered in the study area should embark up on the targeted species to secure meat requirement of the community.

Finally, this study recommended that professionals, policy makers and other development partners have to take measures in order to exploit the underutilized resources to solve shortage and high cost of animal protien in the region.

REFERENCES

ADETUNJI, M.O. - RAUF, M.O. 2012. Analysis of Household Demand for Meat, in Southwest, Nigeria. In *Global Journal of Science Frontier Research Agriculture and Biology*, vol. 12, no. 1, p. 15-22.

AKINWUMI, A.O. - ODUNSI, A.A. – OMOJOLA, A.B. – AWOREMI, J. R. - ADERINOLA, O.A. 2011. Consumer perception and preference for meat types in Ogbomoso area of Oyo State, Nigeria. In *International Journal of Applied Agricultural and Apicultural Research,* vol. 7, no. 1-2, p. 96-106.

CENTRAL STATISTICAL AGENCY (CSA), 2007. Ethiopia Population and Housing Census. Addis Ababa, Ethiopia: Central Statistical Agency (Ethiopia). Available at *http://www.csa.gov.et*.

ILCA. 1990. Livestock Systems Research Manual. Addis Ababa: International Livestock Center for Africa (ILCA Working Paper 1*).* *http://www.fao.org/ Wairdocs/ILRI/ x5469E/x5469E00.htm*

JEREMIAH, L.E. 1978. Review of factors affecting meat quality. In *Research Station, Lacombe Canada*, *Alberta*, Bull. no. 1.

JUMA, G.P. - DRUCKER, A.G. - BALTENWECK, I. - NGIGI, M. 2005. Consumption and willingness to pay for indigenous small ruminants' meat in Marsabit, Kenya: A paper presented in Workshop on Tuesday 27, September, 2005 at Agricultural Research Centre Egerton University, Njoro, Kenya.

OBI, C.I. 2000. Game production an alternative to beef cattle production in Southern Nigeria. In *Nigeria Academic Forum*, vol.4, p. 36- 40.

ODO, B. I. - MARIRE, B. N. - ALAKU, S. O. - AKPA, M. O. - NWOSU, D.C. - ANIKWE, M. A. 2004. Pig meat consumption in Enugu Metropolis. Proccedings of the 9th Annual Conference of Animal Science Association Nigeria 13th - 16th September. p. 211-213.

SONIRAN, O.G. - OKUBANJO, A.O. 2002. Physico- chemical and sensory characteristics of pork loin roast cooked to three internal temperatures. In *Nigeria Journal of Animal Production,* vol. 29, no. 1, p. 138- 141.

SPSS (STATISTICAL PACKAGE FOR SOCIAL SCIENCES), 2003. Application Guide. SPSS Inc.

WILLIAMSON, C.S. – FOSTER, R.K. – STANNER, S.A – BUTTRISS, J.L. 2005. Red meat in the diet. In *British Nutrition Foundation*, *Nutr. Bull. no.* 30, p. 323-355.

WILLIAMS, P.G. - DROULEZ, V - LEVY, G. - STOBAUS, T. 2006. Nutrient composition of Australian red meat. In *Gross composition, Food Australia*, vol. 58, no. 4, p. 173-181.