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# END MARKET ANALYSIS OF ETHIOPIAN LIVESTOCK AND MEAT

**A DESK STUDY**

**microREPORT #164**

**MAY 2010**

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## **DISCLAIMER**

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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# ACRONYMS

|         |   |
|---------|---|
| APEDA   | Agricultural and Processed Food Products Export Development Authority |
| BSE     | Bovine Spongiform Encephalopathy (Mad Cow Disease)                    |
| CAD     | Cash Against Document   |
| CBPP    | Contagious Bovine Pleuropneumonia                                     |
| CCPP    | Contagious Caprine Pleuropneumonia                                    |
| EMBRAPA | Brazilian Agricultural Research Corporation                           |
| ETB     | Ethiopian birr  |
| FAO     | Food and Agriculture Organization                                     |
| FAS     | Foreign Agricultural Service  |
| FMD     | Foot and Mouth Disease  |
| GCC     | Gulf Cooperation Council  |
| GFDRE   | Government of the Federal Democratic Republic of Ethiopia             |
| HACCP   | Hazards Analysis and Critical Control Point                           |
| KSA     | Kingdom of Saudi Arabia   |
| LC      | Letter of Credit  |
| LMA     | Livestock Marketing Authority   |
| MLA     | Meat and Livestock Australia  |
| MOARD   | Ministry of Agriculture and Rural Development                         |
| MT      | Metric Ton  |
| OIE     | World Animal Health Organization                                      |
| RVF     | Rift Valley Fever   |
| SPS     | Sanitary and Phytosanitary  |
| SPS-LMM | Sanitary and Phytosanitary Livestock and Meat Marketing               |
| TAES    | Texas Agricultural Experiment Station                                 |
| UAE     | United Arab Emirates  |
| USD     | United States Dollar  |
| USDA    | United States Department of Agriculture                               |

# AUTHOR'S NOTE

This end market analysis of Ethiopian livestock and meat was originally intended to include on-the-ground interviews and other primary research. However, as significant recent data was available in trade mission reports, industry websites, trade databases and various studies, it was agreed that an initial end market study be drafted as a desk study, using the available data from secondary sources. The present document is the result of that study. The author made efforts to consult a variety of sources, obtain the most relevant and up-to-date information, and corroborate the findings of this paper with informants on the ground. Trade mission reports and other useful documents from the Sanitary and Phytosanitary-Livestock and Meat Marketing (SPS-LMM) Program and data from FAOSTAT and UN-COMTRADE proved particularly useful, together with reports and studies from a variety of sources. The absolute reliability of every figure reported in these trade databases cannot be verified; nevertheless, in the absence of a thorough market monitoring system, it provides the most useful comparative overview of trade data that is currently available.

There are, however, inevitable gaps in data, as information on certain recent developments in the livestock sector (for instance, the impact of the opening of quarantine stations in the Somali ports of Berbera and Bosasso) were not available to the author at the time of writing. Due to these gaps, some of the standard elements of the USAID Value Chain End Market Toolkit ([http://www.microlinks.org/ev\\_en.php?ID=39116\\_201&ID2=DO\\_TOPIC](http://www.microlinks.org/ev_en.php?ID=39116_201&ID2=DO_TOPIC)), such as the Boston Matrix, were not included. The author's recommendations for further analysis can be found at the end of this report.

It should also be noted that FAOSTAT was used for import data reported in Chapter 3, while UN-COMTRADE was used for export data reported in Chapter 4. This is simply due to the fact that the author used the FAOSTAT database at the beginning of the study, as this source seemed more common in studies and reports. It later became apparent that UN-COMTRADE had more detailed data (e.g. boneless meat vs. carcasses and bone-in cuts, etc.), and the author therefore switched to UN-COMTRADE in order to include a more detailed analysis in Chapter 4.

Finally, and most importantly, the author is grateful to the knowledgeable individuals who reviewed the report and provided invaluable comments and insights, including Hank Fitzhugh and Belachew Hurrissa (TAES/SPS-LMM), Yacob Aklilu (Tufts University), Mohamed Abdinoor (USAID/Ethiopia) and Jim Yazman (USAID/EGAT). Their feedback was extremely helpful in updating and deepening the author's knowledge of the Ethiopian livestock sector. This end market analysis is far stronger for their input.

- Elisabeth Farmer, consultant for ACDI/VOCA

# EXECUTIVE SUMMARY

Ethiopia has some important comparative advantages in the Middle Eastern livestock and meat markets. The meat characteristics of Ethiopia's lowland breeds—particularly Boran bulls and Somali Blackhead sheep—are prized by consumers. Geographical proximity to Egypt and the Gulf makes both live animal exports and chilled meat exports possible. Live animal exports are high, as an estimated 1.6 million livestock<sup>1</sup> are exported from the country annually—although the vast majority of these (approximately 1.4 million) pass through informal channels. These livestock exports have suffered from repeated trade bans due to importing countries' concerns over transboundary diseases. Yet the solution to these bans—quarantine stations in Djibouti and now in other port cities as well—has proved to have its own drawbacks, with high costs and concerns over growing foreign influence within the Ethiopian livestock trade.

In order to overcome these challenges and increase in-country value addition, the Ethiopian Government is committed to supporting meat exports. Yet such exports remain small in volume, constrained by inefficiencies in purchasing, poor animal handling and inadequate facilities at the abattoir and export level. These factors all contribute to low meat quality and unreliable supply—which are the major complaints of Gulf importers regarding Ethiopian meat.

In addition to these internal challenges, Ethiopian livestock and meat exporters face stiff competition from Brazil, India, Pakistan, Australia and New Zealand. Brazilian beef is price competitive as a result of low production costs, while India has a ready-made market, catering primarily to the large non-resident Indian population in the Gulf for its beef (buffalo meat) exports. Australia, which exports primarily sheep meat to the Middle East, has an aggressive marketing campaign through its regional marketing office and targets the higher end of the market. Faced with such competitors, Ethiopian meat exporters find it difficult to compete on price or quality.

This document analyzes the context, channels, customers and competitors for Ethiopian live animals and meat. Based on these four factors, an initial shaded grid analysis on potential markets shows the UAE, Saudi Arabia, Yemen and Egypt as the most promising target markets for Ethiopian livestock and meat. However, this analysis is only the first step, and must be followed by additional on-the-ground research in order for definitive conclusions and recommendations to be made on how to best increase the competitiveness of the Ethiopian livestock sector.

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<sup>1</sup> Author's computation based on data from Yacob Aklilu and Catley (formal export of 200,000 head of livestock) and Mohammad Jabbar et al (informal export of 328,000 head of cattle and 1.1 million sheep and goats).

# I. CONTEXT

## A. POLICIES

### 1. POLICIES SUPPORTING LIVESTOCK DEVELOPMENT AND PARTICULARLY MEAT EXPORTS

The Government of the Federal Democratic Republic of Ethiopia (GFDRE) recognizes livestock as one of the country's key economic resources. The government's policy aims to increase in-country value addition by encouraging meat exports over live animal exports.

In January 2010, the Ministry of Agriculture and Rural Development (MOARD) launched a request for Expressions of Interest (EOI) for the completion of the Livestock Development Master Plan. This plan—initiated in 2004 but stalled at the baseline phase after the second phase was rejected—was originally intended to support meat production for both the domestic and export markets and encompass technology packages for meat production, the establishment of disease-free zones and a standardized sanitary and phytosanitary (SPS) system. The development of these plans has proven difficult, yet government targets for exports remain ambitious. The GFDRE's current aim is to increase meat exports from 8,000 MT to 30,000 MT<sup>2</sup> per year<sup>3</sup>, which—given the low dressing rate of sheep and goats—will require a significant increase in beef exports. Indeed, beef is expected to account for two-thirds of the overall exports.

### 2. EXPORT PROCEDURES AND CURRENCY REGULATIONS

Exporting cattle legally requires multiple steps. First, an export license must be obtained, which is a relatively simple process. The export process itself, however, is more lengthy and complex. The exporter must hire a transitor company to handle the bureaucratic customs clearance process. To meet the required currency regulations, the exporter must then obtain a letter of credit (LC) or cash against document (CAD), or deposit an advance payment in a bank. In the advance payment system, which is operational in the legal cross-border trade with Sudan as well as export to Somaliland, the exporter must deposit \$500 (in Metema for export to Sudan) or \$420 (in Togwajale for export to Somaliland)<sup>4</sup> per head of cattle—thereby ensuring that the government earns foreign currency—in order to obtain a bank permit. The bank gives the exporter the Ethiopian birr equivalent. In order to obtain the required dollars, exporters buy them in cross-border markets (for example, in the Sudanese market) or in the domestic black market. The CAD system is also difficult, requiring a higher level of working capital than most exporters have. These requirements—much like the policy supporting meat exports—are a direct consequence of the GFDRE's need for hard currency and contribute to a high rate of informal exports from Ethiopia, as described later in this report.

Finally, the exporter must obtain a health certificate from a quarantine service station, following a minimum of 30 days of quarantine during which the exporter is responsible for all feed and watering expenses.<sup>5</sup> In the past, traders were required to visit “at least 12 different offices and institutions” and pay fees at each office in order to process their export documents; however, in the last two years the government has implemented a one-stop shop for export documents, which has greatly facilitated the process.<sup>6</sup>

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<sup>2</sup> This target was originally set for 2008 but has not yet been reached.

<sup>3</sup> Rich et al 2008: p. 1

<sup>4</sup> Belachew Hurrissa 2010

<sup>5</sup> Elias Mulugeta et al 2007: p. 27

<sup>6</sup> Yacob Aklilu 2010, personal communication

### 3. EXCHANGE RATES

The price competitiveness of Ethiopian meat is determined in part by currency exchange rates, and the current rate of 13.235 birr = \$1 (March 10, 2010), down from 8.65 birr = \$1 just a few years ago, is favorable to exports.

## B. TRANSPORT LOGISTICS

Transport logistics—whether air freight for chilled carcasses/cuts or shipping freight for frozen meat—are a key factor determining the competitiveness of a country's exports. Ethiopia has the advantage of geographical proximity to the Gulf States, but several logistical factors constrain its competitive advantage.

### 1. LAND

Refrigerated trucks and containers are a key link in meat export logistics, both for chilled meat and frozen meat. For frozen meat exports, the cold chain must be maintained over long distances (approximately 850 km by road from Modjo to Djibouti Port and 870 km from Debre Zeit to Djibouti Port) even before the cargo is loaded onto shipping vessels for the 3- to 8-day journey to Egypt or the Gulf. Refrigerated containers appear to be a critical missing link for this channel, and it may be useful to explore backhaul opportunities for frozen foods imported to Ethiopia via Djibouti.

Even without transport to Djibouti, the lack of properly equipped refrigerated trucks for the transportation of chilled carcasses constrains meat exporters' ability to sign and honor large contracts. The failure of meat exporters to meet the demands of the important Eid al-Fitr export market in November 2009 (see text box at right<sup>7</sup>) was a case in point, illustrating some of the reasons why Ethiopia has found it difficult to penetrate the meat export market in the Gulf.

#### THE EID AL-FITR EXPORT MARKET

In 2009, Ethiopian meat exporters signed a 30 million Birr (\$2.4 million) contract to deliver the meat of 5,000 cattle for Saudi Arabia's annual donation to the poor during the festival of *Eid al-Fitr*. Processing for these cattle was to be divided between the five export abattoirs. A logistics company was hired to transport the cattle to the abattoirs, and then to transport the meat from the abattoirs to the Elfora Food Processing Factory in Kombolcha. The operation failed when the logistics company lacked the appropriate trucks (refrigerated and with meat hangers) to transport the carcasses. Apparently, only one abattoir had appropriate trucks to cover the distance to the factory, but their number and capacity (three trucks in total, each with a 12-carcass capacity) was far below that required for the 5,000-head contract.

(Addis Fortune Dec 14, 2009)

### 2. AIR

Chilled carcasses and meat cuts fetch a premium in the export market, but the logistics required to export chilled meat are demanding and expensive. Ethiopian Airlines has dedicated freighter aircraft (757 F, 747 F or MD-11 F) available on a charter or a scheduled basis to the following destinations relevant for meat exports:<sup>8</sup>

- Cairo: charter flights only
- Dubai: (5 days/week), for a weight break of +1000 = \$0.70/kg
- Jeddah: (2 days/week), for a weight break of +1000 = \$0.70/kg
- Kinshasa: (2 days/week) for a weight break of +45 = \$2.10/kg
  - +100 = \$1.50/kg
  - +200 = \$1.00/kg
  - +300 = \$0.90/kg
  - +500 = \$0.80/kg

<sup>7</sup> Addis Fortune 2009. *Logistics Company Fools Up Eid Deliveries*. December 14, 2009. (<http://allafrica.com/stories/200912150824.html>)

<sup>8</sup> E-mail quote from Ethiopian Airlines Cargo Department sales representative, March 8, 2010



Other airlines (such as Saudi Arabian Airlines) also offer cargo space, even sending dedicated cargo planes into Bole, often on backhaul after delivering cargo to Khartoum. Other times the abattoirs have to utilize expensive cargo space on passenger “combi” planes, which have additional destinations such as Riyadh, Kuwait City and others. Air freight is paid by the buyer in the Gulf but reduces the price paid to the abattoirs.<sup>9</sup>

### 3. SEA

Live animals are taken on foot or by truck from Ethiopia to Somalia/Somaliland or Djibouti, then shipped to the Gulf States (for more detail, please see the Channels chapter below). Shipping stress—particularly from Somalia/Somaliland to Djibouti—is a danger, as it can cause pneumonia, which was reported as the most common cause of mortality among animals arriving to the Djibouti quarantine from the Somali ports of Berbera and Bosasso in 2008. From Djibouti to the Gulf, livestock are often transported in livestock carriers or ro-ro<sup>10</sup> vessels (with loading ramps) and fairly well-developed holding facilities (e.g. pens dividing the animals on different levels, grass on the floor to prevent slipping, etc.). Despite this, livestock mortality is reportedly high.

Sea freight is also used to transport frozen meat, which accounts for the vast majority of meat imported into the Middle East. Shipping costs for Ethiopia’s competitors were not available for this report, but India and Pakistan’s relative proximity to the Gulf likely makes their shipping costs lower than Brazil, Australia or New Zealand’s. Ethiopia would likely benefit from similar advantages if it started exporting frozen meats. According to one industry expert, the total transport cost (road and sea) of frozen meat from an abattoir in Modjo to a Gulf port in a 40-foot refrigerated container would be approximately \$0.40 per kg.<sup>11</sup> This is significantly lower than air freight costs; however, the price differential between frozen and chilled meats (see chapters 3 and 4 below) may narrow the gap in profitability between the two channels.

For other markets, such as West Africa, there are reports that Brazil and Australia appear to have identified backhaul opportunities for West African products, thereby reducing their shipping costs and keeping them price competitive.

## C. SPS ISSUES, DISEASES AND EXPORT BANS

Ethiopia has a variety of livestock diseases that affect international trade; these are Rift Valley Fever (RVF), foot and mouth disease (FMD), contagious bovine pleuropneumonia (CBPP), contagious caprine pleuropneumonia (CCPP), peste des petits ruminants (PPR), brucellosis in ruminants, and lumpy skin disease (LSD).

### 1. RIFT VALLEY FEVER

Rift Valley Fever (RVF) is a viral zoonosis—a vector-borne disease that is transmissible from animals to humans—that is endemic to the Horn of Africa. The disease has been responsible for three separate trade bans from Saudi Arabia and other Gulf states over the past 12 years. The OIE recommends a three-year ban on livestock exports from an RVF infected country following an outbreak, although the actual length of bans has varied.

From February 1998 to April 1999, Saudi Arabia banned imports of live animals from the Horn as a result of a regional outbreak of Rift Valley Fever. In 2000, an outbreak occurred for the first time outside of Africa, in Saudi Arabia and Yemen, causing these two states as well as four others (Bahrain, Oman, Qatar and the UAE) to ban imports from the Horn. The 2000 ban was kept in place for five years, long after the risk had subsided. In 2007, an RVF outbreak in Kenya, Tanzania and Somalia caused yet another trade ban.

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<sup>9</sup> Hank Fitzhugh e-mail communication

<sup>10</sup> “Ro-ro” stands for “roll-on/roll-off”, e.g. the vessels have loading ramps rather than requiring cranes for loading and unloading. However, in October 2008, the author did observe camels being loaded onto ships with cranes.

<sup>11</sup> Hank Fitzhugh, personal communication, May 2010

These bans have disrupted trade patterns and dealt severe economic blows to the region. Following the 1998 ban, for instance, exports from the port of Berbera in Somaliland—a major export point for Ethiopian livestock from Somali Region—dropped from nearly three million head in 1997 to just over one million in 1998, representing an export loss of approximately \$100 million. Livestock prices in Ethiopia and Somalia fell by approximately 30 percent as a result.<sup>12</sup>

Traders have found ways of circumventing trade bans, for instance by exporting livestock to Yemen for re-export to Saudi Arabia (IRIN),<sup>13</sup> but such measures do not address the root problem of SPS concerns from Gulf States. Indeed, the length of the bans suggests that Saudi Arabia and other Gulf States lack confidence in the Horn's disease surveillance and regulatory systems. The most recent ban was finally lifted in October 2009.

## **2. FOOT AND MOUTH DISEASE**

Following an outbreak of FMD in Egypt in January 2006, the country banned all imports of live animals, carcasses and bone-in meat cuts. Egyptian authorities attributed the outbreak to Ethiopia but banned imports from all countries.

## **3. OTHER DISEASES**

Other diseases, although not associated with trade bans, are of concern to importing states and can cause animal rejection:

- CBPP: Average prevalence is high at 17.3 percent of cattle. Outbreaks sometimes occur, such as in 1998 which saw 187 outbreaks and 1,071 deaths.
- CCBP: Prevalence is high in goats in Borana, Somali and the Omo Valley.
- PPR: This disease affects small ruminants particularly in Afar, Somali, North Shoa and Metema.
- Brucellosis in ruminants: Prevalence is higher in pastoral areas (2.6 percent of sheep and goats) than in highland areas (1.5 percent of sheep and 1.3 percent of goats). Brucellosis is a major concern to Saudi Arabia, which requires 100 percent testing for the disease.

The Horn of Africa is not the only region that has faced livestock export bans. India, Pakistan, Brazil and even European exporters have faced temporary trade bans due to various disease outbreaks. In this area, exporters such as Australia and New Zealand have significant advantages due to their island status, which enables more effective disease control.

## **4. VACCINATIONS, CERTIFICATIONS AND QUARANTINE**

Vaccination campaigns are carried out annually for some diseases in some areas (such as PPR in Amhara and Oromia) and sporadically for others, such as anthrax, blackleg, haemorrhagic septicaemia and small ruminant pasteurellosis. Only 50,000 doses of FMD vaccine are produced annually.<sup>14</sup>

Ethiopian SPS regulations state that cattle for export must be quarantined for 30 days and vaccinated against CBPP, anthrax, black-leg and FMD.<sup>15</sup> This quarantine is not recognized by the Gulf Cooperation Council (GCC) countries, and animals must be re-quarantined at the port of export. For animals that go through the Djibouti quarantine (described in the following chapter), the Ethiopian certification is neither required nor seen by the final recipient, as all animals are re-certified as Djibouti origin.<sup>16</sup>

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<sup>12</sup> FAO, Rift Valley Fever Threatens Livelihoods in the Horn of Africa <http://www.fao.org/docrep/003/Y0482E/y0482e04.htm>

<sup>13</sup> IRIN, Focus on Saudi Livestock Ban, 19 May 2007

<sup>14</sup> Rich et al 2008: pp. 4-5, quoting TAES/SPS-LMM 2007

<sup>15</sup> Elias Mulugeta et al 2007: p. 14

<sup>16</sup> ACDI/VOCA 2008: p. 7

## D. MEAT PROCESSING FACILITIES

### 1. EXPORT ABATTOIRS: CAPACITY

The five export abattoirs (Helimex Export Abattoir, Elfora Agro-Processing, Modjo Modern Export Abattoir, Luna Export Abattoir and Organic Export) have an annual slaughter capacity of 2.5 million shoats<sup>17</sup> with a possibility of expansion (with additional plants under construction) to 4.5 million shoats<sup>18</sup> in the near future. This is equivalent to a meat production capacity of 24,000 MT per year, with expansion to 40,000 MT per year<sup>19</sup>—an ambitious expansion, given that current exports are below 10,000 MT and that abattoirs complain of a lack of supply. Pre- and post-slaughter handling practices at the abattoirs are a major cause of meat quality deterioration, as described below.

### 2. PROCESSING FOR DOMESTIC MARKET

The Kera abattoir is the largest abattoir serving the Addis Ababa market, although it is estimated that approximately half of all cattle and the vast majority of sheep are slaughtered outside of the abattoirs—in small butcheries or (for sheep and goats) in backyards.<sup>20</sup> Christian butcheries cater to the Orthodox Christian population and close during Orthodox fasting periods. Muslim butcheries offer halal meat, operating throughout the year, including Ramadan, during which meat consumption is high.

## E. LIVESTOCK FEED

Natural pasture is the main source of feed for most of Ethiopia's livestock, complemented by fodder and crop residues during the dry season. Of the various crop residues used as livestock feedstuffs, teff straw is the most commonly used for fattening, while other crop residues (e.g. barley, wheat and millet straw or sorghum stover) are more often used for dairy cattle. Agro-industrial by-products and commercial feed mixes are less commonly used by small-scale livestock producers, although they are critical inputs for livestock fattening prior to slaughter or export. In particular, wheat bran from flour mills and oilseed cakes from edible oil factories are an important source of feed ingredients. Among seed cakes, linseed and cotton seed cake are generally used for fattening, while noug is used more often for dairy. There are approximately five commercial feed mixers and millers in Ethiopia, located in Adama, Modjo, Debre Zeit and the industrial areas of Addis Ababa (Akaki and Kaliti). Approximately 10 additional mixer/millers produce feed primarily for their own use.<sup>21</sup>

Feed shortages are often highlighted as a constraint to Ethiopia's livestock and meat industry. The following table shows the evolution in the price of livestock feed ingredients in Ethiopia from 2003/04 to 2009/10. After a steady price increase from 2003/04 to 2006/07, prices for most ingredients rose dramatically in 2007/08 and have been steadily decreasing since then. It should be noted that feed prices also fluctuate seasonally.

Unfortunately, the author was not able to obtain feed prices from other livestock and meat exporting countries for comparison purposes.

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<sup>17</sup> In Ethiopia, “shoats” refers to sheep and goats.

<sup>18</sup> Amha Sebsibe 2008: p. 337

<sup>19</sup> Rich et al 2008: p. 7

<sup>20</sup> Yacob Aklilu 2001

<sup>21</sup> Berhanu Gebremedhin, Adane Hirpa and Kahsay Berhe 2009.

**Table I. Feedstuffs Price Evolution 2003 to 2010**

| <b>Feed</b>     | <b>2003/04</b> | <b>2004/05</b> | <b>2005/06</b> | <b>2006/07</b> | <b>2007/08</b> | <b>2008/09</b> | <b>2009/10</b> |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Wheat bran      | 56             | 63             | 84             | 120            | 230            | 135            | 130            |
| Wheat middling  | 56             | 61             | 110            | 140            | 250            | 149            | 138            |
| Noug cake       | 57             | 63             | 88             | 157            | 250            | 200            | 150            |
| Cottonseed cake | 70             | 85             | 110            | 130            | 210            | 230            | 215            |
| Linseed cake    | 80             | 90             | 120            | 140            | 300            | 260            | 250            |
| Rapeseed cake   | 10             | 16.5           | 26.5           | 42.5           | 130            |                |                |
| Maize           | 100            | 128            | 145            | 154            | 417            | 300            | 240            |
| Soybean         | 300            | 400            | 630            | 503            | 650            |                |                |
| Salt            | 60             | 77             | 88             | 92             | 135            | 210            | 210            |
| Molasses        | 6              | 6              | 6              | 9              | 20             | 44             | 44             |
| Grass hay       |                |                |                |                | 100            | 122            | 122            |
| Teff straw      |                |                |                |                | 95             | 100            | 120            |
| Wheat straw     |                |                |                |                |                | 100            | 115            |
| Limestone       | 45             | 45             | 45             | 42             | 50             |                |                |

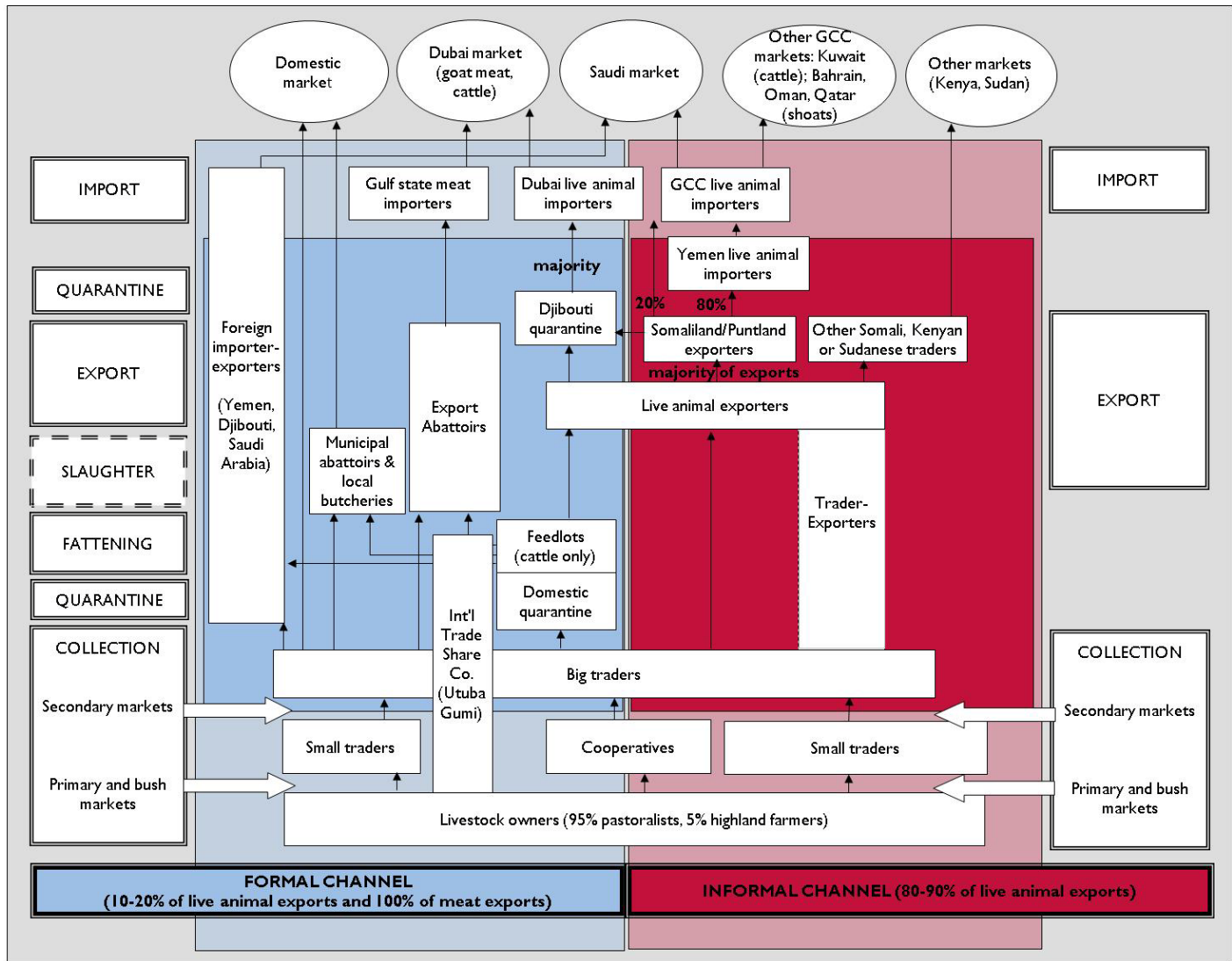
Source: SPS-LMM 2010

## II. CHANNELS

### A. MARKET MAP AND DESCRIPTION OF CHANNELS

The market map below illustrates the multiple channels for livestock and meat exports from Ethiopia.

**Figure 1: Market Map of Ethiopian Livestock and Meat**



#### I. PRODUCERS: HIGHLAND AND PASTORAL

Although Ethiopia has the largest livestock herd in Africa, household livestock holdings—particularly in non-pastoral areas—are usually small. On average, highland households own between zero and three head of cattle or sheeps.

Pastoral households, which depend on livestock for their livelihoods, own relatively more livestock—Borena pastoralists, for instance, own an average of 13 head of cattle, five goats and two sheep.<sup>22</sup>

Although the majority of Ethiopia's livestock is found in the highlands, 95 percent of the livestock supplied for export is supplied by the pastoral and agro-pastoral areas of Afar, Somali and Borena. A large percentage of the cattle and beef meat exported from Ethiopia originates in Borena, and this area stages a fierce purchasing competition between live animal and meat exporters.<sup>23</sup> This is likely due in large part to consumer preferences for Boran cattle and is facilitated by Borena Zone's relative ease of access from the feedlots and abattoirs in Adama (Nazareth), Modjo and Bishoftu (Debre Zeit). In 2007, the SPS-LMM program found that on 180 feedlot centers in Oromiya, all 20,500 cattle were sourced in southern (e.g. Borena) or southeastern rangelands.<sup>24</sup> Many of the sheep and goats exported from Ethiopia are lowland breeds from Somali and Afar. These have a relatively low dressing weight (8-10 kg per animal, compared to 16-20 kg in neighboring countries).<sup>25</sup>

Reasons for sale vary across regions and across households. For non-pastoral households, a large proportion of sales (up to 75 percent, according to ILRI researchers Asfaw Negassa and Mohammad Jabbar) are of non-productive animals such as older draught oxen. The periodic need for cash may lead a household to sell an animal, usually a shoat, and the decision of when and where to sell is generally informed by the limited market information available to the seller. In some instances, fear of theft plays a role. For pastoralist households, seasonality is an important factor as rangelands can support fewer animals during the dry season, leading owners to sell livestock during the dry season and keep them during the wet season. Pastoralist households sell small ruminants to obtain cash for grain purchases or other expenditures. Somali households seem to be more market-oriented than other pastoralist households, with a good knowledge of markets in cross-border areas of Somaliland and Somalia.

Research by Asfaw Negassa and Mohammad Jabbar found that a significant proportion of smallholder farmers and even some pastoralists do not participate in livestock markets—and when they do, the volume of transactions is usually low. This, combined with high mortality and low birth rates, contributes to low off-take rates.

The gross and net commercial off-take rates for livestock in Ethiopia are summarized in the following table:

**Table 2. Gross and Net Off-take Rates for Livestock**

| Pastoral Areas |                |              | Non-pastoral Areas |                |              |
|----------------|----------------|--------------|--------------------|----------------|--------------|
| Livestock type | Gross off-take | Net off-take | Livestock type     | Gross off-take | Net off-take |
| Cattle         | 11%            | 9%           | Cattle             | 17%            | 7%           |
| Sheep          | 10%            | 6%           | Sheep              | 19%            | 7%           |
| Goats          | 11%            | 7%           | Goats              | 15%            | 8%           |

Source: Asfaw Negassa and Mohammad Jabbar 2008: p. 8 (using GL-CRSP data for pastoral areas and CSA data for non-pastoral areas)

These off-take rates are significantly lower than other countries in the Horn/East Africa region (e.g. Kenya with an off-take rate estimated at 16.1 percent per year).<sup>26</sup>

## 2. COLLECTORS (TRADERS AND COOPERATIVES)

Pastoralists and highland livestock owners typically sell their livestock to small traders in bush markets or primary markets. Traders purchase animals on a sight basis, without the use of scales. Experienced traders can estimate the weight of sheep and goats—and sometimes even the dressing weight of cattle—to near accuracy. They then trek the

<sup>22</sup> Asfaw Negassa and Mohammad Jabbar 2008: ix

<sup>23</sup> Getachew Legese et al, 2008: viii

<sup>24</sup> Little et al 2010: slide 12

<sup>25</sup> Amha Sebsibe 2008: p. 326

<sup>26</sup> Sullivan 2007

animals to secondary markets, where they sell them to larger traders. Traders tend to use the same market routes repeatedly, as market corridors in pastoral areas are often clan-based and therefore not easily interchangeable.<sup>27</sup> Clan conflicts periodically disrupt the livestock trade.

Livestock marketing cooperatives, whose membership is primarily small traders, are also involved in purchasing animals in bush markets or primary markets. They offer small traders certain economies of scale and access to larger traders or even export abattoirs (such as ELFORA), but are challenged by a lack of business skills and, frequently, a reliance on a single buyer.

A new and promising business model can be found in the Utuba Gumi International Trade Share Company (UGITSC). Based in Borena, UGITSC brings together 55 pastoralists, livestock traders and community leaders as shareholders in one company. The company fosters vertical integration in order to increase the reliability of supply and mitigate constraints related to the lack of holding facilities, while ensuring that capital is not tied up at one level of the value chain. The company currently fattens Boran bulls, sells shoats to export abattoirs and supplies heifers to highland farmers. In the longer term, the company plans to expand into input supply as well as further up the value chain, into marketing and abattoir operations.<sup>28</sup>

Brokers are major actors in many livestock markets in Ethiopia, acting as intermediary price negotiators between buyer and seller (except in markets where scales are used and prices are fixed) and keeping a commission from the sale of the animal. Although they are often criticized for creating a communication gap between buyer and seller, in many instances brokers are useful intermediaries. In Afar Region, they often act as translators between different regional languages. In Somali Region, brokers have strong relationships (usually based on clan networks) with pastoralists and offer other services besides negotiations, such as holding grounds for animals that are not sold.<sup>29</sup>

Feedlots, abattoirs and live animal exporters purchase livestock in secondary markets, either through their own purchasing agents or from traders, or occasionally from cooperatives. Several abattoirs report having had negative experiences sourcing livestock from cooperatives due to cooperatives' reported lack of understanding of market requirements, inability to supply the required quantity in a timely fashion, and inability to meet contract terms.<sup>30</sup> This is likely the reason why some abattoirs currently do not purchase from cooperatives.

Foreign exporter-importers are increasingly purchasing animals from within Ethiopia, using Ethiopian traders as collecting agents in primary and secondary markets.<sup>31</sup> This is driving a different kind of vertical integration within the value chain, which increases efficiency but also foreign influence within the Ethiopian livestock trade.

### 3. FEEDLOTS

Feedlots are primarily located in Nazareth (Adama) and Modjo. Feedlot operators purchase mostly cattle, both young and older animals, fattening young animals primarily for sale to export abattoirs and older animals (above four years) for the domestic market. Feedlot owners show a strong preference for Boran cattle due to its large size, efficient feed conversion and superior meat quality.<sup>32</sup>

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<sup>27</sup> CARE International Kenya 2010: p. 12, quoting UNOCHA-PCI 2007

<sup>28</sup> Belachew Hurrissa 2009

<sup>29</sup> Saperstein and Farmer 2006: p. 34

<sup>30</sup> Saperstein and Farmer 2006: p. 27

<sup>31</sup> Getachew Legese et al 2008: p. 17

<sup>32</sup> Getachew Legese et al 2008: p. 18



The prices paid by feedlots to pastoralists/traders is low. Feedlot operators currently buy a thin (275-300 kg) bull for approximately 2,500 Birr, feed it to gain 50-100 kg at a cost of gain of 15-17 Birr per kg, then sell the fat bull for 17-18 Birr per kg. Nearly their entire profit, therefore, comes from the low purchase price (see text box).

This is the opposite of developed country markets, where the producer obtains a price premium per kg for the young animal and the feedlot makes its profit on the cost of gain. Young animals have a lower cost of gain and yield a higher quality beef product. Some experts are therefore advocating for stronger relationships and contractual agreements between producers and exporters to ensure that supply more closely matches demand and that profits are shared by pastoralists.<sup>33</sup> This is the kind of integration that companies such as UGITSC aim to provide.

#### 4. MEAT CHANNEL: EXPORT ABATTOIRS

##### PURCHASING

In contrast to their Australian (and other) competitors, Ethiopian export abattoirs face a challenging task when it comes to purchasing live animals. The wide dispersal of producers and the long distances between lowland production areas and central abattoirs makes purchasing an expensive and time-consuming operation.

Abattoirs purchase livestock—primarily goats—from secondary markets through their own agents or trader/collectors. Unlike traders, who usually purchase animals based on visual assessment (unless the market has its own weighing scale), abattoir agents purchase shoats using scales, with a price per kg that is usually set by abattoir management. Some abattoirs set rigid prices, while others are more flexible, allowing their agents to raise prices in order to obtain the required number of animals. This difference in purchasing systems between traders and abattoirs causes dilemmas for traders who want to sell to abattoirs. These traders purchase shoats based on visual estimation and then sell them to the abattoirs on a per-kg basis—making the inexperienced trader uncertain as to his profit margin. (This is not a problem for experienced traders, who can accurately estimate animals' weight without scales, as described above.)

Abattoirs frequently complain of a lack of supply, particularly for shoats, even as pastoralists complain of low prices due to a lack of demand. This disconnect may be due in large part to dynamics further up the value chain, as the lack of long-term contracts between abattoirs and importers constrains the abattoirs' ability to make supply agreements with traders. Abattoirs send orders to traders to supply shoats at a given price; however, the actual price paid to the trader fluctuates based on the export market after the trader has already collected (i.e. purchased) the shoats. The abattoir, realizing that it will receive a lower price than expected for the meat, passes on this lower price to the trader. This uncertainty makes it risky for traders to collect large numbers of animals for the abattoirs. Overall, the purchasing system reduces the trader's willingness to supply animals to the abattoirs, even as the fluctuation in demand from the final markets fails to encourage the aggregation of large numbers of animals or the development of a more stable supply system—hence the “supply shortage”.<sup>34</sup> The establishment of holding grounds to overcome this challenge is not an option, as shoats from the extreme lowlands cannot survive in mid-altitude zones.<sup>35</sup> It is this type of challenge that UGITSC was established to overcome.

##### FEEDLOT OPERATOR NET PROFITS:

- 300kg bull purchased at 2,500 birr
- 16 birr/kg cost of weight gain
- 18 birr/kg price of sale

##### 1) If bull gains 50 kg:

- cost is  $2,500 + (16 \times 50) = 3,300$  birr
- sale price is  $350 \times 18 = 6,300$  birr
- net profit is  $6,300 - 3,300 = 3,000$  birr

##### 2) If bull gains 100 kg:

- cost is  $2,500 + (16 \times 100) = 4,100$  birr
- sale price is  $400 \times 18 = 7,200$  birr
- net profit is  $6,800 - 4,100 = 3,100$  birr

The difference in net profit between a 350kg bull and a 400kg bull is only 100 birr, demonstrating that feedlot operators make their profits through low purchase price rather than on the animal's weight gain.

<sup>33</sup> Hank Fitzhugh, personal communication

<sup>34</sup> Getachew Legese 2008: p. 28

<sup>35</sup> Getachew Legese 2008: p. 34



## **ANIMAL AND CARCASS HANDLING**

The disconnect between supply and demand is not the only problem faced by abattoirs. Pre- and post-slaughter handling practices, both at the abattoirs and at Bole Airport, lead to bacterial contamination, “dark cutting” and poor shelf life. Animal handling practices are poor: in some abattoirs, the absence of “Judas goats” (trained goats that quietly lead other goats or sheep into the slaughter area) results in goats being beaten by workers and forced into the chute. Goats are sometimes lifted by the skin on their back and thrown from one pen into another. This poor handling causes the release of stress hormones in the animals, which results in “dark cutting”—meat that has dark spots and leads consumers to fear contamination. Post-slaughter, workers use their bare hands to transfer carcasses from one rail to another after the skin/pelt have been removed, thereby transferring bacteria from their hands and clothing to the carcass. Abattoirs lack a supply of sufficiently heated water (82 degrees Celsius) to kill bacteria.

## **AIR TRANSPORT**

Carcasses are chilled at the abattoir, but their exposure to warmer air while awaiting air transport increases the risk of contamination, as described in the text box below.

The majority of importers pay on delivery of carcasses to airports in the Gulf. Importers complain of a lack of steady supply and unreliable quality from Ethiopian exporters. From 2005 to 2006, Ethiopia exported approximately 8,000 MT of meat to Saudi Arabia, the UAE and Egypt. This export was primarily chilled shooat carcasses shipped by air freight<sup>36</sup> and accounted for just one-third of Ethiopia’s meat export capacity.

## **5. LIVE ANIMAL CHANNELS—FORMAL AND INFORMAL**

Formally, Ethiopia exports approximately 200,000 livestock annually.<sup>37</sup> This is significantly higher than the annual official exports of cattle (12,934 head), sheep (13,554 head) and goats (1,247 head) between 1998 and 2003<sup>38</sup>—illustrating the growth of the formal channel since 2004 as a result of increased government oversight of the sector. Of the 200,000 livestock exported formally, approximately 40,000 cattle are exported from Amhara to Sudan, while smaller volumes of livestock are exported formally to Somalia and Kenya. The majority, however, is exported to Djibouti.

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<sup>36</sup> Mohammad Jabbar et al 2007, quoting Belachew Hurissa, personal communication

<sup>37</sup> Yacob Aklilu and Catley 2010: p. 16

<sup>38</sup> Mohammad Jabbar 2007: p. 10, quoting unpublished Livestock Marketing Authority (LMA) data

## MEAT EXPORT BOTTLENECKS

As they await loading at Bole Airport in Addis Ababa, carcasses are kept in the same holding area as cut flowers, one of Ethiopia's most important exports. The temperature of the holding area is ideal for flower preservation, but too warm for meat preservation. While a simple heavy plastic partition would solve this problem by allowing for lower temperatures in the carcass holding area, the transfer company at the airport is reportedly not interested in making this investment.

Once loaded into containers, carcasses sit on the tarmac awaiting loading into the plane with no refrigeration, rapidly increasing in temperature. Only when the plane is at altitude do cargo areas decrease to an adequate chilled temperature.

This loss of chill, combined with surface contamination and inadequate wash water temperature at the abattoir, result in surface bacterial contamination of the carcasses. On inspection at arrival in the GCC airports, carcasses are frequently rejected due to contamination.

(Adapted from interview of Hank Fitzhugh by Jim Yazman, February 16, 2010)

Informal or illicit cross-border trade accounts for the majority of live animal exports from Ethiopia, as it tends to be simpler and less expensive for exporters. In 2005-06, the volume of informal exports was estimated at 328,000 head of cattle and 1.1 million sheep and goats<sup>39</sup>—more than seven times the volume of formal exports.

## DJIBOUTI CHANNEL

For export to the Middle East, Ethiopian livestock are trucked from Ethiopian quarantine stations to the Djibouti quarantine facility, or trekked across the border into Somaliland and shipped from the ports of Berbera and Bossaso to Djibouti. The exception is livestock bound for Yemen, which accepts direct exports and does not require this re-quarantine.

The Djibouti quarantine facility was inaugurated in November 2006 and is managed by Abu Yasser Company, a Saudi trading company. It has a capacity of 100,000 animals per month, although the numbers are highest during the peak months of October-December. This period corresponds to the end of Ramadan and preparations for the Hajj (see Seasonality Analysis below), when more than half of the facility's annual business is conducted over the space of two months. Of the livestock at the facility, 68 percent of the cattle and 8 percent of the shoats originate from Ethiopia, with the balance coming from Somalia (May 2007-April 2008)—although it is likely that some of the shoats coming by ship from the ports of Berbera and Bosasso actually originated in Ethiopia. Ethiopian livestock are in better condition than are livestock coming from Somalia, with cattle weighing between 300-450 kg (compared to Somalia's cattle which are under 300 kg). The vast majority (90 percent) of cattle traders who use the Djibouti quarantine are Arabs whose agents purchase cattle from inside Ethiopia, and most have buyers with an import license that specifies contract conditions. The quarantine vaccinates all animals for RVF but does not repeat any other vaccinations for livestock coming from Ethiopia.

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<sup>39</sup> Mohammad Jabbar et al 2007: p. 10; This is in line with earlier LMA estimates of 1,150,000 shoats being exported informally from Ethiopia every year (Amha Sebsibe 2008: p. 339, quoting LMA 2001).

From the Djibouti quarantine facility, Ethiopian livestock is primarily destined for the Dubai market, while the majority of Somali animals go to Saudi Arabia. This reflects consumer preferences, as Saudi consumers prefer leaner animals. Egypt, a traditional importer of Ethiopian cattle, recently signed an agreement approving imports from Ethiopia, after accepting only live camel imports from the facility for a time due to FMD concerns.

Animals that pass through the quarantine are re-certified as Djibouti origin. According to the company that manages the facility, the Chambers of Commerce of Saudi Arabia and Dubai require that livestock be imported as “Djibouti origin.” Importing countries’ quarantine requirements vary, from seven days for Yemen and Oman to 21 days for Dubai and 30 days for Saudi Arabia and Egypt.

From mid-2007 to mid-2008, approximately 96,000 shoats and 39,440 head of cattle were exported from Ethiopia through the quarantine.<sup>40</sup> The export contract price is set by grades, which are weight-based.

A new livestock quarantine facility in the Somaliland port of Berbera may begin to compete with the Djibouti quarantine in the near future. This facility is described along with other Somaliland exports in the section on cross-border trade with Somaliland below.

### **SOMALILAND CHANNEL**

The informal live animal trade from eastern Ethiopia (Somali Region) to Somaliland represents the largest share of cross-border trade in terms of volume and value. The majority of animals exported through this channel are Somali Blackhead or fat-tailed sheep, followed by goats, cattle and young camels—all male.<sup>41</sup> Shoats account for the vast majority of exports to Somaliland: in 1998, approximately 687,500 sheep and 467,500 goats were exported through this channel, for a value of \$41.6 million.<sup>42</sup>

These animals are trekked through Hartishek and Lefeissa to the Somaliland border town of Togwajale, then on to Borama, and finally trucked from Borama to Berbera Port. In 2007, over 1.5 million shoats and approximately 100,000 head of cattle were exported through Berbera Port—a significant increase over 2005 and 2006 figures, but still far below pre-ban levels of nearly 3 million. This increase was achieved by routing livestock through the Djibouti quarantine facility or exporting them directly to Yemen, whence they are re-exported to Saudi Arabia and other GCC markets (the UAE, Bahrain, Kuwait, Oman and Qatar), which until November 2009 still had an official ban on livestock imports from Somalia.

Some livestock is also exported informally from Berbera to states such as Bahrain, as they seek to avoid the high fees charged by the Djibouti quarantine.

A new, private livestock quarantine facility—Al Khaleej Livestock Facility, owned by Ras Al Kheyma from the UAE and the Saudi businessman Al Jabri—is set to operate in Berbera port in the near future. It has a holding capacity of 150,000 sheep or goats, and is expanding to accommodate an additional 350,000. The Somaliland government’s aim for this facility was to overcome the ban imposed by the GCC states, but in doing so granted a virtual monopoly on Somaliland’s livestock export trade to Al Jabri, which has angered local traders as well as other Saudi importers.

The Puntland (Somalia) port town of Bosasso is another major regional export hub for livestock from the Horn, including the Somali Region of Ethiopia. In 2007, over 1.55 million sheep and goats and approximately 100,000 head of cattle were exported through Bosasso. In 2006, approximately 60 percent of exports from Bosasso were directed towards Djibouti for re-export to the Gulf States. Since then, however, the high costs of the Djibouti quarantine have

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<sup>40</sup> Calculations based on figures given by Djibouti quarantine authorities, ACIDI/VOCA 2008.

<sup>41</sup> Elias Mulugeta et al 2007: p. 5

<sup>42</sup> Elias Mulugeta et al 2007, quoting Nin Pratt et al 2005

led most exporters to send livestock directly to Yemen: by 2008, approximately 60-70 percent of Bosasso's exports went to Yemen.

Two livestock quarantine facilities have recently been constructed in Bosasso. One (the Puntland Livestock Facility) is owned by a joint venture of over 100 local traders, while the other (Al Khaleej Livestock Export Facility) is, like its twin facility in Berbera, jointly owned by Al Jabri and Ras Al Kheyman. Al Khaleej is the larger of the two facilities, with a total capacity of 325,000 shoats and 10,000 camels and cattle. The Puntland Livestock Facility has capacity for 120,000 shoats and 5,000 cattle and camels and is intended to compete with Al Khaleej; however, the Government has promised the entire Saudi trade to Al Khaleej.

The GCC has recently banned the use of dhows for livestock transport, requiring that livestock carriers be used instead. Some importing companies own livestock carriers; however, there is a shortage of such specialized vessels.<sup>43</sup>

### **INCREASED SAUDI INFLUENCE**

The monopoly of Saudi companies over export of live animals from the Horn—Abu Yasser in Djibouti and Al Jabri in Somaliland and Puntland—is one of several symptoms of increasing Saudi influence in the livestock trade in the region. The presence of Saudi traders in Ethiopian livestock markets is the other major symptom. In the short term, increased Saudi involvement has facilitated access to the Gulf market as well as investment in infrastructure (Berbera and Djibouti quarantine facilities). However, these monopolies have led to price setting (e.g. in Berbera where the price of exports was set at \$35-36 per head) and complaints of preferential treatment. In the longer term, these monopolies—together with the practice of foreign importers purchasing livestock at secondary markets in Ethiopia—raise concerns over increased foreign ownership within the Ethiopian livestock value chain.

### **KENYA/SOMALIA CHANNEL**

A significant number of cattle is exported from southern Ethiopia, both from Borena Zone in Oromiya Region and from Afder and Liben zones of Somali Region.<sup>44</sup> Trade routes are complex and difficult to categorize, as they operate at the junction of Ethiopia, Somalia and Kenya, but it is estimated that 25-30 percent of the animals sold in Kenya originate in Ethiopia and Somalia. Another route for exports to Kenya is from Gode and Warder zones in Ethiopia's Somali Region, to Belet Weyen in central Somalia, and on from Somali into Kenya. In 1999, it is estimated that the total number of cattle exported through this route exceeded 50,000.<sup>45</sup> More recent data was not available at the time of this study.

Animals from Ethiopia and Kenya are trekked across the border, sold in livestock markets in Northern Kenya and trucked to terminal markets in Nairobi and other cities. Some of this livestock is kept in ranches for fattening prior to sale.<sup>46</sup> This inflow of livestock occurs when there is a lull in demand from the Middle East, and is different from seasonal cross-border migration that occurs in the typical pastoral search for water and pasture.

### **SUDAN CHANNEL<sup>47</sup>**

The primary livestock export from Ethiopia to Sudan is male cattle originating in Amhara Region. In 2007, it is estimated that 100,000 head of cattle were exported through this route, using both formal and informal channels. Approximately 40 percent of this trade was through formal/legal channels, down from 50 percent in 2005, while the other 60 percent was informal. The growing share of the informal trade is likely due to a combination of foreign currency requirements for export (see details above) and the absence of Sudanese requirement for a health certificate

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<sup>43</sup> Mohammed 2008

<sup>44</sup> Elias Mulugeta et al 2007: p. 5

<sup>45</sup> Elias Mulugeta et al 2007: p. 6, quoting Little et al 1999

<sup>46</sup> CARE International Kenya 2010: p. 11

<sup>47</sup> Data for this section obtained from Elias Mulugeta et al 2007

in the illegal export route—making the 30-day quarantine requirement (in the quarantine of Gonder town or Metema Yohannes) required for legal export both expensive and time-consuming for traders. Prices paid in the legal channels are higher than those in the illegal channels, but the difference does not seem to be a significant deterrent to exporters. Lowland woredas contribute approximately 78 percent of livestock to informal channels, compared to just 46 percent of livestock through formal channels, with the balance coming from the highlands.

Approximately 90 percent of the informal export is done by producers themselves—they sell the cattle in Ethiopian birr in informal markets inside Sudan. In the legal marketing system, Sudanese importers cross the border to purchase cattle in USD inside Ethiopia. There is no export tax on livestock from Amhara Region to Sudan, but a very high tariff of 400 ETB per head of cattle is levied on the Sudanese side, which, according to Yacob Aklilu, has “the most excessive taxation system on cattle in East Africa”.<sup>48</sup> The import fee in informal markets, on the other hand, is only 20 ETB.<sup>49</sup>

## **B. SEASONALITY ANALYSIS**

### **I. SEASONALITY OF MIDDLE EASTERN MARKETS**

#### **THE HAJJ AND EID AL-ADHA**

Each year, approximately 1.6 million Muslims undertake the Hajj pilgrimage to Mecca. Estimates of the number of animals (mostly sheep) slaughtered during the three-day Eid al-Adha celebration at the end of the Hajj range from one to two million head. The Hajj period (which occurs around November or December in the Gregorian calendar) therefore corresponds to a dramatic spike in demand each year. The Djibouti quarantine facility reports that it earns half of its annual profit during the two-month period between mid-October and mid-December, as 350,000 animals transit monthly through the facility during this period.

#### **RAMADAN AND EID AL-FITR**

Ramadan is a month-long daytime fasting period that is observed by Muslims in the Middle East and throughout the world. Its dates move forward approximately 10-11 days per year in the Gregorian calendar, occurring during September and October in recent years. Eid al-Fitr, the three-day holiday marking the end of Ramadan and the breaking of the fast, marks a spike in demand for meat.

### **2. SEASONALITY OF DOMESTIC MARKETS**

The domestic market is also affected by fasting and feasting, both Muslim and Orthodox Christian. In the Orthodox calendar, there are 207 days of fasting per year, where many Orthodox Christians fast from all animal products. The main fasting period (Lent) lasts for 55 days before Easter, which usually occurs in April and occasionally in May. During this period, the demand for meat in Addis Ababa decreases significantly and many butcheries close. A significant portion of the Orthodox population also fasts every Wednesday and Friday throughout the year. During Christian holidays—particularly Christmas (January 7th) and Easter—the better-off households slaughter a sheep, while other households slaughter a chicken or group together with other households to jointly purchase one sheep or goat.

The Addis Ababa market is also affected by the Muslim calendar, peaking during holidays (Ramadan, Eid al-Fitr and others) as described above.

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<sup>48</sup> Yacob Aklilu, 2002

<sup>49</sup> Elias Mulugeta et al 2007: p. 32

### **3. SUPPLY SIDE SEASONALITY ISSUES IN PASTORAL AREAS**

In pastoral areas, the supply of livestock is highly seasonal and only somewhat related to market demand. Other determinants of supply fluctuation include water and pasture availability (particularly dry season vs. wet season), disease outbreaks and availability of food aid (which helps relieve pressure to sell animals for cash or grain purchases). This is highly relevant to this end market analysis because a regular, reliable supply of meat and live animals is critical for Ethiopia to gain a greater foothold in Middle Eastern markets.

### III. CUSTOMERS

The rapid growth in the food service industry in the Gulf, particularly for hotels, is widely recognized as a major opportunity for meat exports. Ethiopia's relationship with Gulf countries has been tense at times—particularly after the Ethiopian intervention in Somalia in 2006 (which resulted in a temporary suspension of diplomatic relations with Qatar)—but trade relations have been more affected by SPS and transboundary disease issues. The GCC countries are considering adopting common food standards.<sup>50</sup> They already impose common trade bans and have other similar requirements, such as the requirement that meat imports be accompanied by a Halal slaughtering certificate issued by an Islamic organization.

Despite the challenges of repeated trade bans, the Gulf States and Egypt are currently the primary targets for Ethiopian meat. Faced with competition from Australia, New Zealand, Brazil, India and Pakistan, Ethiopian meat sells at the low end of the market in these countries. The market is segmented according to incomes, with higher-income populations preferring freshly slaughtered meat, while lower-income populations (particularly low-income expatriates) opt for low-cost meats that are usually frozen. This is also the segment of the population that consumes chilled Ethiopian shoat carcasses.

A recent trip to the Gulfood 2010 fair by the Ethiopian delegation (comprised of Ethiopian exporters and SPS-LMM project staff) revealed particularly strong demand in the Gulf for the following products:<sup>51</sup>

- Frozen beef
- Frozen sheep (mutton) carcasses
- Chilled shoat carcasses
- Live animals

The sections below analyze demand for cattle, beef, sheep, goats and shoat meat for three groups of markets: the Middle Eastern market (Egypt and the Gulf States), the Near Eastern market (Israel, Jordan, Lebanon and Syria) and other African markets<sup>52</sup> (primarily South Africa, Ghana and Côte d'Ivoire). In particular, the tables below provide a quick reference on market size and growth for key products in the most important Middle Eastern and African markets for 2007 (the last year for which FAOSTAT data is available). Points of particular note are highlighted before the tables.

#### **Notes:**

- Unless otherwise indicated, all import data in the Customers chapter is from FAOSTAT.
- Rank is given only for countries that are in the top 20 importers worldwide.
- Trend data corresponds to the three-year period between 2005 and 2007.

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<sup>50</sup> Saudi Arabia Retail Food Sector 2009: p. 5

<sup>51</sup> Belachew Hurrissa 2010: p. 5

<sup>52</sup> Over the period of 1980 to 2002, per capita meat consumption in developing countries increased from 14kg to 29kg.

## A. END MARKETS BY MEAT TYPE

### I. CATTLE AND BEEF

Of the various breeds of cattle found in the Horn, the Boran breed (found in Borena Zone in the Oromiya Region of Ethiopia) is one of the most prized in the Middle East markets.

The data on beef (volumes and prices) is for boneless beef only. More detailed information on quality and type of meat (frozen vs. chilled) is not available, so price comparisons should be made carefully. For this reason, the analysis below focuses primarily on comparing volumes and volume trends.

- **Live cattle:** In recent years, Yemen has been the major live cattle importer in the region, importing 175,757 head in 2006, though its imports are primarily destined for re-export to GCC member countries with stricter SPS regulations. (Yemen's import figures reported by FAOSTAT in 2007 are significantly lower; the reason for this is unclear.) Saudi Arabia is an important final market for live cattle, with 2007 imports of 58,362 head and a 2005-07 growth rate of 116 percent. Lebanon and Israel are the region's leading cattle importers, but may be a difficult market for Ethiopia to penetrate due to their geographic distance.
- **Beef:** Egypt is by far the largest market for beef in the region, with imports exceeding 250,000 MT in 2007. With a growth rate of 68 percent from 2005 to 2007, this market deserves significant attention. Saudi Arabia's imports, though far behind Egypt's at approximately 74,000 MT, are growing at a rate of 90 percent per year (2005-07) and are also an important target market. The prices paid by Egypt and Saudi Arabia for boneless beef are the lowest amongst the 20 top beef importers worldwide, reflecting their reliance on low-cost frozen beef imports from Brazil and India. Israel is the third largest beef importer in the target markets, although Ethiopian exporters may need to target a niche market there, such as the Ethiopian Jewish (Falasha) community, in order to gain a foothold.



**Table 3: Major Cattle and Beef Importers, 2007, and Recent Trends (2005-2007)**

|                      | Live Cattle |            |      |       | Boneless Beef  |          |      |       |
|----------------------|-------------|------------|------|-------|----------------|----------|------|-------|
|                      | Head        | Price/head | Rank | Trend | Vol (MT)       | Price/MT | Rank | Trend |
| <b>Egypt</b>         | 4,942       | \$517      |      | -87%  | 253,358        | \$1,931  | 5    | 68%   |
| <b>Saudi Arabia</b>  | 58,361      | \$1,040    |      | 116%  | 73,966         | \$2,253  | 17   | 90%   |
| <b>UAE</b>           | 3,795       | \$553      |      | -9%   | 19,419         | \$4,701  |      | -8%   |
| <b>Kuwait*</b>       | 5,193       | \$1,222    |      | -10%  | See note below |          |      |       |
| <b>Yemen*</b>        | 11,676      | \$1,013    |      | -93%  | 1,082          | \$1,370  |      | -72%  |
| <b>Israel**</b>      | 83,007      | \$376      |      | 26%   | 65,815         | \$3,058  | 19   | 21%   |
| <b>Jordan</b>        | 26,448      | \$503      |      | 27%   | 31,802         | \$1,951  |      | 22%   |
| <b>Lebanon</b>       | 181,476     | \$753      |      | -27%  | 26,242         | \$3,012  |      | 23%   |
| <b>South Africa*</b> | 60,000      | \$450      |      | 9%    | 15,984         | \$1,481  |      | -20%  |
| <b>Ghana</b>         |             |            |      |       | 11,213         | \$984    |      | 310%  |
| <b>Côte d'Ivoire</b> |             |            |      |       | 14,970         | \$1,616  |      | 32%   |

Source: FAOSTAT

\* Data includes FAO estimate(s)

\*\* Data includes unofficial figures

Notes: FAOSTAT does not provide beef import figures for Kuwait; however, figures from GTIS show that Kuwait imported 48,467 MT of frozen beef and 1,563MT of chilled beef in 2005, most of which was boneless. Chilled boneless beef averaged \$4,407/MT while frozen boneless beef averaged \$3,344.

The 2007 FAOSTAT estimate of 11,676 head of cattle for Yemen masks its importance as the leading cattle importer in the Gulf; see bullet points above.

## 2. SHOATS AND SHOAT MEAT

Although quality requirements vary, the shoat export market generally requires animals having the following characteristics: male, young (1-2 years) and with a live weight of 13-45 kg (or 10 kg for the low-end market). The export market prefers non-castrated shoats with lower proportions of fat, whereas the domestic prefers higher-fat castrated males or female animals.<sup>53</sup>

In terms of breeds, the Gulf market preference reported by Ethiopian export abattoirs is for lowland breeds—Somali Blackhead and Afar sheep, and Borana, Somali and Afar goat breeds.<sup>54</sup> However, this reported preference appears to be largely due to the fact that the consumers of Ethiopian meat in the Gulf are primarily guest workers who are looking for lower-priced meat.

Arab consumers, on the other hand, prefer fat-tailed breeds such as the local Awassi sheep or the breeds found in Ethiopia's highlands. Currently, however, Ethiopia's fat-tail sheep are primarily destined for the domestic market rather than the export market. This may be due to one of two factors, or a combination: 1) the domestic market pays a price premium (30-50 percent) for fat tail breeds,<sup>55</sup> which decreases the incentive for export, and/or 2) the export markets—though they like the breed—do not like the discoloration (dark color) of meat from the Ethiopian highlands.<sup>56</sup>

For carcasses, the market segments within which Ethiopian exporters operate in Saudi Arabia and Dubai have the following preferences: skin-off sheep carcasses of 8-12 kg and goat carcasses of 5-7.5 kg.<sup>57</sup>

<sup>53</sup> Getachew Legese et al 2008: pp. 11-12

<sup>54</sup> ACIDI/VOCA 2008 and Amha Sebsibe 2008: p. 337

<sup>55</sup> Hank Fitzhugh, personal communication, March 2010

<sup>56</sup> Amha Sebsibe 2008: p. 337

<sup>57</sup> Amha Sebsibe 2008: p. 338

The lack of detail on meat types (chilled vs. frozen, bone-in vs. boneless, etc.) makes it difficult to compare price data across countries and over time; therefore, more attention is given below to data and trends in meat volumes rather than prices.

#### SHEEP AND MUTTON/LAMB

- **Live sheep:** The Middle East boasts nine out of the world's 20 largest importers of live sheep, yet live sheep imports appear to be declining as they are replaced by imports of mutton and lamb, as described below. Over the last three years, live sheep imports have decreased in nearly every country. However, for Saudi Arabia, this apparent decline is due to 2005 being a year of record imports. Over the longer term, between 2000 and 2007, live sheep imports into Saudi Arabia grew by 18 percent despite an important drop in 2001. The country is by far the largest market for live sheep in the world, with over 4.9 million sheep imported in 2007. This is due in part to the fact that Saudi Arabia hosts the annual Hajj pilgrimage in Mecca. Kuwait is also a major market for live sheep, as are Qatar, Oman, Jordan and South Africa, albeit on a smaller scale.
- **Mutton/lamb:** In contrast to live sheep, sheep meat imports grew in most countries over the 2005-07 period. Kuwait, South Africa and the UAE, all of which experienced a decline in live sheep imports, saw an important rise in mutton and lamb imports. Saudi Arabia and the UAE are the most important markets, at 58,500 MT and 26,800 MT respectively, but the Saudi market is contracting slightly (-2 percent over 2005-07), while the UAE market is growing at a rate of 28 percent. Part of the reason for the UAE's growth is its position as a meat re-exporter to other Gulf countries.

**Table 4: Major Sheep and Sheep Meat Importers, 2007, and Recent Trends (2005-2007)**

|                      | Live Sheep |            |      |       | Sheep Meat |          |      |       |
|----------------------|------------|------------|------|-------|------------|----------|------|-------|
|                      | Head       | Price/head | Rank | Trend | Vol (MT)   | Price/MT | Rank | Trend |
| <b>Saudi Arabia</b>  | 4,910,578  | \$89       | 1    | -19%  | 58,478     | \$2,894  | 5    | -2%   |
| <b>UAE</b>           | 208,219    | \$70       | 14   | -61%  | 31,106     | \$3,567  | 9    | 28%   |
| <b>Kuwait</b>        | 1,222,745  | \$71       | 3    | -36%  | 13,179     | \$2,721  | 16   | 48%   |
| <b>Qatar</b>         | 507,200    | \$98       | 5    | -9%   |            |          |      |       |
| <b>Oman</b>          | 430,260    | \$87       | 9    | 9%    |            |          |      |       |
| <b>Bahrain</b>       | 108,896    | \$60       | 19   | -81%  |            |          |      |       |
| <b>Jordan</b>        | 469,286    | \$48       | 7    | -18%  | 12,259     | \$2,284  | 18   | -3%   |
| <b>Lebanon</b>       | 211,971    | \$68       | 13   | -4%   |            |          |      |       |
| <b>Syria</b>         | 138,202    | \$56       | 18   | 296%  |            |          |      |       |
| <b>South Africa*</b> | 500,000    | \$38       | 6    | -36%  | 28,353     | \$1,164  | 10   | 24%   |

Source: FAOSTAT

\* Figure includes FAO estimates

Note: longer-term trends for Bahrain and Syria are not as drastic as this table suggests, as 2005 was an unusually high year for sheep imports for Bahrain and an unusually low year for Syria.

#### GOATS AND GOAT MEAT:

- **Live goats:** Saudi Arabia and Yemen are by far the largest importers of live goats in the region, and both markets are growing at a rapid pace (126 percent and 44 percent respectively between 2005 and 2007). However, the average price per head paid by the Yemeni market (\$26) is far lower than in Saudi Arabia (\$54), the UAE (\$83) or Qatar and Jordan (\$93).

- **Goat meat:** Goat meat imports are much lower than sheep meat imports, with Qatar, the largest importer in the region and the 3rd worldwide, importing just 3,635 MT in 2007. The Oman market, second in the region, is growing rapidly (262 percent between 2005 and 2007).

**Table 5: Major Goat and Goat Meat Importers, 2007, and Recent Trends (2005-2007)**

|                      | Live Goats |            |      |       | Goat Meat |          |      |       |
|----------------------|------------|------------|------|-------|-----------|----------|------|-------|
|                      | Head       | Price/head | Rank | Trend | Vol (MT)  | Price/MT | Rank | Trend |
| <b>Saudi Arabia</b>  | 1,135,277  | \$54       | 2    | 126%  | 2,404     | \$3,543  | 5    | -4%   |
| <b>UAE*</b>          | 387,351    | \$83       | 3    | -6%   | 2,158     | \$3,032  | 6    | -70%  |
| <b>Kuwait</b>        |            |            |      |       | 828       | \$2,777  | 13   | 254%  |
| <b>Yemen</b>         | 1,676,071  | \$26       | 1    | 44%   |           |          |      |       |
| <b>Qatar</b>         | 70,444     | \$93       | 13   | 55%   | 3,635     | \$2,652  | 3    | 21%   |
| <b>Oman</b>          | 357,668    | \$77       | 4    | 123%  | 2,434     | \$3,717  | 4    | 262%  |
| <b>Bahrain</b>       |            |            |      |       | 225       | \$2,636  | 20   | 26%   |
| <b>Jordan**</b>      | 190,979    | \$93       | 8    | 90%   |           |          |      |       |
| <b>South Africa*</b> | 160,000    | \$50       | 9    | 7%    |           |          |      |       |
| <b>Ghana</b>         | 110,000    | \$25       | 10   | 10%   |           |          |      |       |
| <b>Côte d'Ivoire</b> | 76,231     | \$68       | 12   | -7%   |           |          |      |       |

Source: FAOSTAT

\* Figures include FAO estimate(s)

\*\* Figure includes unofficial figure(s)

## B. END MARKETS BY COUNTRY

### 1. ETHIOPIA/ADDIS ABABA

The domestic demand for meat in Ethiopia is growing as a result of increased purchasing power. Domestic meat consumption is estimated at approximately 8 kg per capita per year,<sup>58</sup> of which approximately 4.3 kg is beef.<sup>59</sup> Beef consumption has been growing at a rate of 2.25 percent per year.

Unlike the export market, which requires male animals, the domestic market has a preference for female shoats for their perceived higher meat proportion and fat composition. For the same reason (higher fat and meat proportions), the domestic market also shows a strong preference for castrated male shoats.<sup>60</sup> For cattle, however, the domestic market consumes primarily highland cattle, while the export market consumes lowland cattle. The exception is young Boran bulls, which are prized by all markets, domestic and international.

### 2. EGYPT

#### MARKET OVERVIEW: CATTLE AND BEEF

The Egyptian market for beef is large and rapidly growing. Egyptian consumers have a strong preference for fresh beef. To satisfy this demand, Egypt was once a large importer of live cattle (mostly from Ireland, then from Australia), with imports reaching a high of nearly 240,000 head of cattle in 2001. From this high, imports have steadily dropped to just 4,972 head in 2007. Concurrent to this drop in live cattle imports, beef imports have steadily risen since 2003,

<sup>58</sup> Amha Sebsibe 2008

<sup>59</sup> Sullivan estimated total consumption of beef at 298,000 MT in 2002. For a population of 70 million, this equates to approximately 4.3 kg per capita

<sup>60</sup> Getachew Legese et al 2008: pp. 11-12

and the country is now the fifth largest importer of boneless beef worldwide. Growth from 150,800 MT of boneless beef imports in 2005 to 253,358 MT in 2007 represents a 68 percent increase in two years. It appears that despite consumer preferences for fresh beef, concerns about transboundary diseases, particularly FMD, are driving a shift from live cattle to beef imports. Indeed, following an FMD outbreak in January 2006, imports not only of live animals but also of carcasses were banned, and only boneless imports were allowed. This is in accordance with OIE recommendations, which state that for countries where FMD is present, the exportation of boneless beef, chilled or frozen, is safe (as long as the meat originates from deboned carcasses from which the major lymph nodes have been removed).<sup>61</sup> Boneless beef is imported either chilled or frozen, with frozen meats supplied mainly by Argentina and Brazil and catering primarily to lower-income groups within Egypt.

#### MEAT RETAIL PRICES IN EGYPT

Meat retail prices in Egypt vary from \$4.28 to \$8.23 per kg depending on the type, cut and quality of meat. A sample of prices collected during a market study in 2006 is listed below:

|                 |           |
|-----------------|-----------|
| • Beef escalope | \$5.65/kg |
| • Beef Knuckle  | \$5.65/kg |
| • Beef brisket  | \$4.28/kg |
| • Beef cubes    | \$6.34/kg |
| • Beef shank    | \$6.34/kg |
| • Veal briskets | \$5.31/kg |
| • Veal ribs     | \$8.23/kg |

Ethiopian beef is selling at the low end of the market.

The 2007 price paid for boneless beef was \$1,931 per MT, one of the lowest prices amongst the top importers. This is likely due to large volumes of the cheaper frozen (rather than chilled) beef, as Egyptian importers report a monthly market for approximately 50,000 MT of frozen meat.

Egypt is also the world's fourth largest importer of beef offal, with 82,005 MT imported in 2007. Prices paid per MT (\$858) are low relative to other importers. The US, a relative newcomer to the Middle East market, is a major supplier of beef offal to Egypt.<sup>62</sup>

Buffalo meat is widely consumed in Egypt and, as an alternative bovine meat, may displace some of the potential market for beef. Egypt imports large quantities of frozen buffalo meat from India.

#### MARKET OVERVIEW: SHOATS AND SHOAT MEAT

Egyptian live sheep and sheep meat imports are low (an annual average of 5,012 head and 1,656 MT respectively from 2005 to 2007). Egypt does not import any goat meat.

#### TRENDS

The Egyptian authorities are reportedly planning to construct abattoirs near the ports of entry in order to slaughter live animals upon arrival. If this project is completed, this may shift some of the import market back to live animals and away from meat.

#### ETHIOPIAN MARKET SHARE

From July 2005 to April 2006, Ethiopia exported 864 MT of meat (valued at \$1.49 million) to Egypt. This represents 12 percent of Ethiopia's meat exports, but less than 1 percent of Egypt's meat imports. In early 2006, an FMD outbreak in Egypt was attributed by Egyptian authorities to Ethiopia, as the disease strains found in Egypt were reportedly Kenyan types exported through Ethiopia. The resulting limitation on imports to only boneless beef has limited Ethiopia's ability to participate in the market, since the country lacks the appropriate beef dressing facilities for deboning and vacuum packaging. In a recent positive development, Egypt has reportedly agreed to re-open its market to Ethiopian cattle.

<sup>61</sup> Rich et al 2008: p. 19

<sup>62</sup> <http://www.usmef.org/TradeLibrary/MiddleEast.asp>

**SPS/HEALTH STANDARDS**

Egypt has a large dairy herd of both buffalo and cattle, and its health standards seek to protect this herd from transboundary diseases. In the past, fear of bovine spongiform encephalopathy (BSE/mad cow disease) and FMD has led Egypt to close its market to imports from Europe. FMD is currently a major concern to Egyptian authorities. Egypt requires a 30-day quarantine period for live animals prior to entry into the country.

**3. KINGDOM OF SAUDI ARABIA<sup>63</sup>**

**MARKET OVERVIEW: CATTLE AND BEEF**

The Saudi market for live cattle and beef is growing very rapidly. According to FAOSTAT, Saudi Arabia imported 58,361 head of cattle in 2007 (most recent year available). This is more than double the volume imported in 2005 (26,998 head) and represents a 329 percent growth since 2001 (2000 is excluded from this calculation due to unusually low imports, likely as a result of the RVF ban). A growing percentage of this cattle comes from Australia: in 2008/09 (one-year period), KSA imported 24,931 head of cattle from Australia—a 68 percent increase over the previous year.<sup>64</sup>

Saudi Arabia is the world’s 17th largest importer of boneless beef, with 73,966 MT imported in 2007. The average price paid was \$2,253 per MT.

**MARKET OVERVIEW: SHOATS AND SHOAT MEAT**

The Saudi market for sheep is by far the largest in the region, with an average of 5,377,480 sheep imported annually between 2005 and 2007. Sheep consumption is seasonal, spiking after Ramadan and during the Hajj, but is relatively high year-round. Consumers prefer freshly slaughtered meat rather than chilled or frozen meat, and show a strong preference for Syrian sheep. Despite this preference, Saudi Arabia also imports large volumes of sheep meat (58,478 MT in 2007), making it the fifth largest importer in the world.

| RETAIL PRICES OF DIFFERENT TYPES OF MEAT IN THE SAUDI MARKET IN 2006 |              |
|--|--------------|
| • Fresh Saudi Neami mutton   | \$9.88-12.27 |
| • Australian sheep   | \$8.00       |
| • Chilled bone-in mutton   | \$6.40       |
| • Local boneless veal meat   | \$8.81-9.34  |
| • Chilled bone-in veal meat  | \$7.21       |
| • Mince beef   | \$3.99       |
| • Brazilian beef cuts  | \$8.02-14.71 |
| • Brazilian frozen beef  | \$2.67       |
| • Indian frozen beef   | \$2.14       |
| • Frozen goat meat   | \$2.41       |

| LIVE ANIMAL RETAIL PRICES IN SAUDI ARABIA MARKETS (2006): |
|---|
| • Saudi Arabian sheep: \$147-160                          |
| • Syrian sheep: \$134                                     |
| • Ethiopian sheep (blackhead Ogaden): \$91-107            |
| • Sudanese sheep: \$174                                   |
| • Ethiopian goat: \$107                                   |
| • Borena cattle: \$749                                    |
| (Report of Trade Mission to Saudi Arabia 2006)            |

**ETHIOPIAN MARKET SHARE**

The main suppliers to the Saudi market are domestic producers as well as Brazil, Australia, Syria, Lebanon, Sudan, Argentina, Romania, New Zealand and Ethiopia. Ethiopian livestock is also re-exported to Saudi Arabia from Yemen, as described in the Channels chapter above. However, the volume of this export is difficult to quantify as the livestock is often imported into Yemen as Djibouti (and likely Somali) origin, and is not labeled as “Ethiopian” meat.

Many importers report having ceased purchasing meat from Ethiopia as a result of their dissatisfaction with quality (complaints of foreign material as well as dark cutting as a result of “improper handling of slaughter animal, inappropriate sanitation, careless packing and transportation”<sup>65</sup>), unreliability of delivery and unresponsive business communications, particularly when addressing complaints.

<sup>63</sup> Trade data from FAOSTAT; text boxes from Report of Trade Mission to Saudi Arabia 2006

<sup>64</sup> MLA 2009

<sup>65</sup> Report of Trade Mission to Saudi Arabia 2006, p. 3

## SPS/HEALTH

Saudi Arabia has very stringent SPS requirements. The country requires a 30-day quarantine and 100 percent testing for Brucellosis. It does not hesitate to impose trade bans, as evidenced by past trade bans due to Rinderpest disease and the three RVF-related bans imposed on livestock from the Horn of Africa in the last decade (1998, 2000 and 2007). For livestock from Somalia, the 2000 ban was only lifted in November 2009.

## 4. UAE/DUBAI

### MARKET OVERVIEW: CATTLE AND BEEF

In 2008, the UAE imported 72,350MT of beef and buffalo meat, of which 59 percent came from India (mostly buffalo meat), 17 percent from Brazil, 9 percent from Australia, 3 percent from the US and 3 percent from New Zealand. Brazil and Australia are the primary sources of beef for customer retail, while Indian meat is mostly used for the processing industry.<sup>66</sup>

Beef is considered one of the high-growth products in the UAE, with an average growth rate between 2006 and 2008 of 40 percent per year. There is no import tariff on beef.<sup>67</sup>

Dubai imports beef from Brazil as well as Argentina and Pakistan. Beef is imported frozen; sheep carcasses are chilled. Indian buffalo meat is also an important import (mainly targeted at Indian expats in Dubai). The main requirements for Ethiopia to penetrate the Dubai beef market are as follows: cattle should be slaughtered in an approved abattoir which has HACCP or other quality systems, and the slaughtering should be overseen by approved Islamic associations/organizations to ensure that it meets Halal standards. The epidemic situation in Ethiopia is also a concern to importers.

At the retail level, meat brands are based on country of origin, with Australia, India and Somalia being preferred. There is a difference between preferences of Arab customers (for Iranian and Syrian meat) and expatriates (high income expatriates preferring meat from developed countries, low income expatriates preferring low-cost frozen meat, Indian expatriates preferring Indian meat, etc.).

### MARKET OVERVIEW: SHOATS AND SHOAT MEAT

Sheep and sheep meat are also major imports for the UAE. In 2007, the UAE imported 208,219 head for an average value of \$70/head, and 31,106 MT of sheep meat for an average value of \$3,567 per MT. Major suppliers are Australia, New Zealand, India and Pakistan.

Dubai market preferences for goat meat are halal slaughtered meat with pinkish flesh that is tender and fleshy.

### ETHIOPIAN MARKET SHARE

From 2000 to 2004, Dubai imported livestock and livestock products worth \$2.24 billion (of which \$295.89 million was re-exported). However, only a minute fraction (0.01- 0.12 percent, or 4,000 MT per year) of this import came from Ethiopia, mainly in the form of goat carcasses.<sup>68</sup> Some sheep carcasses are imported from Ethiopia, but supply is irregular.

Dubai is an important market for Ethiopia, thanks to regular (5 days/week) flights that allow the export of chilled carcasses. An Indian importer based

“The Ethiopian Export Promotion Agency said UAE is one of Ethiopia's top meat markets, and that exports to the UAE had reached 2,497 MT in between June-December 2006—up 258 percent over the previous full year's 696 MT. Earnings rose 294 percent to \$6.7 million in the six-month period compared to \$1.7 million for the previous whole year.”

Reuters 20 Feb 2007

<sup>66</sup> GAIN 2009: pp. 10-12

<sup>67</sup> GAIN 2009: p. 14

<sup>68</sup> Dubai Chamber of Commerce and Industry 2006



in Dubai reported that Ethiopia's greatest strength is supplying organic meat and gave the following reasons for Ethiopia's small market share:

- Unreliable supply (in part because suppliers don't maintain business relationships, shifting to other importers for marginal price differences)
- Inability to supply demanded quantity
- Poor-quality meat (bony carcass without flesh, hair and dirt on carcasses, dark color)<sup>69</sup>

For these reasons, chilled Ethiopian shoat carcasses are imported at a price of \$4,000 per MT, while chilled Indian and Pakistani shoat carcasses are imported at \$5,600 per MT—e.g. 40 percent higher than Ethiopian meat.<sup>70</sup>

As a result of quality differences, Ethiopian meat is generally sold in butcheries (e.g. at the low end of the retail market), while Indian meat is often sold in the high-value supermarkets. It should also be noted that many meat importers in Dubai are Indian or Pakistani and are well connected to the segments of the local market that demand their products.

Somali Blackhead sheep (25-35kg) and Boran cattle (220-350kg) meet Dubai market preferences, but the unreliability of suppliers leads Dubai to import sheep and cattle mostly from Somalia and shoats from India. Livestock is also imported from Australia and Iran. Shoats from India and Iran are preferred.

#### **SPS/HEALTH STANDARDS**

The major causes of animal rejection in Dubai are cysticercus bovis in cattle and hydatidosis in small ruminants. At the quarantine in the port of Hamriya, cattle are vaccinated against FMD type A, O, C, SAT 1 and rinderpest, while shoats are directly taken to the market. Following the 2007 RVF outbreak in Kenya, the UAE imposed an import ban on Ethiopia for approximately six months.

## **5. YEMEN**

The poorest country in the Middle East, Yemen does not consume large quantities of imported meat. The country imports large numbers of cattle and shoats, not for consumption but for re-export to GCC member countries, as Yemen serves as a major hub for the import of live animals into the Gulf. As a non-GCC member, Yemen has less stringent SPS requirements and does not participate in GCC bans.

#### **MARKET OVERVIEW—CATTLE AND BEEF**

In 2005 and 2006, Yemen imported over 172,000 head of cattle annually at an average price of approximately \$150 per head. In 2007, this number dropped to only 11,676 and the average price increased to over \$1,000 per head—the exact reason for this is unclear. Yemen imports only small quantities of beef—just over 1,000 MT in 2007. The retail price in Sana'a is \$5.60 per kg for boneless beef.<sup>71</sup>

#### **MARKET OVERVIEW—SHOATS AND SHOAT MEAT**

In 2007, Yemen imported large numbers of goats (over 1.6 million in 2007), although live sheep imports were far below the record highs of 2003 (approximately 670,000 head). Yemen imported only 568 MT of sheep meat in 2007. The retail price in Sana'a is \$6/kg for shoat meat and \$5.60 for boneless beef.<sup>72</sup>

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<sup>69</sup> Belachew Hurissa SPS-LMM report 2006

<sup>70</sup> Belachew Hurrissa 2010, quoting March 2010 C&F prices reported by Dubai importer Siam Trading

<sup>71</sup> Belachew Hurissa 2006: p. 6

<sup>72</sup> Ibid

### **ETHIOPIAN MARKET SHARE**

From July 2005 to June 2006, Ethiopia exported approximately 57,000 live animals to Yemen. This accounts for approximately 35 percent of Ethiopia's total live animal export during this period. Meat exports were under 400 MT, however, and accounted for less than 5 percent of Ethiopia's meat exports during this period.<sup>73</sup> Yemeni traders often travel to Ethiopia and purchase directly in livestock markets, paying partly in USD and partly in ETB.

### **SPS/HEALTH STANDARDS**

Unlike GCC countries, Yemen recognizes Ethiopia's health certification systems and does not require Ethiopian livestock to be re-quarantined in Djibouti. Yemen suffered from an RVF outbreak in 2000, but currently the country's major concern is the high incidence of *Cysticercus Bovis* in cattle.<sup>74</sup>

## **6. KUWAIT**

### **MARKET OVERVIEW: SHOATS AND SHOAT MEAT**

Kuwait is the world's third largest importer of live sheep after Saudi Arabia and Italy, with estimated imports of 1,222,745 live head, at an average price of \$71 per head, in 2007. The majority of these sheep are sourced from Australia. At least one Kuwaiti company owns five livestock transporting vessels that it uses to transport sheep from Australia for the Kuwait market as well as other Gulf states.<sup>75</sup>

As in most Gulf markets, there is a strong preference for fresh meat. For customers who cannot afford freshly slaughtered sheep Kuwait imports increasing volumes of sheep meat, with imports totaling 13,179 MT in 2007.

### **MARKET OVERVIEW: CATTLE AND BEEF**

Kuwait also imports beef for its restaurants, food processing industry and retail. Frozen lean beef is imported from Australia, Brazil, Uruguay and Paraguay.

### **ETHIOPIAN MARKET SHARE**

Ethiopia does not currently export meat to Kuwait, but various Kuwaiti companies expressed interest in sourcing meat from Ethiopia as they complained of food price inflation. In particular, there is a market for 8-14 kg goat carcasses and frozen beef—primarily fore quarter.

## **7. BAHRAIN, OMAN AND QATAR**

These three countries are major sheep importers—Qatar with 507,200 head at \$98/head, Oman with 430,260 head at \$87/head, and Bahrain with 108,896 head at \$60/head in 2007.

Bahrain meets 85-90 percent of its meat requirements through live animal imports, with the balance met primarily through frozen meat. A public enterprise, the Bahrain Livestock Company, manages all live animal imports and sales to domestic traders. The Government fixes the retail price of meat (approximately \$2.65/kg in May 2008), subsidizing the difference between the actual import price and the set retail price.

### **ETHIOPIAN MARKET SHARE**

A significant proportion of the beef sold in Bahrain comes from cattle imported from Djibouti (formally) and Berbera (informally). Some of this is Ethiopian cattle, although it is difficult to determine exact numbers (COMTRADE

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<sup>73</sup> Belachew Hurissa 2006: p. 3

<sup>74</sup> Ibid, p. 7

<sup>75</sup> Belachew Hurissa 2008: p. 8



reports 1,914 head of cattle exported from Ethiopia to Bahrain in 2006 and none in subsequent years, as the Ethiopian origin is usually “lost” through the export process).

## **8. NEAR EAST**

The Near East (Israel, Jordan, Lebanon and, on a smaller scale, Syria) as a whole imported 1.3 billion MT of meat in 2002, and imported 11.9 million shoats and 50,000 bovines (valued at \$1.2 billion) in 2003.<sup>76</sup>

Israel imported 65,815 MT of boneless beef in 2007, making it the world’s 19th beef importer. Prices were higher than Egypt and Saudi Arabia, with an average price per MT of \$3,058.

Jordan imported 12,259 MT of sheep meat in 2007, with an average price of \$2,284 per MT. Jordan imported 469,286 live sheep for an average price of \$48/head, while Lebanon imported 211,971 sheep at \$68 per head and Syria imported 138,202 sheep at \$56 per head.

## **9. OTHER AFRICAN COUNTRIES**

The DRC relies on imports to meet almost all of its domestic meat requirements, yet import volumes are low. Imports of frozen beef totaled only 1,785 MT in 2008 (buffalo meat and canned meat have a much larger market share), while bovine offal totaled 23,776 MT.<sup>77</sup> Brazil, Argentina, Uruguay and India are the main sources of meat and offal. The most important characteristic is low prices (hence the preference for frozen beef and offal). The country does not currently import chilled beef. Despite the presence of a consumer market for goat meat (a small market because the purchasing power is low and the price of fresh goat meat is very high), DRC does not import goat meat.<sup>78</sup> Some goats are air freighted from Goma in eastern DRC to the main market in Kinshasa at a higher cost than they could be sent from Ethiopia. Mutton is not widely consumed in DRC. Some experts estimate that it may be possible to penetrate the meat market if sales can be made at 70 percent of wholesale price, CIF Kinshasa, for goat meat.

Côte d’Ivoire imported 20,059 MT of beef offal at an average value of \$1,014 per MT, which Congo imported approximately 12,940 MT at an average value of \$955 per MT.

In 2007, Côte d’Ivoire imported 141,572 live sheep for an average value of \$40 per head.

African countries’ SPS requirements are less stringent than those of Gulf countries, but the small size of the markets and the difficulty of access makes them relatively difficult to target.

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<sup>76</sup> Livestock Report 2006: p. 12

<sup>77</sup> Yacob Aklilu and Belachew Hurissa 2009, quoting Service de la Production et Santé Animales

<sup>78</sup> This was learned during a trade mission to DRC and confirmed by FAOSTAT import estimates for 2005-07

## IV. COMPETITORS

Ethiopia's main competitors in the Middle East live animal market are Australia for sheep and Somalia for sheep and goats. The primary competitors in the meat market Brazil and India for beef, and Australia and New Zealand for sheep meat. Pakistan is also an increasingly important exporter of chilled beef.

**Note:** In this chapter, the term “Middle East” will be used to describe the major market countries for each type of meat. Therefore, for beef, the Middle East will comprise Bahrain, Egypt, Kuwait, Oman, Qatar, Saudi Arabia and the UAE. For sheep and goats, the Middle East will comprise Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE.

Unless otherwise indicated, export statistics reported in this chapter were obtained from UN COMTRADE.

### A. LIVE ANIMALS

#### I. AUSTRALIA

Australia is the world's leading live sheep exporter. In 2007-2008, Australia exported over 4 million head of live sheep, of which 97 percent went to the Middle East.<sup>79</sup> Australia holds a significant portion of the Middle East market: in 2008/09, Australia had 23 percent of the market share in the major live sheep markets of Saudi Arabia and Kuwait, 19 percent of the market share in Bahrain, 14 percent of the Oman market, 8 percent of the Qatar and Jordan markets and 4 percent of the UAE market.

#### EXPORT TRENDS

After virtually no live sheep exports to Saudi Arabia throughout the 1990s, Australian exports went from zero in 1998/99 to over 2 million in 2001/02 and 2002/03, ostensibly replacing imports from the Horn of Africa, which were halted by the RVF ban imposed by KSA. Exports were low again in 2003/04 and 2004/05 (likely due to Australia's severe drought in 2003), but rose again and have been above or near 1 million head every year since 2005/06, although they decreased again in 2007/08. Exports to Kuwait grew steadily from the mid-1990s to 2002, then plateaued and dropped to 1 million head or fewer starting in 2004/05 (MLA 2009). Exports to Bahrain have grown steadily from approximately 120,000 head in 1990/91 to 775,000 head in 2008/09. Exports to Qatar and Oman are lower but generally on the rise after a drop from 2002 to 2005.

#### PRICE TRENDS

The price of Australian sheep has more than doubled in the last decade, from \$24/head FOB in 1999/2000 to \$53/head FOB in 2008/09.

#### SEASONALITY

Australian sheep exports to Saudi Arabia peak in May and June, leaving the peak October-December (end of Ramadan/Hajj period) open to other suppliers.

Meat and Livestock Australia (MLA) has had a regional marketing office in the region for over 30 years. Located in Bahrain, the MLA conducts market research to help Australian producers and exporters better understand end market requirements and promotes Australian meat in accordance with consumer preferences and quality standards.

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<sup>79</sup> MLA 2008

Currently, the MLA is aggressively targeting the growing food retail industry in the Middle East through public relations campaigns, trade marketing initiatives and promotional activities aimed at international retailers.<sup>80</sup>

## 2. SOMALIA

Somalia and the Somali Region of Ethiopia share the same ecosystem and hence the same breeds of lowland shoats, particularly the Somali Blackhead sheep. Somalia's primary advantage is its access to the sea with its ports in Berbera and Bosasso (described in the Channels chapter above). It is estimated that over 1.5 million shoats and approximately 100,000 head of cattle were exported through Berbera Port in 2007, while similar numbers (1.55 million shoats and approximately 100,000 head of cattle) were exported through Bosasso Port. However, it is estimated that one half of these animals originated in Ethiopia.

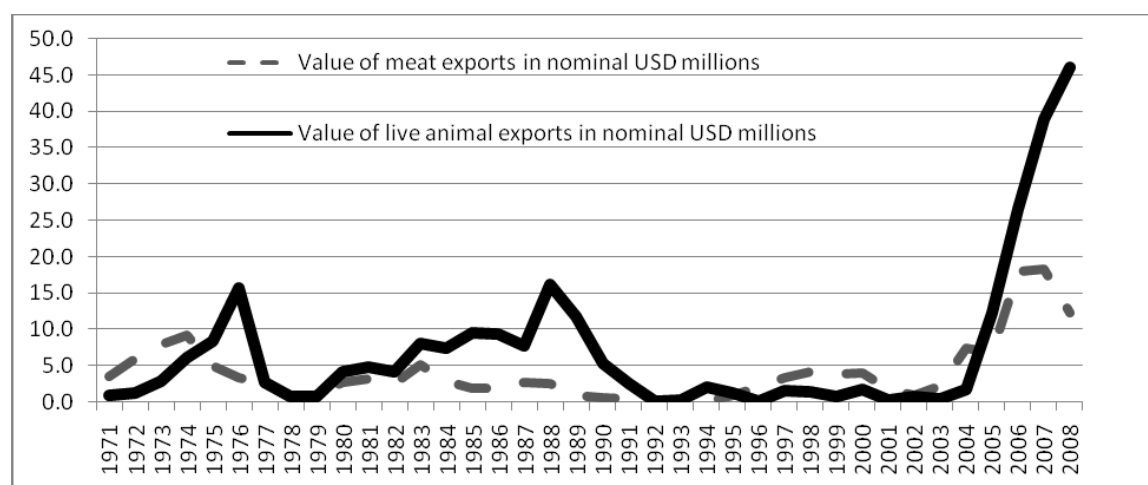
Djibouti quarantine officials highlighted the difference in condition between Ethiopian and Somali animals, with Ethiopian animals being in better condition and having a lower incidence of disease as a result of passing through Ethiopian feedlots (for cattle) and quarantine stations. However, it is unclear how end markets for live animals differentiate between Ethiopian and Somali livestock, with the exception of their preference for the Ethiopian Boran cattle breed and the Saudi market's reported preference for leaner animals (e.g. from Somalia via Djibouti).

## 3. HOW ETHIOPIA COMPARES IN TERMS OF SIZE, MARKET SHARE AND DIFFERENTIATION

What differentiates Ethiopian livestock is primarily its breeds—particularly Boran cattle and Somali Blackhead sheep—which are appreciated in the Gulf markets. Ethiopian livestock have an advantage when compared with Somali livestock, as Ethiopian livestock are better fed (due to a greater abundance of livestock feed in Ethiopia) and have a lower incidence of disease. However, much of this advantage may be lost at the Djibouti quarantine facility, as all animals that pass through the quarantine are re-exported as Djibouti origin.

The graph below shows the dramatic rise in formal live animal exports after 2004, which is likely a reflection of the government's efforts to formalize the livestock trade through greater regulatory enforcement.

**Figure 2: Ethiopian Live Animal and Meat Exports, 1971-2008**



Source: National Bank of Ethiopia data  
(Little et al 2010: 11)

<sup>80</sup> MLA 2010

## B. MEAT

The table below gives an overview of 2008 exports from the five key meat exporters—Brazil, India, Pakistan, Australia and New Zealand—to the seven major meat importing countries in the Middle East—Saudi Arabia, the UAE, Egypt, Kuwait, Bahrain, Oman and Qatar. Table 6 demonstrates the following characteristics of the export market:

- For both beef and sheep meat, frozen meat dominates the market.
- Brazil and India are by far the most important beef exporters to the Middle East, with India's beef exports surpassing Brazil's in 2008 after Brazil's exports fell from much higher levels in 2006 and 2007.
- Over 99 percent of Brazil and India's beef exports to the Middle East are boneless.
- Pakistan is the third largest beef exporter to the Middle East, exporting frozen carcasses and bone-in cuts.
- Indian and Pakistani beef is the most price competitive.
- Australia and New Zealand are major sheep meat exporters to the Middle East.
- Frozen sheep meat is Australia and New Zealand's major export to the Middle East, and is price competitive when compared to frozen sheep meat from India or Pakistan. For chilled sheep meat, however, Pakistan and India are more competitive.

The following information cannot be seen on the table but is useful in understanding the data:

- Indian “beef” exports are actually primarily buffalo meat. UN COMTRADE uses the aggregate “meat of bovine animals” without distinguishing between cattle meat and buffalo meat. The section on India below has further information on its buffalo meat exports.
- Brazilian beef exports fell sharply from 2006 to 2008, allowing India to claim greater market share. The reasons for this are discussed further in the Brazil section below.

**Table 6: 2008 Exports to Middle Eastern Markets**

| <b>2008</b>                      | <b>Brazil</b>                      | <b>India</b>  | <b>Pakistan</b>  | <b>Australia</b>  | <b>New Zealand</b>  |
|----------------------------------|------------------------------------|---|--|---|---|
| <b>Frozen Beef Vol</b>           | <b>106,735 MT</b><br>99% boneless  | <b>132,891 MT</b><br>~100% boneless                             | <b>1,010 MT</b><br>14% boneless<br>44% bone-in<br>41% carcasses                        | <b>7,682 MT</b><br>92% boneless<br>8% bone-in   | <b>753 MT</b><br>80% boneless<br>20% bone-in  |
| <b>Frozen Beef Price (FOB)</b>   | <b>\$3,458/MT</b>                  | <b>\$2,245/MT</b>   | <b>\$2,750/MT</b><br>\$3,312/MT boneless<br>\$2,998/MT bone-in<br>\$2,200/MT carcasses | <b>\$3,599/MT</b><br>\$3,631/MT boneless<br>\$3,276/MT bone-in  | <b>\$4,766/MT</b><br>\$5,123/MT boneless<br>\$3,317/MT bone-in  |
| <b>Chilled Beef Vol</b>          | <b>14,145 MT</b><br>~100% boneless | <b>1,458 MT</b><br>100% boneless                                | <b>13,746 MT</b><br>69% carcasses<br>31% bone-in                                       | <b>3,547 MT</b><br>~100% boneless   | <b>3,451 MT</b><br>~100% boneless   |
| <b>Chilled Beef Price (FOB)</b>  | <b>\$4,464/MT</b>                  | <b>\$2,269/MT</b>   | <b>\$2,356/MT</b><br>\$2,403/MT bone-in<br>\$2,335/MT carcasses                        | <b>\$9,449/MT</b>   | <b>\$6,328/MT</b>   |
| <b>Frozen Sheep Meat Vol</b>     | -                                  | <b>1,990 MT</b><br>99% bone-in<br>1% carcasses                  | <b>2,971 MT</b><br>16% boneless<br>84% bone-in   | <b>54,992 MT</b><br>22% boneless<br>68% bone-in<br>3% sheep carcasses<br>7% lamb carcasses                                | <b>38,163 MT</b><br>3% boneless<br>73% bone-in<br>14% sheep carcasses<br>10% lamb carcasses                               |
| <b>Frozen Sheep Meat Price</b>   | -                                  | <b>\$3,819/MT</b><br>\$3,821/MT bone-in<br>\$3,597/MT carcasses | <b>\$4,187/MT</b><br>\$7,697/MT boneless<br>\$3,502/MT bone-in                         | <b>\$2,660/MT</b><br>\$3,394/MT boneless<br>\$2,406/MT bone-in<br>\$2,555/MT sheep carcasses<br>\$2,817/MT lamb carcasses | <b>\$2,542/MT</b><br>\$4,083/MT boneless<br>\$2,512/MT bone-in<br>\$1,953/MT sheep carcasses<br>\$3,191/MT lamb carcasses |
| <b>Chilled Sheep Meat Vol</b>    | -                                  | <b>9,889 MT</b><br>44% boneless<br>56% carcasses                | <b>3,546 MT</b><br>92% carcasses<br>8% bone in   | <b>5,124 MT</b><br>13% boneless<br>67% bone-in<br>20% carcasses   | <b>1,278 MT</b><br>3% boneless<br>97% bone-in   |
| <b>Chilled Sheep Meat Prices</b> | -                                  | <b>\$3,695/MT</b><br>\$3,181/MT boneless<br>\$3,698/MT bone-in  | <b>\$3,592/MT</b><br>\$4,310/MT bone in<br>\$3,530/MT carcasses                        | <b>\$5,207/MT</b><br>\$7,126/MT boneless<br>\$5,529/MT bone-in<br>\$2,894/MT carcasses                                    | <b>\$4,424/MT</b><br>\$11,632/MT boneless<br>\$4,175/MT bone-in   |
| <b>Goat Meat Vol</b>             | -                                  | <b>22 MT</b>  | <b>2,584 MT</b>  | <b>1 MT</b>   | -   |
| <b>Goat Meat Prices</b>          | -                                  | <b>\$5,404/MT</b>   | <b>\$3,975/MT</b>  | <b>\$3,035/MT</b>   | -   |

## **I. BRAZIL**

Brazil is currently the second overall meat exporter worldwide after Australia, and the FAO projects that it will eventually become the leading exporter.<sup>81</sup> The Middle East is a relatively important market for Brazil, accounting for approximately 20 percent of all its frozen beef exports nearly every year between 2004 and 2008—the exception being 2008, when the Middle Eastern share dipped to 11 percent mainly as a result of a substantial decrease in exports to Egypt.

### **BEEF**

After tripling its beef exports in the last decade, Brazil now accounts for 12.8 percent of the world's total beef exports and is the world's leading exporter of beef. This growth has been made possible in large part because of investments in upgrading, driven at the production level (e.g. breed improvements) by the Brazilian Agricultural Research Corporation (EMBRAPA) and at the processing level by private investment. Government support for exports through the provision of SPS and other services, has been another important factor. Finally, despite the distance between Brazil and the Gulf States, Brazilian beef is price competitive<sup>82</sup> due to low production costs thanks to inexpensive feed (nearly all Brazilian cattle are grass-fed, although feedlots are expanding) and strong linkages between large livestock producers and meat processors, which lower transaction costs. Brazilian meat exporters also benefit from significant economies of scale, with four meat processors accounting for 70 percent of Brazil's beef export market.<sup>83</sup>

Between January 2009 and January 2010, Brazilian beef exports to Arab states rose by an impressive 54 percent, to \$56 million.<sup>84</sup> However, this dramatic rise is due in part to slower exports in 2008 as a result of the global economic downturn. Total beef exports to the Middle East grew by 53 percent between 2004 and 2006, reaching a high of 254,159 MT before falling by 8 percent between 2006 and 2007 and 48 percent from 2007 to 2008, to just 120,879 MT in 2008.

In 2008, 88 percent of Brazil's beef exports were frozen boneless (down from around 95 percent from 2004 to 2007) and the average price in the Middle Eastern market was \$3,458/MT (with Egypt importing the largest volumes for \$3,232/MT while Oman and Qatar imported smaller volumes for approximately \$5,500/MT). Egypt traditionally accounted for 80 percent of all Brazil's beef exports to the Middle East, but dropped to 60 percent in 2008. After Egypt, the largest markets for Brazilian beef are Saudi Arabia, the UAE and Kuwait.

Chilled boneless beef accounted for 12 percent of Brazil's total beef exports in 2008. The Middle East is an increasingly important market for chilled meat from Brazil, accounting for only 5 percent of Brazil's total chilled beef exports in 2004, 11 percent by 2006, and 28 percent by 2008. Its largest market for chilled beef is Saudi Arabia, with 8,671 MT in 2008, while its fastest-growing market is the UAE, with 4,548 MT in 2008 and growing at an average rate of 32 percent annually. Ninety-nine to 100 percent of Brazil's chilled beef exports are boneless cuts and the average price per MT exported to the Middle East in 2008 was \$4,464.

Brazil does not export sheep or goat meat in significant quantities.

## **2. INDIA**

Indian meat's main competitive advantage is price, particularly the low price of buffalo meat, which accounts for all of India's bovine meat exports (and is referred to as "beef" for comparison purposes in this document). Indian exporters

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<sup>81</sup> Livestock Report 2006: p. 10

<sup>82</sup> However, the MLA reports that Brazilian beef costs have rapidly risen and projects that this may open the doors for an increase in Australian market share in various markets, including the Middle East (MLA 2008: p. 2).

<sup>83</sup> Reuters 2009

<sup>84</sup> The Cattle Site, <http://www.thecattlesite.com/news/29944/sales-to-arabs-increase> Feb 17, 2010

benefit from a number of meat export incentives,<sup>85</sup> which reflect a strong governmental commitment to the sector and have been a key force driving India's meat exports. India also offers flexible credit terms and package deals, which further increase its attractiveness on a price basis.<sup>86</sup> Finally, Indian meat is recognized in the Gulf as being of good quality and having a long shelf life, and is often sold in high-end supermarkets.<sup>87</sup>

India undertakes significant promotion activities through its Agricultural and Processed Food Products Export Development Authority (APEDA), an export promotion organization under the Ministry of Commerce and Industries. APEDA is also responsible for inspecting meat in slaughterhouses, improving packaging and marketing, and collecting export statistics.

Another factor helping to account for the importance of India's exports is the large number of non-resident Indians (persons born in India who migrated to other countries) living in the Middle East. In 2006-2007, the number of non-resident Indians in the GCC was estimated at 6 million, with over 1.5 million in the UAE alone<sup>88</sup> and approximately the same number in Saudi Arabia. These populations show a strong preference for Indian meat.

The Middle East is an important market for India, absorbing 70 percent of its sheep meat exports and 28 percent of its beef exports.

#### **BEEF/BUFFALO MEAT**

India's total beef exports to the Middle East more than doubled between 2004 and 2008, rising to 134,348 MT in 2008 and surpassing Brazil in exports to the region. Frozen boneless beef accounts for 99 percent of these exports.

Within the Middle East, the largest (and fastest-growing) market for Indian beef is Egypt, which imported over 43,567 MT in 2008, followed by Kuwait and Saudi Arabia. Non-resident Indians have a strong preference for Indian buffalo meat, both for taste and religious reasons (as the majority of Hindus do not eat beef from cattle). According to the Halal Development Corporation, Indian buffalo meat in Saudi Arabia and the UAE is entirely destined for Indian and Pakistani foreign workers.<sup>89</sup> However, there is growing appreciation for buffalo meat—with its relatively low fat content and perceived organic nature—among non-Indian populations as well, and the quality of Indian beef has improved in recent years with the development of modern integrated abattoirs.

In 2008, the average price of frozen beef exports to the Middle East was \$2,402/MT, while the average price of chilled beef was \$2,269.

Although they still account for only 1 percent of total exports, chilled beef exports have increased by 59 percent from 2004 to 2008. One hundred percent of chilled beef exports in 2008 were boneless cuts, compared with just 44 percent in 2006.

#### **SHEEP MEAT**

India's sheep meat exports to the Middle East grew by 47 percent between 2004 and 2008, reaching 13,327 MT. In 2008, 41 percent of exports were in the form of chilled carcasses, while 33 percent were chilled boneless and 15 percent were bone-in frozen. The average price per MT in the Middle Eastern markets was \$4,172 for carcasses,

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<sup>85</sup>These include the *Vishesh Krishi Gram Upaj Yojana* (VKGUY), providing duty credit scrip equivalent to 5% of the FOB value of exports in order to compensate for transport costs, and the Duty Entitlement Pass Book (DEPB) scheme, which compensates the customs duty on an export product's import content. (Ramanathan Nagasamy, Indian External Trade Incentives, <http://www.articlesnatch.com/Article/Indian-External-Trade-Incentives/996797>)

<sup>86</sup> USMEF 2009

<sup>87</sup> Belachew Hurrissa 2010: pp. 5-13

<sup>88</sup> Research by S. Kadwe, 2007, quoted in Wikipedia ([http://en.wikipedia.org/wiki/Non-resident\\_Indian\\_and\\_Person\\_of\\_Indian\\_Origin#Middle\\_East](http://en.wikipedia.org/wiki/Non-resident_Indian_and_Person_of_Indian_Origin#Middle_East))

<sup>89</sup> HDC International Business Development Department (IBD) ([http://www.hdcglobal.com/portal/indices/index\\_219.html](http://www.hdcglobal.com/portal/indices/index_219.html))



\$3,108 for chilled boneless and \$3,821 for frozen bone-in meat. In 2008, the Saudi market was the largest, at 5,231 MT, followed by Egypt and the UAE. The high prices paid for chilled carcasses suggest that, unlike Indian beef/buffalo meat which is primarily consumed by non-resident Indians, chilled sheep carcasses may be destined for middle class or high-end retail markets within the Middle East.

#### **GOAT MEAT**

India's exports of goat meat are insignificant, with just 22 MT exported to the UAE in 2008, accounting for 74 percent of its global exports. The price was \$5,404/MT.

### **3. PAKISTAN**

Though still small relative to Brazil and India, Pakistan's beef and sheep meat exports have seen a major increase over the 2004-2008 period, with the Middle East as the major market for all of the country's meat products.

Several recent developments underscore governmental commitment to increasing Pakistan's meat exports. The Government of Punjab is planning to establish an intensive livestock production zone on 50,000 acres of land that will produce 60,000 MT of beef annually. In line with this initiative, the Government of Punjab has pledged an income-tax exemption for corporate livestock farming and the provision of daily freight service at discounted rates in order to increase the competitiveness of Pakistan's exports. Other incentives include the establishment of cold storage in three cities by the Punjab Agriculture Marketing Company and the abolishment of the quarantine fee by the federal government.<sup>90</sup> These initiatives will likely strengthen the international competitiveness of Pakistan's meat exports.

#### **BEEF**

Over the past five years, Pakistan has become an increasingly important exporter of chilled beef, with volumes of exports rising from 1,713 MT in 2004 to 13,902 MT in 2008—an increase of 711 percent over just four years. Pakistan also exports frozen beef, although this represents a small proportion (7 percent in 2008) of total beef exports. In 2008, the three major beef importing countries of the Middle East (UAE, Kuwait and Saudi Arabia) accounted for 76 percent of Pakistan's chilled beef exports and 93 percent of Pakistan's frozen beef exports. The UAE is the fastest-growing customer for Pakistan, with chilled beef imports increasing by 4,616 percent between 2004 and 2008, for a high of 5,625 MT in 2008. Other countries have also recorded rapid growth, with Saudi Arabia increasing its imports from Pakistan by 300 percent and Kuwait by 624 percent over the same period. Sixty-nine percent of chilled beef exports are in the form of carcasses, while the remaining 39 percent are in the form of bone-in cuts. Only 0.01 percent of chilled beef is exported boneless, which explains why Pakistan does not export any beef to Egypt.

In terms of frozen beef exports, the UAE is the major customer, accounting for 79 percent of all Pakistan's frozen beef exports. Prices for frozen beef were \$2,749 per MT in 2008, higher (surprisingly) than chilled beef at \$2,355 per MT (\$2,334/MT for carcasses, \$2,402/MT for bone-in cuts and \$2,868/MT for boneless cuts).

#### **SHEEP MEAT**

Though still small, Pakistan's sheep meat exports have risen dramatically in recent years, with total export volumes more than quadrupling between 2004 and 2008 to reach 3,283 MT. Virtually all of these exports (99-100 percent) are in the form of chilled carcasses and are destined for to the six major Middle Eastern shooat meat markets (in decreasing order of magnitude): Saudi Arabia (accounting for an increasing share of Pakistan's total exports, reaching 58 percent in 2008), Oman, Qatar, the UAE, Kuwait and Bahrain. Total exports reached 3,265 MT in 2008, for a total value just over \$12 million. The average price per MT in 2008 was \$3,699, with the UAE market paying the highest price

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<sup>90</sup> The News (Pakistan), February 13, 2010



(\$4,065). As with chilled sheep carcasses from India, the high prices suggest that these are primarily destined for high-end or middle-class retail markets.

#### GOAT MEAT

Pakistan's goat meat exports have traditionally been more important than its sheep meat exports (2004 exports were 3,717 MT of goat meat and just 677 MT of sheep meat); however, goat meat exports have decreased by 8 percent annually since 2004. Again, 99-100 percent of Pakistan's total goat meat exports to the six major Middle Eastern shoft meat markets—with Saudi Arabia and the UAE receiving 79 percent of all exports in 2008 (down from 94 percent in 2006). These larger markets are contracting, however, while the smaller markets are all experiencing steady growth. The average price per MT in 2008 was \$3,975, with the UAE again paying the highest price (\$4,147).<sup>91</sup>

### 4. AUSTRALIA

#### BEEF

Australia's beef exports to the Middle East are relatively small (11,230 MT in 2008) but growing: between 2004 and 2008, frozen beef exports rose by 143 percent while chilled beef exports rose by 93 percent. With chilled boneless beef prices of \$9,499 per MT and frozen boneless beef prices of \$3,631, Australian beef targets the high end of the market. The UAE—with its rapidly growing tourism and luxury hotel industry—is by far Australia's largest customer for chilled beef, accounting for 57 percent of Middle Eastern exports for 2008.



#### SHEEP MEAT

Australian sheep meat exports to the Gulf States have traditionally been in the form of frozen carcasses, but the country is increasingly exporting chilled meat, both cuts and carcasses.<sup>92</sup> In 2007-2008, Australia exported 158,490 MT of sheep meat, of which 33 percent went to the Middle East.<sup>93</sup> As with live animals, part of the success of Australian meat exports can be attributed to aggressive regional promotion activities by the MLA. Australian red meat exports to the Middle East were 22 percent higher during the 2nd quarter of 2008 than they were during the same period of 2007.<sup>94</sup> Australia is price competitive and markets its meat well. However, the MLA projects that Australian sheep and mutton exports will remain below 2003 levels through at least 2012, plateau-ing around 4 million head and 130,000 MT. This is a result of the 2002-03 and 2006-07 droughts, which caused the flock to decrease from 118.5 million head in 2000 to just 86.3 million head in 2007.<sup>95</sup>



UN-COMTRADE statistics show that Australia exported nearly 55,000 MT of frozen sheep meat and 5,124 MT of chilled sheep meat to the Middle East in 2008. Two-thirds of these exports were bone-in cuts, which sold for an average price of \$2,406/MT for frozen mutton and \$5,529/MT for chilled mutton. Prices for chilled carcasses were significantly lower than Indian or Pakistani exports, at \$2,894/MT. A relatively small proportion (13 percent) of the chilled mutton was exported boneless, at an impressive price of \$7,126/MT.

#### GOAT MEAT

Australia is the largest exporter of goat meat in the world, but only an insignificant fraction of these exports go to the Middle East.

<sup>91</sup> Computed from COMTRADE data

<sup>92</sup> MLA, <http://www.mla.com.au/TopicHierarchy/MarketInformation/OverseasMarkets/RedMeatMarkets/MiddleEast/default.htm#Market%20Requirements> accessed March 1, 2010

<sup>93</sup> MLA 2008

<sup>94</sup> USMEF 2009

<sup>95</sup> MLA 2008, quoting Australian Bureau of Statistics

## 5. NEW ZEALAND

The Middle East is a relatively small market for New Zealand, accounting for 1 percent of its global beef exports and 9 percent of its global sheep meat exports.

### BEEF

New Zealand exported only 4,205 MT of beef to the Middle East in 2008, 82 percent of which was chilled boneless beef. Exports of chilled boneless beef to the Middle East grew by 59 percent over the 2004-2008 period. The UAE is the largest market for New Zealand beef, with 1,601 MT of chilled beef in 2008, followed by Qatar and Kuwait.

Together with Australian beef, New Zealand beef serves the very high end of the Middle East market. In 2008, the average price of chilled beef for the Middle East market was \$6,328, while the average price of frozen beef was \$5,658.

### SHEEP MEAT

New Zealand is the world's leading exporter of mutton and lamb meat, ahead of Australia in second place and far ahead of China and India in third and fourth places respectively.<sup>96</sup>

In 2008, New Zealand exported 38,163 MT of frozen sheep meat and 1,278 MT of chilled sheep meat to the Middle East. Saudi Arabia was the major customer, accounting for two-thirds of this volume. Frozen sheep meat from New Zealand is price competitive in Middle East markets, with bone-in cuts (which account for the majority of exports) selling for \$2,512/MT and boneless cuts selling for \$4,083/MT. Chilled boneless sheep meat sells for very high prices (\$11,632/MT), but accounts for a only a minute fraction of exports to the Middle East (43 MT).

## 6. ETHIOPIA

Ethiopia has the comparative advantage of geographical proximity, but the country's high air cargo costs and the high rate of carcass rejection upon arrival in the Gulf States decreases its cost competitiveness, while the low quality of meat (dark cutting due to poor animal handling, etc.) lowers Ethiopia's quality competitiveness as well.

According to UNCOMTRADE, Ethiopia's goat meat exports were just under 5,000 MT in 2009, having fluctuated between 3,000 MT and 6,000 MT in recent years.

The current Ethiopian birr exchange rate 13.235 birr = \$197 (March 10, 2010) is favorable to exports.

### BEEF

Ethiopia's beef exports are small—just 291 MT exported in 2009—but this is an increase over previous years.

### SHEEP AND GOAT MEAT

Goat meat accounts for the majority of meat exported from Ethiopia. The main markets are Dubai (nearly 4,000 MT in 2008 and 2009) and Saudi Arabia (nearly 2,000 MT in 2008 and 1,000 MT in 2009). Ethiopian meat is mostly sold at the low end of the market, aimed at low-income expatriates (household workers). However, importers complain of poor quality, unreliable supply and inability to supply significant quantities.<sup>98</sup> Very small volumes of goat meat were also exported to Congo (2.5 MT in 2008) and Yemen (35 MT in 2007, none in 2008).

In 2008, Ethiopia also exported small volumes of chilled lamb carcasses: 1,356 MT to Saudi Arabia and 605 MT to the UAE.

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<sup>96</sup> FAO 2004

<sup>97</sup> March 10, 2010 (<http://www.oanda.com/currency/converter/>)

<sup>98</sup> Belachew Hurissa SPS-LMM report 2006

# V. CHOICES

## A. SHADED GRID ANALYSIS

The grid below is based on the author's analysis of data presented in this document. It should be noted, however, that certain inputs (such as the relative weight of each of the criteria) reflects a certain amount of subjectivity and that, due to the nature of this paper as a desk study, the author was not able to vet these findings with stakeholders on the ground.

**Table 7: Grid Analysis of Current or Potential Markets**

| Criteria   | Weight | Current or Potential Markets |                 |                 |                 |                 |                 |                 |                 |                    |
|--|--------|------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------|
|  |        | Egypt                        | KSA             | UA<br>E         | Kuwait          | Other<br>GCC    | Yemen           | Near<br>East    | West<br>Africa  | Centra<br>l Africa |
| Context: fit w/ current VC capabilities                    | 35%    |                              |                 |                 |                 |                 |                 |                 |                 |                    |
| SPS requirements   |        | 1                            | 1               | 2               | 2               | 2               | 3               | 1?              | 3               | 3                  |
| Processing logistics                                       |        | 1                            | 2               | 3               | 2               | 2               | 3               | 1?              | 2               | 2                  |
| Export logistics   |        | 2                            | 2               | 2               | 2               | 2               | 3               | 1?              | 1               | 1                  |
| Channels: relationships w/ current channel partners        | 10%    | 2                            | 3               | 3               | 2               | 2               | 3               | 1               | 1               | 1                  |
| Customers: size and growth potential of the market         | 35%    | 3                            | 3               | 3               | 2               | 2               | 1               | 3               | 1               | 1                  |
| Competition: volume and diversity of exporters into market | 20%    | 2                            | 2               | 2               | 2               | 2               | 3               | 1               | 3               | 3                  |
| Weighted total   |        | 2.12                         | 2.33            | 2.57            | 2               | 2               | 2.3             | 1.7             | 1.75            | 1.75               |
| Rank   |        | 4 <sup>th</sup>              | 2 <sup>nd</sup> | 1 <sup>st</sup> | 5 <sup>th</sup> | 5 <sup>th</sup> | 3 <sup>rd</sup> | 7 <sup>th</sup> | 8 <sup>th</sup> | 8 <sup>th</sup>    |

Notes:

Other GCC: Bahrain, Oman, Qatar

Near East: Israel, Lebanon, Jordan, Syria

West Africa: Ghana, Cote d'Ivoire

Central Africa: Democratic Republic of Congo

3=good (favorable or easy)

2=neutral

1=poor (unfavorable or difficult)

# VI. PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER DATA COLLECTION AND ANALYSIS

## A. PRELIMINARY CONCLUSIONS

This desk study on end markets for Ethiopian livestock and meat provides some useful insights into Ethiopia's competitiveness in Middle Eastern markets and enables us to draw some preliminary conclusions:

- **Key factors constraining Ethiopia's competitiveness** are unreliability of supply and low quality of meat. These are largely a product of the supply/purchasing systems and abattoir/export operations, which must be addressed in order for exports to increase.
- **Unreliability of supply** is a consequence of the lack of integration within the Ethiopian livestock value chain. This is due to traditional livestock production and marketing systems as well as the abattoirs' specific purchasing systems. Increased vertical integration—through buyer-seller contracts or companies such as UGITSC that involve actors at different levels of the value chain—will enable better planning to meet the needs for the export market.
- **Low quality** is due in large part to inadequate infrastructure and inappropriate handling practices at the slaughter and export stages. Investments in appropriate infrastructure and cooling equipment—particularly cold stores for meat at Bole airport—are critical to decrease the risk of bacterial contamination. The enforcement of proper animal and meat handling practices will also be an important factor in improving meat quality and enabling Ethiopian meat exporters to target higher-end markets within the Middle East.
- **The lack of refrigerated transport** must be addressed in order for Ethiopia to enter the market for frozen meat. This will require investment in refrigerated (“reefer”) trucks for shipping boneless meat and carcasses overland to Djibouti and Somali ports.
- **Ethiopia's competitors within the Middle Eastern markets** compete not only on price and quality, but also on other factors such as flexibility of payment terms, aggressive marketing and promotion, and export incentives. Public-private initiatives and strong governmental support for meat exports are critical to these countries' competitiveness. These are measures that Ethiopia may seek to emulate in order to increase the competitiveness of its meat exports and ultimately target higher-end markets.
- **Accessing higher-end markets** will require not only quality improvements for existing meat exports (e.g. shoat carcasses), but also technological upgrading for new products (boxed cuts, boneless beef and mutton, etc.). Investment in such upgrading must be encouraged, possibly with support provided through a strengthened Ethiopian Meat and Dairy Training Institute, in order for higher-end meat products from Ethiopia to target higher-end markets in the Gulf and Egypt. In order for this to occur, a greater in-depth

understanding of the various segments of the Middle Eastern market is necessary, as described in the Recommendations section below.

- **Live animal exports will continue to be important**, as many Arab consumers prefer freshly slaughtered meat. Therefore, live animal exports should continue to receive governmental attention and support. The initiation of a one-stop shop for export documents is an important beginning; piloting of further export facilitation initiatives could greatly benefit not only live animal exporters, but the entire Ethiopian livestock value chain.

## B. RECOMMENDATIONS

There remain critical gaps in knowledge that must be filled before definitive conclusions and policy recommendations can be made for enhancing Ethiopia's competitiveness. In particular, further investigation and analysis on the following areas are recommended:

- **More detailed information on Middle Eastern market segments.** Although a significant amount of information is known about these markets, conducting on-the-ground interviews is critical to better understand the various segments and their requirements. In particular, it was noted in this study that Gulf consumers like fat-tailed sheep; yet these countries import lowland animals (primarily live sheep and goat meat) from Ethiopia. It appears that the requirements forwarded by Middle Eastern importers to Ethiopian exporters do not necessarily reflect the preferences of the Arab consumer—rather, they seem to be geared toward the lower segment of the market, catering to guest workers. Simply following existing requirements, therefore, may not enable Ethiopia to penetrate the higher end of the market. Moreover, understanding market segments will also shed light on where Ethiopia stands with regards to its competitors. For instance, it was noted in this study that India is the largest exporter of beef—or, rather, buffalo meat—to the Middle East, and that virtually all of these exports are consumed by non-resident Indians. Who are the major consumers of Brazilian beef? Of Australian sheep meat? These questions would be interesting to explore, but the data is not available from secondary sources and will require primary research.
- **More detailed comparative analysis** on costs and returns all along live animal and meat value chains<sup>99</sup>—e.g. Ethiopian production, marketing and processing costs and how these compare to those of its competitors. This will include:
  - **Comparative data on livestock fattening and other production costs.** Understanding how Ethiopia's feed situation compares with other livestock and meat exporting countries will shed light on the impact of feed availability and price on Ethiopia's competitiveness.
  - **Comparative data on air freight and shipping costs for Ethiopia and other exporting countries.** This is particularly important given the correlation between the cost of air transport and the ability of a country to competitively export higher-value chilled meat.
  - **Development of strategies** to reduce transaction costs, increase returns for producers and SMEs, encourage investment and improve competitiveness of products in export markets.

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<sup>99</sup> Useful data on profit margins and returns within certain channels of the Ethiopian livestock value chain is available in markets is available in Hailemariam Teklewold et al 2009; however, this analysis does not include comparisons with other countries.

- **Information on recent developments in the region.** In particular, up-to-date information on the status of the Egypt market (which has reportedly recently approved the import of Ethiopian cattle) and information on the impact of new quarantine stations opened in Berbera and Bosasso would be useful.
- **More detailed information on the Near East and African markets.** These markets scored lower than Middle Eastern markets in the shaded grid analysis above, yet they offer interesting opportunities in terms of market size (in the case of the Near East) and less stringent requirements (in the case of African markets). Further investigation into their end market requirements and potential for niche markets would provide a more complete picture of Ethiopia's potential to access them.

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# ANNEXES

The annexes below provide comparative data on frozen and chilled beef exports from the five major suppliers to the Middle East between 2004 and 2008. The tables provide the following specific data:

- Volume of exports (in kg) to the major meat importers in the region: Bahrain, Egypt, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE
- Percentage growth (total) over the 2004-2008 period
- Value of exports (in USD) in 2008 (the most recent year available). Values are reported FOB.
- Prices in USD/MT, also reported FOB.
- Total exports to Middle East. Note: this is the total of exports to the seven countries listed above, excluding other Middle Eastern countries which may have imported small volumes of meat.
- Total exports to the world. This line shows the country's total exports to the world, which helps the reader understand the relative size of the Middle Eastern market in proportion to other markets, shown in the next line ("to Middle East"). In the case of beef, for instance, this shows that the Middle East is the key market for Pakistan (absorbing 98-99 percent of its total beef exports), while it is only a very minor market for Australia (absorbing only 1 percent of its total beef exports).

This data was obtained from UN COMTRADE (<http://comtrade.un.org/db>). Data on sheep and goat meat exports (as well as live animals) can be found on the same website and analysis is included in this study. However, sheep and goat meat exports are not included below, as they are disaggregated to such an extent that the results are difficult to compare across countries.

## ANNEX I. BRAZIL BEEF EXPORTS TO MIDDLE EAST 2004-2008

Table 8: Frozen Beef (code 0202)

| BRAZIL EXPORTS   | 2004        | 2005        | 2006          | 2007          | 2008        | % growth | 2008 value      | 2008 prices |
|------------------|-------------|-------------|---------------|---------------|-------------|----------|-----------------|-------------|
| to Bahrain       | 908,838     | 602,791     | 843,348       | 736,015       | 788,209     | -13%     | \$3,770,441     | \$4,784     |
| to Egypt         | 112,140,762 | 146,301,176 | 198,141,540   | 174,187,409   | 64,929,233  | -42%     | \$209,880,937   | \$3,232     |
| to Kuwait        | 3,274,630   | 4,291,533   | 4,500,868     | 4,574,850     | 4,605,869   | 41%      | \$16,423,279    | \$3,566     |
| to Oman          | 143,731     | 77,964      | 110,501       | 92,164        | 120,428     | -16%     | \$661,824       | \$5,496     |
| to Qatar         | 527,603     | 569,400     | 946,947       | 898,113       | 1,077,242   | 104%     | \$5,914,630     | \$5,491     |
| to Saudi Arabia  | 34,777,283  | 19,126,837  | 28,394,058    | 30,495,027    | 27,720,571  | -20%     | \$96,251,659    | \$3,472     |
| to UAE           | 5,315,347   | 5,221,866   | 7,616,599     | 7,219,629     | 7,493,214   | 41%      | \$36,134,439    | \$4,822     |
| to Middle East   | 157,088,194 | 176,191,567 | 240,553,861   | 218,203,207   | 106,734,766 | -32%     | \$369,037,209   | \$3,458     |
| to world         | 741,663,114 | 907,827,295 | 1,102,757,429 | 1,157,560,274 | 972,129,544 | 31%      | \$3,710,161,033 | \$3,817     |
| % to Middle East | 21%         | 19%         | 22%           | 19%           | 11%         |          |                 |             |

Note: virtually all (99-100%) of Brazil's frozen beef exports are boneless

Table 9: Chilled Beef (code 0201)

| BRAZIL EXPORTS   | 2004        | 2005        | 2006        | 2007        | 2008       | % growth | 2008 value   | 2008 prices |
|------------------|-------------|-------------|-------------|-------------|------------|----------|--------------|-------------|
| to Bahrain       | 10,157      | 45,312      | 42,695      | 55,602      | 99,685     | 881%     | \$601,915    | \$6,038     |
| to Egypt         | 163,320     | 142,922     | 5,007       |             | 74,553     | -54%     | \$350,545    | \$4,702     |
| to Kuwait        | 180,932     | 85,457      | 96,550      | 218,074     | 190,780    | 5%       | \$741,308    | \$3,886     |
| to Oman          |             |             | 45,669      | 23,243      | 47,480     |          | \$215,004    | \$4,528     |
| to Qatar         | 209,311     | 135,466     | 295,005     | 520,122     | 512,866    | 145%     | \$2,295,921  | \$4,477     |
| to Saudi Arabia  | 6,974,454   | 8,705,710   | 10,106,618  | 9,900,970   | 8,671,096  | 24%      | \$37,933,604 | \$4,375     |
| to UAE           | 1,527,192   | 1,918,774   | 3,013,766   | 4,114,353   | 4,548,112  | 198%     | \$21,008,476 | \$4,619     |
| to Middle East   | 9,065,366   | 11,033,641  | 13,605,310  | 14,832,364  | 14,144,572 | 56%      | \$63,146,773 | \$4,464     |
| to world         | 183,418,421 | 177,763,891 | 122,665,114 | 128,246,455 | 50,753,406 | -72%     |              |             |
| % to Middle East | 5%          | 6%          | 11%         | 12%         | 28%        |          |              |             |

Note: virtually all of Brazil's chilled beef exports are boneless.

## ANNEX 2. INDIA'S BEEF EXPORTS TO THE MIDDLE EAST 2004-2008

Table 10: Frozen Beef

| INDIA EXPORTS    | 2004        | 2005        | 2006        | 2007        | 2008        | % growth | 2008 value      | 2008 prices |
|------------------|-------------|-------------|-------------|-------------|-------------|----------|-----------------|-------------|
| to Bahrain       | N/A         | N/A         | N/A         | N/A         | N/A         |          | N/A             | N/A         |
| to Egypt         |             | 25,000      | 5,911,196   | 25,285,788  | 43,566,757  | 174167%  | \$112,000,703   | \$2,571     |
| to Kuwait        | 14,499,601  | 28,306,378  | 40,053,842  | 40,199,444  | 30,902,477  | 113%     | \$68,277,274    | \$2,209     |
| to Oman          | 8,504,475   | 10,190,218  | 10,707,879  | 11,885,905  | 11,125,031  | 31%      | \$26,087,518    | \$2,345     |
| to Qatar         | 1,732,117   | 2,571,697   | 3,810,398   | 2,736,347   | 3,414,995   | 97%      | \$8,214,581     | \$2,405     |
| to Saudi Arabia  | 20,585,532  | 36,310,614  | 26,739,558  | 34,871,060  | 25,584,414  | 24%      | \$63,487,929    | \$2,482     |
| to UAE           | 17,938,371  | 35,126,645  | 28,718,020  | 26,318,466  | 18,297,027  | 2%       | \$41,076,795    | \$2,245     |
| to Middle East   | 63,260,096  | 112,530,552 | 115,940,893 | 141,297,010 | 132,890,701 | 110%     | \$319,144,800   | \$2,402     |
| to world         | 347,689,992 | 434,380,262 | 465,055,288 | 477,502,997 | 475,239,567 | 37%      | \$1,097,874,890 | \$2,310     |
| % to Middle East | 18%         | 26%         | 25%         | 30%         | 28%         |          |                 |             |

Note: N/A = Not Available (on UN COMTRADE)

Table 11: Chilled Beef

| INDIA EXPORTS    | 2004      | 2005      | 2006       | 2007      | 2008      | % growth | 2008 value  | 2008 prices |
|------------------|-----------|-----------|------------|-----------|-----------|----------|-------------|-------------|
| to Bahrain       | N/A       | N/A       | N/A        | N/A       | N/A       |          | N/A         | N/A         |
| to Egypt         |           |           |            | 420,000   |           |          |             |             |
| to Kuwait        | 3,800     | 245,149   | 1,692,605  | 147,162   | 300,041   | 7796%    | \$607,431   | \$2,024     |
| to Oman          | 18,350    | 331,772   | 779,550    | 86,161    | 376,222   | 1950%    | \$870,448   | \$2,314     |
| to Qatar         | 164,651   | 241,730   | 442,346    | 308,849   | 660,675   | 301%     | \$1,457,264 | \$2,206     |
| to Saudi Arabia  | 110,531   | 207,560   | 362,330    | 572,203   | 1,324     | -99%     | \$2,176     | \$1,644     |
| to UAE           | 408,239   | 584,384   | 1,824,896  | 603,232   | 119,403   | -71%     | \$369,847   | \$3,097     |
| to Middle East   | 705,571   | 1,610,595 | 5,101,727  | 2,137,607 | 1,457,665 | 107%     | \$3,307,166 | \$2,269     |
| to world         | 2,903,387 | 4,812,489 | 20,501,475 | 4,730,477 | 4,608,815 | 59%      | \$9,266,572 | \$2,011     |
| % to Middle East | 24%       | 33%       | 25%        | 45%       | 32%       |          |             |             |

Note: Data on Bahrain unavailable from UN COMTRADE

### ANNEX 3. PAKISTAN BEEF EXPORTS TO THE MIDDLE EAST 2004-2008

Table 12: Frozen Beef

| PAKISTAN EXPORTS | 2004  | 2005   | 2006    | 2007      | 2008      | % growth | 2008 value  | 2008 prices |
|------------------|-------|--------|---------|-----------|-----------|----------|-------------|-------------|
| to Bahrain       |       |        | 15,670  | 34,712    | 1,600     | #DIV/0!  | \$3,247     | \$2,029     |
| to Kuwait        |       | 1,121  | 153,133 | 498,347   | 116,059   | #DIV/0!  | \$260,427   | \$2,244     |
| to Oman          |       | 2,550  | 51,265  | 135,235   | 30,436    | #DIV/0!  | \$83,054    | \$2,729     |
| to Qatar         |       | 9,300  | 6,696   | 368       | 12,708    | #DIV/0!  | \$43,720    | \$3,440     |
| to KSA           |       |        | 4,948   | 19,012    | 32,844    | #DIV/0!  | \$90,779    | \$2,764     |
| to UAE           | 8,000 | 700    | 20,870  | 1,043,927 | 816,388   | 10105%   | \$2,299,788 | \$2,817     |
| Middle East      | 8,000 | 13,671 | 252,582 | 1,731,601 | 1,010,035 | 12525%   | \$2,781,015 | \$2,753     |
| to world         | 8,000 | 13,671 | 252,582 | 1,741,741 | 1,033,149 | 12814%   | \$2,840,314 | \$2,749     |
| % to Middle East | 100%  | 100%   | 100%    | 99%       | 98%       |          |             |             |

Table 13: Chilled Beef

| PAKISTAN EXPORTS | 2004      | 2005      | 2006      | 2007      | 2008       | % growth | 2008 value   | 2008 prices |
|------------------|-----------|-----------|-----------|-----------|------------|----------|--------------|-------------|
| to Bahrain       | 105,960   | 16,698    | 26,968    | 330,789   | 439,485    | 315%     | \$973,892    | \$2,216     |
| to Kuwait        | 557,890   | 1,252,495 | 2,047,844 | 2,460,487 | 4,039,609  | 624%     | \$8,525,751  | \$2,111     |
| to Oman          | 428,820   | 361,531   | 352,135   | 913,107   | 1,572,864  | 267%     | \$3,619,517  | \$2,301     |
| to Qatar         | 270,737   | 255,917   | 522,707   | 849,934   | 1,175,405  | 334%     | \$2,527,672  | \$2,150     |
| to KSA           | 223,335   | 60,110    | 137,588   | 292,355   | 892,949    | 300%     | \$2,241,856  | \$2,511     |
| to UAE           | 119,288   | 470,802   | 1,144,995 | 2,955,404 | 5,625,486  | 4616%    | \$14,495,018 | \$2,577     |
| Middle East      | 1,706,030 | 2,417,553 | 4,232,237 | 7,802,076 | 13,745,798 | 706%     | \$32,383,706 | \$2,356     |
| % to Middle East | 100%      | 100%      | 99%       | 100%      | 99%        |          |              | \$-         |
| to world         | 1,713,185 | 2,420,429 | 4,272,841 | 7,810,327 | 13,901,848 | 711%     | \$32,741,957 | \$2,355     |

Note: no Pakistani chilled beef exports to Egypt

## ANNEX 4. AUSTRALIA BEEF EXPORTS TO THE MIDDLE EAST 2004-2008

Table 14: Frozen Beef

| AUSTRALIA EXPORTS | 2004        | 2005        | 2006        | 2007        | 2008        | % growth | 2008 value      | 2008 prices |
|-------------------|-------------|-------------|-------------|-------------|-------------|----------|-----------------|-------------|
| to Bahrain        | 112,573     | 120,836     | 185,998     | 53,062      | 106,946     | -5%      | \$549,166       | \$5,135     |
| to Egypt          | 176,888     | 55,726      | 113,022     | 154,894     | 933,212     | 428%     | \$4,754,378     | \$5,095     |
| to Kuwait         | 1,687,011   | 1,267,363   | 972,460     | 676,633     | 928,168     | -45%     | \$3,173,516     | \$3,419     |
| to Oman           |             |             | 1,285       | 284         |             |          |                 |             |
| to Qatar          | 160,839     | 161,142     | 191,242     | 828,758     | 309,811     | 93%      | \$1,968,637     | \$6,354     |
| to Saudi Arabia   | 633,614     | 527,444     | 779,463     | 1,059,014   | 3,172,937   | 401%     | \$9,389,659     | \$2,959     |
| to UAE            | 390,694     | 347,357     | 410,764     | 447,612     | 2,231,333   | 471%     | \$7,809,869     | \$3,500     |
| to Middle East    | 3,161,619   | 2,479,868   | 2,654,234   | 3,220,257   | 7,682,407   | 143%     | \$27,645,225    | \$3,599     |
| to world          | 685,370,132 | 683,246,204 | 704,132,227 | 705,292,102 | 720,390,487 | 5%       | \$2,349,058,915 | \$3,261     |
| % to Middle East  | 0%          | 0%          | 0%          | 0%          | 1%          |          |                 |             |

Table 15: Chilled Beef

| AUSTRALIA EXPORTS | 2004        | 2005        | 2006        | 2007        | 2008        | % growth | 2008 value      | 2008 prices |
|-------------------|-------------|-------------|-------------|-------------|-------------|----------|-----------------|-------------|
| to Bahrain        | 9,864       | 8,487       | 7,855       | 36,281      | 57,857      | 487%     | \$858,405       | \$14,837    |
| to Egypt          |             | 1,132       |             | 10,737      | 35,781      | #DIV/0!  | \$361,346       | \$10,099    |
| to Kuwait         | 58,556      | 46,669      | 44,953      | 40,865      | 46,664      | -20%     | \$744,971       | \$15,965    |
| to Oman           | 6,400       | 18,579      | 30,073      | 30,115      | 28,192      | 341%     | \$320,196       | \$11,358    |
| to Qatar          | 199,264     | 272,961     | 409,007     | 505,591     | 815,009     | 309%     | \$7,133,191     | \$8,752     |
| to Saudi Arabia   | 527,230     | 142,765     | 263,154     | 14,191      | 549,435     | 4%       | \$2,637,111     | \$4,800     |
| to UAE            | 1,034,094   | 1,037,097   | 1,058,953   | 1,418,070   | 2,014,490   | 95%      | \$21,465,855    | \$10,656    |
| to Middle East    | 1,835,408   | 1,527,690   | 1,813,995   | 2,055,850   | 3,547,428   | 93%      | \$33,521,075    | \$9,449     |
| to world          | 278,440,649 | 294,117,338 | 302,969,022 | 287,532,843 | 274,017,634 |          | \$1,833,749,318 | \$6,692     |
| % to Middle East  | 1%          | 1%          | 1%          | 1%          | 1%          |          |                 |             |



## ANNEX 5. NEW ZEALAND BEEF EXPORTS TO THE MIDDLE EAST 2004-2008

Table 16: Frozen Beef

| NZ EXPORTS       | 2004        | 2005        | 2006        | 2007        | 2008        | % growth | 2008 value      | 2008 prices |
|------------------|-------------|-------------|-------------|-------------|-------------|----------|-----------------|-------------|
| to Bahrain       | 33,741      | 38,838      | 68,617      | 52,850      | 43,879      | 30%      | \$305,838       | \$6,970     |
| to Egypt         | 15,562      | 1,202       | 4,845       | 15,862      | 139,403     | 796%     | \$776,282       | \$5,569     |
| to Kuwait        | 682,164     | 93,355      | 171,727     | 126,026     | 386,947     | -43%     | \$1,416,441     | \$3,661     |
| to Oman          | 56,397      | 33,298      | 50,605      | 53,983      | 62,277      | 10%      | \$493,451       | \$7,923     |
| to Qatar         | 2,371       | 10,299      | 69,081      | 98,707      | 95,235      | 3917%    | \$388,631       | \$4,081     |
| to Saudi Arabia  | 72,987      | 73,777      |             |             | 25,490      | -65%     | \$162,884       | \$6,390     |
| to UAE           | 141,480     | 48,017      | 56,742      | 10,180      | 140,900     | 0%       | \$718,283       | \$5,098     |
| to Middle East   | 1,004,702   | 298,786     | 421,617     | 357,608     | 894,131     | -11%     | \$4,261,810     | \$4,766     |
| to world         | 491,384,112 | 390,494,570 | 352,879,954 | 327,393,720 | 354,811,751 | -28%     | \$1,170,228,187 | \$3,298     |
| % to Middle East | 0%          | 0%          | 0%          | 0%          | 0%          |          |                 |             |

Note: 92% of New Zealand's total frozen beef exports are boneless

Table 17: Chilled Beef

| NZ EXPORTS       | 2004       | 2005       | 2006       | 2007       | 2008       | % growth | 2008 value    | 2008 prices |
|------------------|------------|------------|------------|------------|------------|----------|---------------|-------------|
| to Bahrain       | 318,437    | 357,177    | 358,999    | 421,627    | 444,251    | 40%      | \$3,104,680   | \$6,989     |
| to Egypt         |            |            |            | 22,692     |            |          |               |             |
| to Kuwait        | 359,437    | 369,249    | 284,215    | 492,461    | 524,134    | 46%      | \$2,903,180   | \$5,539     |
| to Oman          | 155,823    | 141,420    | 134,096    | 162,526    | 218,277    | 40%      | \$1,374,007   | \$6,295     |
| to Qatar         | 233,625    | 454,430    | 433,924    | 335,680    | 663,881    | 184%     | \$3,856,933   | \$5,810     |
| to Saudi Arabia  | 28,042     |            |            |            |            |          |               |             |
| to UAE           | 1,080,175  | 1,019,897  | 1,216,888  | 1,393,268  | 1,600,899  | 48%      | \$10,602,526  | \$6,623     |
| to Middle East   | 2,175,539  | 2,342,173  | 2,428,122  | 2,828,254  | 3,451,442  | 59%      | \$21,841,326  | \$6,328     |
| to world         | 26,135,304 | 24,871,933 | 27,718,463 | 27,221,389 | 26,157,010 | 0%       | \$177,313,301 | \$6,779     |
| % to Middle East | 8%         | 9%         | 9%         | 10%        | 13%        |          |               |             |

Note: virtually all (99-100%) of chilled beef is boneless