CONSUMER PREFERENCE FOR GOAT MEAT IN MALAYSIA: MARKET OPPORTUNITIES AND POTENTIAL

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ABSTRACT

Goat meat is somewhat unpopular among the general population of Malaysia and its per capita consumption has remained stagnant while consumption of other animal proteins has been increasing in line with growing affluence and urbanisation. This paper examines the consumer preference for goat meat through an exploratory study on consumers and food service establishments. The general objective of this study was to ascertain the market potential for the goat meat industry. The study found that while goat/sheep meat was consumed by over 72% of the respondents, the per capita consumption was very low, indicating that there is a lot of upside potential. However, in view of production constraints and the dependence on imported goat/sheep meat to meet domestic requirements, there is a need for caution on encouraging increased consumption which may lead to higher imports. Policy makers should re-examine current livestock policies and focus on meat segments which clearly have market potential domestically and internationally.

Keywords: Goat meat, consumer preference, livestock

INTRODUCTION

The livestock industry in Peninsular Malaysia comprises two major sectors; a highly commercialised pig and poultry sector, and a comparatively lagging ruminant sector. While the former has achieved domestic self-sufficiency mainly with the active participation of the private sector, the latter has been beset with several fundamental problems which have hampered efforts to meet rising local demand.

The ruminant sector is dominated by cattle for meat production which has registered steady growth largely due to the participation of government land development agencies in cattle and sheep rearing integrated with plantation crops, but has continued to lag in meeting local demand. In comparison, goat meat has mainly been neglected (Devendra, 2006).

Goat meat refers to the meat of the domestic goat (*Capra aegagrus hircus*). It is often called *Chevon* when it is from adults of five to eighteen months of age and *Cabrito* when it is from young animals. In Malaysia, the word "mutton" is often used to describe both goat

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and lamb meat, although technically the term refers only to sheep meat. As such, statistics on goat and sheep meat are often lumped together under the heading of mutton.

Poultry meat, particularly chicken, is the most important source of animal protein in the diet of the Malaysian population. Consumption of poultry meat constituted about 72% of the total meat requirements in Malaysia in 2008 compared to only 58% in 1990. Mutton consumption, meanwhile, recorded only marginal growth during the same period, contributing only 1.5% of the total meat requirements in 2008.

Although mutton production tripled from 666 tonnes in 1990 to 1958 tonnes in 2008, the domestic self-sufficiency level was only at 10% in 2008, increasing marginally from 8.8% in 1990. As a result, Malaysia has been dependent on imports to meet the shortfall in domestic production. In 2003, Malaysia imported 10,707 tonnes of mutton valued at RM89 million. By 2007, the import had risen to 16,303 tonnes valued at RM160 million. There is a high likelihood that the import bill on mutton will continue to rise as a result of increasing population and growing affluence.

Goat meat with its strong, gamey flavour, is believed to be favoured by certain ethnic groups in Malaysia, and is somewhat unpopular among the general populace due to the widely-held misconception that the meat is high in cholesterol and saturated fats. This generally negative perception may be part of the reason for the per capita consumption of mutton remaining stagnant at below 1 kg per annum over the last two decades. Beef per capita consumption, meanwhile, recorded an increase of 79%, while poultry meat increased by 83% during the same period.

Goat meat prices at farm level have more than doubled since 1997, increasing from an average of RM7.13 to RM15.17 per kilogram by 2008 (FAMA, Various Issues). Wholesale prices have likewise increased from an average of RM11.92 in 1997 to RM23.30 in 2008. However, retail price increases were somewhat lower, rising 74% from RM15.08 to RM26.20. Marketing margins have improved significantly from RM7.95 per kilogram in 1997 to RM11.03 in 2008. Goat meat is relatively expensive at current levels when compared to chicken which averaged RM6.69 and beef at RM18.67 in 2008.

Increased population growth accompanied by urbanisation and increasing affluence is likely to increase the demand for high quality animal proteins in Malaysia. This increased demand presents opportunities for entrepreneurs to venture into animal production. In this respect, goat meat could be a nutritious alternative to other red meat consumption, and its suitability as an additional income source to small farmers should be explored further.

The goat meat industry in Malaysia has been lagging behind the other meat sub-sectors and the gap between production and consumption has been growing wider. In order to provide policy directions for the goat meat industry, it is pertinent to gather additional information on the factors that influence consumption as well as examine the consumer preference and perceptions towards goat meat. This information will be useful to derive some indications on the market potential for goat meat.

This paper examines the consumer preference for goat meat through an exploratory study which was carried out by the Federal Agricultural Marketing Authority (FAMA) in November 2008. The general objective of the study was to ascertain the market potential for goat meat. The specific objectives were to ascertain consumer acceptance towards goat meat and to determine the factors influencing consumer acceptance of goat meat.

LITERATURE REVIEW

There has been a sharp increase in the demand for animal-based protein sources in Malaysia, particularly in the last three decades, as evidenced by rising per capita consumption for the major meat types (Bisant, 2006). This increase has been attributed to rapid economic and population growth with the resultant effects of urbanisation, income growth and changing consumer preferences fuelling a strong demand for animal proteins (Devendra, 2006). The total population of Malaysia increased at an average annual rate of 2.5% over the last three decades from 13.9 million in 1980 to 27.7 million in 2008 (Department of Statistics, 2008). Meanwhile, average incomes in nominal terms increased 7.4% and real incomes increased 3.5% over the corresponding period (Ministry of Finance, Various Issues).

Animal food sources provide high quality proteins and micro-nutrients such as calcium, Vitamin A and iron (Devendra, 2006). Currently, much of this requirement is being met by the major advances made in the non-ruminant sector, while the ruminant sector has performed rather dismally.

Empirical research on goat meat consumption preferences in Malaysia has not received much attention previously. Several studies have concentrated on the aggregate demand for meat in Malaysia (Nik Mustapha et al., 2000; Ishida et al., 2003) and the the demand for beef (Tey et al., 2008). Generally, goat meat is favoured by certain ethnic groups in Malaysia but its image has been somewhat marred by public perception linking it to high saturated fat and cholesterol (FAMA, 2009).

Globally, there is increasing interest in goat-meat production for agricultural diversification and meeting the requirements for healthier meat by health-conscious respondents (McLean-Meyinsse, 2003). The world market potential for fresh goat meat, mutton and lamb was estimated at US$5.9 billion in 2006 and was expected to increase to US$7.2 billion by 2011 (Parker, 2005). Market potential for Malaysia was estimated at US$31.7 million in 2006 and was expected to rise to US$42.66 million in 2011. Goat meat consumption in the U.S., the world's biggest import market, has increased dramatically in the last few decades, influenced by the influx of ethnic populations and growing awareness of the nutritional attributes of goat meat (Knight et al., 2006). Goat meat has been documented to be lower in total and saturated fat than beef, pork, lamb and chicken (Luginbuhl, 2000; USDA, 2002) and therefore, may prove to be a healthy alternative to other red meats.

Asia has the largest population of goats with 55% of world goat population, mostly in India (35.2%), China (29.3%) and Pakistan (12%) (Devendra, 2006). China has the highest consumption of goat meat, followed by India and Pakistan (Food and Agriculture Organisation, 2009). However, per capita consumption was at 2 kilogram per annum compared to 52 kilogram per annum for Mongolia which has the highest per capita consumption in the world. Consumer preferences for goat meat are mainly influenced by cultural preferences and the socio-economic status of the population (Casey, 1992). Although there are no religious taboos attached to goat meat as compared to beef or pork, goat meat has a low profile and there are few studies either at the regional level or at the international level on goat meat (Casey, 1992).

METHODOLOGY

A field survey on the consumption of goat/sheep meat was carried out by FAMA in November 2008. This field survey was divided into two phases. The first phase involved a survey at consumer level covering four states, i.e., the Federal Territory of Kuala Lumpur, Kelantan, Penang and Johor. The second phase consisted of a survey on food service establishments which was carried out in all fourteen states in Malaysia.

There were a total of 634 respondents at the consumer level. The convenience sampling method was used to select respondents for the consumer level consisting of shoppers at hypermarkets and farmers' markets as well as students at public institutions of higher learning. For the institutional consumption survey, a total of 322 food and beverage managers at food service establishments, comprising food caterers, restaurants, hotels and resorts, was interviewed. The stratified sampling method was utilised for sample selection at this level.

Separate sets of pre-designed questionnaires were utilised for each level and FAMA enumerators were enlisted for face-to-face interviews with the respondents.

FINDINGS AND DISCUSSION

Consumer Demand

Profile of Respondents

The demographic and socioeconomic profile of respondents for the consumer survey is shown in Table 1. The data indicates that the majority of respondents (88.16%) were Malays, followed by Indians (5.99%) and Chinese (5.36%). There was a slightly higher number of males (50.79%) compared to females (49.21%). In terms of age distribution, the biggest group (45.27%) was in the 19 to 36 years age group. Most of the respondents (44.01%) had a monthly income in the RM1001 to RM3000 income bracket.

Table 1: Respondents' Demographic and Socioeconomic Profile

Variables	Description	Number	Percent
Zones	East	163	25.71
	North	150	23.66
	South	157	24.76
	Central	164	25.87
Ethnic Group	Malay	559	88.17
	Chinese	34	5.36
	Indian	38	5.99
	Others	3	0.47
Gender	Male	322	50.79
	Female	312	49.21
Age	< 18 years	23	3.63
	19-36 years	287	45.27
	37-49 years	167	26.34
	50-62 years	125	19.72
	>62 years	32	5.05
Monthly Income	< RM1000	170	26.81
	RM1001-RM3000	279	44.01
	RM3001-RM5000	109	17.19
	> RM5000	26	4.10
	No Income	50	7.89
Employment	Government	115	18.14
	Private	230	36.28
	Homemaker	100	15.77
	Self-employed	120	18.93
	Student	69	10.88

Consumption Patterns

The study found that only 72% or 459 respondents out of the total number of 634 respondents had previous experience in consuming goat/sheep meat. Thus, the rest of this study only reports on the responses from 459 respondents.

Although a majority of consumers had experience in consuming goat/sheep meat, the frequency of consumption was quite low with less than 1% of respondents reporting that they included goat/sheep meat in their daily diet while only 4% of respondents ate goat/sheep meat at least three to four times a week. The majority of respondents fell into the group who consumed goat/sheep meat only once in a month (Table 2).

Table 2: Frequency of Consumption of Goat/Sheep Meat

Frequency	Number of Respondents	Percentage
Once in a month	130	28.32
Once in 2 months	58	12.64
Once in 6 months	53	11.55
Once in a year	53	11.55
Once in 2 weeks	43	9.37
Once in a week	40	8.71
3-4 times a week	19	4.14
Everyday	4	0.87
Others	59	12.85
Total	459	100.00

Purchasing Patterns

Although a majority of respondents (72% or 459 respondents) had previous experience in eating goat/sheep meat, only 46% or 291 respondents reported actually purchasing goat/sheep meat. This was because there were respondents who consumed goat/sheep meat only at away from home locations.

In terms of the categories of meat purchased, the majority of respondents who purchased goat/sheep meat, i.e. 89%, had purchased fresh meat while 8.6% reported having purchased live animals for slaughter (Table 3).

Table 3: Consumer Purchase of Goat/Sheep Meat by Category

Type of Goat/Sheep Meat	Number of Respondents	Percentage
Fresh meat	259	89.00
Instant meat (canned)	1	0.34
Ready-cooked meat	3	1.03
Frozen meat	3	1.03
Live goats	25	8.59
Total	291	100.00

In terms of purchase frequency, it was found that the highest frequency was once a month, with almost a third of respondents falling into this category (Table 4). Less than 2% made purchases three to four times a week and only 6% made purchases every week. These findings underline the fact that goat/sheep meat is not a routine part of the diet in most Malaysian meals.

The major outlets for goat/sheep meat purchase was wet markets, followed by supermarkets and wholesale markets (Table 5).

Table 4: Frequency of Purchase of Goat/Sheep Meat

Frequency	Number of Respondents	Percentage
Once in a month	91	31.27
Once in 2 months	40	13.75
Once in a year	34	11.68
Once in 6 months	33	11.34
Once in 2 weeks	27	9.28
Once in a week	18	6.19
3-4 times a week	5	1.72
Daily	1	0.34
Others	42	14.43
Total	291	100.00

Table 5: Sources of Purchase of Goat/Sheep Meat

Sources	Number of Respondents	Percentage
Wet markets	126	43.30
Hypermarkets	45	15.46
Farmers	39	13.40
Wholesale Markets	42	14.43
Mini Markets	27	9.28
Others	12	4.12
Total	291	100.00

Away from Home Consumption

Away from home consumption appeared to be the norm among respondents with more than 80% or 372 respondents reporting that they consumed goat/sheep meat out-of-home. The popular away from home locations included celebrations, restaurants and hotels (Table 6).

Table 6: Location of Away From Home Consumption

Locations	Number	Percentage
Celebrations	153	41.13
Restaurants	144	38.71
Ceremonies	68	18.28
Hotels	7	1.88
Total	372	100.00

Consumer Perception

Among the major factors cited as reasons hindering the consumption of goat/sheep meat was the strong, gamey smell and health reasons. More than 26% of respondents stated that goat/sheep meat had an unpleasant smell while a similar percentage held the belief that goat/sheep meat was detrimental to health (Table 7).

Table 7: Consumers' Perception Hindering the Consumption of Goat/Sheep Meat

Factors	Number of Respondents	Percentage
Unpleasant Smell	46	26.29
Health Reasons	45	25.71
Culture	39	22.29
Taste	19	10.86
Vegetarian	10	5.71
Expensive Price	4	2.29
Others	12	6.86
Total	175	100.00

More than half of the total number of respondents interviewed believed that consuming goat/sheep meat contributed to high blood pressure (Table 8). Consumption of goat/sheep meat was also related to headaches and incidence of strokes while a significant number also believed that goat/sheep meat had high saturated fats and cholesterol compared to other types of meat.

Table 8: Consumer Perception Towards Goat/Sheep Meat

Health Factors Associated with Goat/Sheep Meat	Number of Respondents	Percentage
High Blood Pressure	340	53.62
Strokes	310	48.90
Headaches	264	41.64
High Saturated Fats and Cholesterol	278	43.85

Consumer Awareness on Chevon Meat

The majority of respondents lacked knowledge on *Chevon* meat as seen from the fact that 85% of the respondents stated that they had never heard of *Chevon* meat. This may be due to the fact that the term 'mutton' is generally used to denote both local and imported goat/sheep meat.

Preference for Local versus Imported Meat

In terms of choice of local meat over imported meat, there was a clear preference for local goat meat with almost 77% of respondents reporting that they normally purchased local goat meat while 18% purchased imported goat/sheep meat. About 5% purchased both imported and local meat. The major meat attributes influencing the demand for local goat/sheep meat was the freshness of the meat and better taste compared to imported meat.

Thus, it may be inferred that respondents clearly have a preference for local goat/sheep meat over imported goat/sheep meat. However, local production has not been able to keep pace with rising consumption, and as a result Malaysia continues to depend on imported goat/sheep meat to meet the shortfall in production (Table 9). Local production currently meets only 10% of domestic requirements and the gap between consumption and production continues to widen. Imports have been increasing in tandem with the growing consumption, rising 25.3% from 14,327 tonnes in 2000 to 17,953 tonnes in 2008 for frozen mutton. The numbers of live goats/sheep imported during the same period increased 114.7% from 55,591 to 119,339.

Table 9: Goat/Sheep Production, Consumption and Import Trends, Malaysia, 2000-2008

Year	Production (Tonnes)	Consumption (Tonnes)	Imports (Live Goats) (Numbers)	Imports (Frozen Mutton) (Tonnes)
2000	888	13,889	55,591	14,327
2001	938	15,798	46,534	15,201
2002	1,130	14,674	58,158	14,162
2003	1,302	12,573	61,152	11,692
2004	1,320	15,072	60,515	16,127
2005	1,460	16,973	61,752	13,854
2006	1,600	17,800	133,335	16,086
2007	1,780	18,601	126,406	17,740
2008	1,958	19,511	119,339	17,953

Source: Ministry of Agriculture, Import and Export Statistics Database

The preference for local goat meat is strong in spite of the fact that the prices of local goat meat are considerably higher compared to imported goat/sheep meat (Table 10). During the 2000-2008 period, prices of local goat meat at wholesale level were on average 43-51% higher while retail prices were 36-56% higher than imported sheep meat.

Table 10: Average Annual Prices of Local and Imported Goat/Sheep Meat, 1998-2008 (RM/kg)

Year	Average Wholesale Prices			Average Retail Prices		
	Local Goat Meat	Imported Sheep Meat	Difference (%)	Local Goat Meat	Imported Sheep Meat	Difference (%)
2000	15.49	8.15	47.4	17.93	10.17	43.3
2001	16.00	8.05	49.7	18.34	10.44	43.1
2002	15.77	7.85	50.2	18.45	10.50	43.1
2003	16.77	8.20	51.1	18.77	8.20	56.3
2004	16.49	9.36	43.2	20.03	12.53	37.4
2005	18.84	10.57	43.9	22.04	13.96	36.7
2006	20.52	10.73	47.7	23.43	14.41	38.5
2007	22.13	11.80	46.7	25.26	14.70	41.8
2008	23.30	11.90	48.9	26.20	14.87	43.2

Source: Department of Veterinary Services, online http://www.dvs.gov.my and FAMA, Warta Barangan (Various Issues).

Ethnic Composition of Demand

The survey found that there was a higher likelihood of goat/sheep consumption among Indians, i.e. almost 79% of Indians reported having consumed goat/sheep meat, compared to 72% among Malays and 62% among Chinese (Table 11).

Table 11: Breakdown of Consumption of Goat/Sheep Meat Based on Ethnic Groups

Ethnic Group	Number of Respondents	Respondents Consuming Goat/Sheep Meat	
		Number	Percentage of Own Group
Malay	559	407	72.81
Chinese	34	21	61.76
Indian	38	30	78.95
Others	3	1	33.33
Total	634	459	72.40

Analysis of Consumption and Purchases

In terms of regional distribution of consumption, it was found that the southern region had the highest percentage of goat/sheep consumers (27.67% of the total number of consuming respondents) (Table 12). Likewise, the highest goat/sheep meat purchasers were from the southern region (33.68% of the total number of purchasing respondents). A breakdown by ethnic groups shows that the Malays were, by a wide margin, the largest group of consumers and purchasers at 88.67% and 87.62% of the total, respectively. Males were more likely than females to both consume (56.43%) and purchase (59.10%) goat/sheep meat.

Table 12: Factors Influencing Consumption and Purchases of Goat/Sheep Meat

Variables	Breakdown by Groups	Total Number	Eat Goat Meat		Buy Goat Meat	
			Number	Percent of Total	Number	Percent of Total
Zones	East	163	108	23.53	72	24.74
	North	150	102	22.22	50	17.18
	South	157	127	27.67	98	33.68
	Central	164	122	26.58	71	24.40
	Total	634	459	100.00	291	100.00
Ethnicity	Malay	559	407	88.67	255	87.62
	Chinese	34	21	4.58	7	2.42
	Indians	38	30	6.54	28	9.62
	Others	3	1	0.22	1	0.34
	Total	634	459	10.00	291	100.00

Table 12 (Continued)

Variables	Breakdown by Groups	Total Number	Eat Goat Meat		Buy Goat Meat	
			Number	Percent of Total	Number	Percent of Total
Age	< 18 years	23	16	3.49	5	1.72
	37-49 years	167	130	28.32	79	27.15
	50-62 years	125	86	18.74	67	23.02
	>62 years	32	26	5.66	17	5.84
	Total	634	459	100.00	291	100.00
Gender	Male	322	259	56.43	172	59.10
	Female	312	200	43.57	119	40.90
	Total	634	459	100.00	291	100.00
Income	< RM1000	170	115	25.05	70	24.05
	RM1001-RM3000	279	203	44.23	130	44.67
	RM3001-RM5000	109	89	19.39	60	20.62
	> RM5000	26	22	4.79	14	4.81
	No Income	50	30	6.54	17	5.85
	Total	634	459	100.00	291	100.00

The study indicates that age has a significant influence on consumption. The major consumers and purchasers were in the 19 to 36 years' age group (43.49% and 42.27%, respectively) while the smallest group was in the below 18 years' category (3.49% and 1.72%, respectively). Both consumption and purchases dropped significantly in line with increasing age as indicated by the declining percentage in the older age groups of over 36 years.

An analysis of the income distribution of respondents shows that the biggest group of consumers (44.23%) and purchasers (44.67%) was from the RM1001 to RM3000 monthly income group which can be categorised as the lower middle income group. This was followed by the lower income group of below RM1000 per month, accounting for 25.05% of consumers and 24.05% of purchasers. Consumption fell off sharply for the income group of above RM3000 monthly. This phenomenon is surprising, taking into account the fact that goat/sheep meat is considered an expensive meat in Malaysia.

Institutional Demand

Profile of Institutional Respondents

For the study on institutional buyers, a total of 322 respondents in the food service sector was interviewed. The respondents from this group were food and beverage managers. It was found that 302 establishments or 93.8% of respondents included goat/sheep meat as part of their menu regularly. The breakdown by establishments shows that all hotels, except one, served goat/sheep meat regularly while among restaurants, only a small number did not serve goat/sheep meat (Table 13). This shows that food service establishments do consider goat/sheep meat as an important part of the menu. The majority of establishments, i.e. 162 (53.64%), served goat/sheep meat every day.

Table 13: Breakdown of Demand for Goat/Sheep Meat by Types of Establishments

Establishment	Number of Respondents	Respondents Serving Goat/Sheep Meat	
		Number	Percentage of Own Group
Hotels	68	67	98.53
Restaurants	139	134	96.40
Resorts	55	51	92.72
Caterers	60	50	83.33
Total	322	302	93.79

Although the majority of food service establishments served goat/sheep daily, the average monthly consumption is rather low (Table 14). Of the number which serve goat/sheep meat, about half use less than 50 kg monthly. It thus appears that food service establishments offer goat/sheep meat as a choice to respondents but it is not significant in terms of quantity.

Table 14 : Total Institutional Consumption of Goat/Sheep Meat Per Month

Consumption	Number of Institutions	Percentage
<50 kg	151	46.89
50-100 kg	75	23.29
101-200 kg	36	11.18
201-400 kg	29	9.01
401-500 kg	5	1.55
>500 kg	4	1.24
Not Stated	2	0.62

Preference for Local vs Imported Meat

In terms of preference, about two-thirds of the food service institutions use imported goat/sheep meat. Only 20% use local meat, while the remainder use both local and imported meat. The major factors cited for the choice was cheaper prices and ease of availability.

Sources of Purchase

About two-thirds of food service institutions obtain their supplies directly from wholesalers while 20% source for supplies from wet markets and 5% directly from importers. In terms of breakdown by type of establishment, it was found that all four categories of institutions mainly source for supplies from wholesalers (Table 15).

Table 15: Sources of Purchase of Goat/Sheep Meat by Food Service Institutions (Percent)

Sources	Caterers	Hotels	Resorts	Restaurants
Wet Markets	26	2.99	7.84	30.6
Importers	4	8.99	11.76	2.24
Wholesalers	58	86.57	76.47	58.2
Mini Markets	-	1.49		0.75
Hypermarkets	6		3.92	6.72
Others	6			1.49
Total	100	100	100	100

Knowledge on Chevon Meat

The majority of institutions, i.e. 85%, had no prior knowledge about *Chevon* meat. It was something new to them since it was not available in their usual places of purchase.

Factors Influencing Demand

Most of the food service establishments surveyed indicated that the major reason influencing decisions to serve goat/sheep meat on the menu was to offer choices to their customers (Table 16). This was the overriding consideration of 42% of catering services, 76.12% of hotels, 66.67% of resorts and 43.28% of restaurants. In the case of restaurants, 34.33% also reported that goat/sheep meat was on the main menu that was served.

Table 16: Reasons Influencing Decision to Serve Goat/Sheep Meat by Food Service Institutions

Reasons	Catering Services		Hotels		Resorts		Restaurants		Total
	No.	%	No.	%	No.	%	No.	%	No.
Offer choices to customers	21	42	51	76.12	34	66.67	58	43.28	164
Main menu served	2	4	3	4.48	3	5.88	46	34.33	54
High demand	6	12	6	8.96	4	7.84	19	14.18	35
Attract customers	4	8	4	5.97	3	5.88	8	5.97	19
Other reasons	17	34	3	4.48	7	13.73	3	2.24	30
Total	50	100	67	100	51	100	134	100	302

CONCLUSIONS AND RECOMMENDATIONS

This study found that goat/sheep meat was consumed by over 72% of consumer respondents although the quantity and frequency of consumption was low. The majority of those who consumed goat/sheep meat only did so once in a month and away from home consumption appeared to be popular among the respondents. Among the major factors given by respondents for the low consumption of goat/sheep meat were the strong, gamey smell, and the belief that goat/sheep meat was detrimental to health.

Among food service establishments, it was found that 93.8% of respondents included goat/sheep meat as part of their menu regularly. Food service establishments, therefore, considered goat/sheep meat as an important item on the daily menu.

There is thus possibly a lot of upside potential for increasing goat meat consumption in Malaysia based on the above findings. This is reinforced by the fact that there is a clear preference for local goat meat over imported meat although local goat meat is much more expensive compared to imported sheep meat.

In order to increase consumption, some pre-conceived notions of consumers about the detrimental effects on health have to be overcome. This requires consumer education about the choice of *Chevon* meat as a healthier alternative of animal proteins. Recent findings on *Chevon* meat by authorities such as the USDA should be highlighted in market information dissemination so that respondents are able to look at goat/sheep meat in a more favourable manner.

However, unless domestic meat production can keep pace with the likely increased consumer demand, the country will continue to depend on imports to satisfy the growing demand for goat/sheep meat. Goat meat clearly has market potential domestically and policy makers need to reexamine current livestock policies. Towards this end, further research is needed on the economic viability of increasing goat meat production and strategies for improving the marketing of goat/sheep meat.

In view of the present constraints in the ruminant sector, it is likely that the opportunities for expanding and developing the goat meat market are at best limited. In the near term, it is unlikely that goat meat will become as widely accepted by Malaysian respondents as chicken or beef, but it is worthwhile exploring the potential further.

This study has several limitations. Firstly, there were weaknesses in terms of data availability since the term mutton is used to denote both goat meat and sheep meat in the domestic market and the study was not able to isolate the consumption of goat meat alone. Secondly, since the convenience sampling method was utilised, the results may not be applicable to generalisations for the population.

These limitations notwithstanding, the findings of this study provide useful insights on consumer preferences for goat meat in Malaysia which could assist in deriving policies for the industry.

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