Preview of Camel (*Camelus dromedarius*) hides marketing and challenges in Eastern Africa.

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ABSTRACT

Camel production in the world has continued taking a centre stage in livestock economics and food security. More conspicuously is the prominence of Camel hide production for specialized leather artifacts worldwide. Of Interest has been the growth of the Camel milk, meat and hide industry in Eastern Africa. Previous areas that had not registered Camel slaughter particularly in the urban and peri-urban areas have become areas of interest with gradual increase demonstrated in this study. However the decline in prices worldwide, poor production technique, inadequate policy and legal frame work and disincentives have been a ‘bottleneck’, in the rapid and potential wealth creating Camel hide industry in Eastern Africa. Indeed with appropriate strategy the potential is rife for the development of the Industry, if appropriate interventions are developed for the cited challenges. The increase of camel meat in urban environment is an indicator that the industry is poised to grow even further. Thus the urgency to attend to the evolving needs is equally critical by all the stakeholders, core or no-core.

Key words: Camel hides, Productivity, Slaughter Defects, Curing, Pastoralist

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1.0 Introduction

Camel has been proven to be an asset to mankind in hot arid areas that represent approximately one-third of the surface of the earth. It provides principally meat, milk and draught power to the nomadic people. Different authors described the socio-economic importance of camel as wealth status and subsistence of the nomadic people (Farm Africa 2002, Kaufmann and Binder, 2002; Yohannes et al. 2006).

The world camel population is estimated at 27 million of which 23 million (85.3%) are found in Africa (Faye et al., 2011; Schwartz H. J., 2013). The Eastern African sub-region is known for its huge endowment in camel population. Five adjoining countries-Somalia, Ethiopia, Kenya, Sudan, and Djibouti hold 84% of African and 60% of the world's camel population. Somalia, Sudan and Kenya are 3 top nations with highest number of camels in the world with 7.1 million, 4.8 million and 3.1 million heads of Camels, respectively.

Although more than half the global population of Camels are found in East African countries, the full potential of the sector has not been realized and Camel hides and skins were not exploited due to neglect of the species, big loss in the supply chain and poor quality of hides and skins associated with poor curing and flaying methods (AU-IBAR 2006; Mwinyihija, 2011) among other problems.

Recovery in the supply chain is envisaged to be feasible through improvement in quality, collection of these hides and skins and also supporting artisan tanning at Small to Medium enterprise (SME) level. It is anticipated that this initiative would allow minimizing the losses and assist in diversifying the income base of the pastoral communities. In Kenya, the hides, skins and leather industries in general are said to contribute about 4% to the national agricultural gross domestic product (GDP) (Mbogo2007 cited by Anastasia et al. 2013; GoK, 2010). In retrospect, Mwinyihija (2014) views the contribution as an understatement as the intrinsic evaluation indicates a much higher potential if the value chain strata is well evaluated. Camel hides can also serve as important source of income to pastoralists if there is a reliable market and if they are properly cured (Gitao, 2006; Mwinyihija, 2011).

The objective of this paper is, therefore, to raise awareness on the importance of unlocking the huge potential that the sub-region has in Camel hides so that it contributes optimally towards increased income, employment creation and food security in the pastoral areas.

Resilience of the Camel

Despite very high losses of cattle, sheep and goats associated with ecological challenges, there are few if any record, of serious losses of camels with a point in reference in 1972, when Africa witnessed the worst drought in 50 years and the camels suffered least. In Niger there was 100% cattle mortality, 50% sheep and goat mortality and only 20% mortality in
camels (Yagil, 1982). In fact traditional camel cultures have suffered less than cattle cultures have, although the former habitat in a much harsher environment, subjected to longer travel and heavier loads. Somali pastoralists see camels as a banking system or security against drought, disease, and the other natural calamities that affect smaller stock more seriously (Farah, 2004).

2.0 Productivity

Meat, Milk, Hides, Wool and Hair are products/by-products that emanate from camels and are basically a good source of income.

Most of the Camel-producing communities have too much attachment to camels, and in general, never slaughter a camel for meat unless compelled by circumstances (Farah 2004). The dressing percentage in camels varies between 35 – 75% depending with managements systems. In Kenya a 52% dressing percentage with 260– 500 kg meat production per animal was reported. As per FAOSTAT, top camel meat producing countries are Sudan, Kenya, Egypt and Ethiopia with estimated annual production of 139,995 tonnes, 65,100 tonnes, 47,500 tonnes and 20,000 tonnes in that order.

The mean daily milk off take of camels reported in some of the East African countries are 3.24 to 5.39 liters in Ethiopia (Reta and Mekonnen, 2002), 5 to 6 kg in Somali (Farah 2004) and 2.4 to 4 liters in Kenya (SIMKIN, 1998).

Camels raised in colder arid areas, can also produce an average of 5 kg of wool per animal that could be used for making carpets, tents, clothes or blankets (Yagil, 1995).

As per Yohannes et al, (http://www.mbali.info/doc266.htm) off take level in camels can reach 7 to 8%. Based on the off take level the annual camel hide production in the east African region is estimated at 1.7 million.

Studies related to the Kenyan camel hides indicated that the average weight is between 23 and 30 kg per piece (Kagunyu et al. 2013) and its selling price as raw was 0.3-0.6 USD per Kg. Based on the above figures camel hide in the East African Region is estimated to generate 20.7 million USD as raw and 243.3 Million USD per annum if value added to leather products level. Thus the ability to harness these products is important as a source of income in the arid lands (Mwinyihija, 2001, Mwinyihija and Magero, 2008).

Table 1 illustrates differences in weight of camel hides sampled from different selected districts of Kenya (Average Weight (Kg per pc) for Green Hides).
Table 1: Differences in weight of camel hides sampled from different selected districts of Kenya

<table>
<thead>
<tr>
<th>Districts</th>
<th>Green wt (Kg)</th>
<th>Wt Salted (Kg)</th>
<th>Weight loss (Kg)</th>
<th>% H2O Loss</th>
<th>No of days Cured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garissa</td>
<td>30</td>
<td>25</td>
<td>5</td>
<td>16.7</td>
<td>3</td>
</tr>
<tr>
<td>Mandera</td>
<td>30</td>
<td>25</td>
<td>5</td>
<td>16.7</td>
<td>7</td>
</tr>
<tr>
<td>Wajir</td>
<td>40</td>
<td>30</td>
<td>10</td>
<td>25.0</td>
<td>7</td>
</tr>
<tr>
<td>Kajiado</td>
<td>40</td>
<td>30</td>
<td>10</td>
<td>25.0</td>
<td>7</td>
</tr>
<tr>
<td>Machakos</td>
<td>27</td>
<td>25</td>
<td>2</td>
<td>7.4</td>
<td>2</td>
</tr>
<tr>
<td>Isiolo</td>
<td>30</td>
<td>23</td>
<td>7</td>
<td>23.3</td>
<td>5</td>
</tr>
</tbody>
</table>

**NB:** Weight loss during salt curing depends on several factors namely: - type of salt used, atmospheric temperature and humidity, number of hides in the curing pile, the condition of the hide prior to curing (i.e. presence of dirt, blood, dung etc).

Presently, use of camel hides for the manufacture of leather has generated interest and soon it may become a major source of income for Aride and Semiarid Lands (ASAL) areas when some of the challenges are addressed.

Figure 1 depicts results of comparative assessment of peri and post slaughter defects in Sheep, Goat, Cattle and Camel hides/skins. Camel hide was found with highest percentage of cuts related defects compared to other species.

![Figure 1](http://jallpa.comesa-ilpi.int)

**Figure 1** Comparison of Pre and Peri-slaughter defects (%) on Sheep, Goat, Cattle and Camel Hides, 2009 (Jan-May period).

**NB** Eighty samples were analyzed per animal type

The production trends of Camel hides in Kenya reached 60,000 by 2007, in comparison to 20,000 hides just five years back (i.e. 2002). The performance of major Camel hides producing districts in Kenya (the grand un-split districts) are as shown in Figure 2.
Figure 2 Camel Hides Performance of Selected Districts

Figure 3 shows Kenya’s 9 districts Camel hides production performance trend over four year period. Six districts registered an increase while there was a decline for three districts for the period under review.

Figure 3: Trends of Camel hides performance per district over four year period (2004-’07)

The general increase has been attributed to a progressive build up of pastoral and immigrants
from the neighboring countries in the urban areas of the country (Figure 4). The reason attributed is due to the fact that previous slaughter points in the urban area or near proximity, that earlier had little to do with camel slaughter, are in the recent times registering high slaughter numbers and considered as emerging markets.

**Figure 4:** Trends of newly emerging camel markets in the urban and peri-urban Kenya (2004 – 2007)

### 3.0 Dilemma in marketing of the camel hides in Eastern Africa

**Quality**

The quality of any raw material is dependent to the source, care and the processing technique of such a material. The camel in comparison to the other livestock is the least cared for in aspects of its hides, as it is considered secondary in importance. This is evident with the camel uses, habitation and husbandry, slaughtering, flaying and curing.

When the uses of camels are considered, it was observed that most of the camels are used as a baggage animal of the 1 ASAL. This essentially predisposes the animal to high corrosive wear within the grain layer of the hide’s physiological structure. The ‘ruboff’ of the grain therefore renders almost impossible, the primal use of the camel hide as a top source of quality leather. The effect of this is that the tanner thinks of the camel hide, as the last alternative to the art of leather making. Moreover the cost per square foot of leather production is higher when the grain layer of the Camel hide is affected. In lieu it subjects the tanner to implore on ‘improvements’ to the material by correcting the grain to enhance its utility and aesthetic value. Habitation and husbandry which include vegetation (e.g. thorny Acacia thickets etc.) and lack of proper nutritional techniques (where the approach is extensive and inadequate feeding systems) also exhibit similar trends in depreciating the quality of camel leather.

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1 ASAL – Arid and Semi Arid Land
However it is important to note that what is not lost during the pre-slaughter stages is normally lost in the peri and post slaughter stages. This is evident and critical when various slaughter and flaying techniques are observed to be peculiar to certain regions.

To select a few of the areas or districts in Kenya under review, it was noticed that the flaying technique in Isiolo varies from that of Mandera. The former carry-out it’s ripping lines along belly line while the later does it along the backbone. This approach produces two pieces of the butt and belly whilst the other technique used in Isiolo produces one whole butt and belly area as evident in cattle slaughter. However, in retrospect of the two techniques, in Samburu the flaying is based on total disregard of the final hide, with the main goal geared towards obtaining the meat. Up to four ripping lines are carried upon on the carcass, destroying the hide completely.

A workshop in 2006, in Kenya, by the leather and leather products division brought the two sides (i.e. the ones that flay along the backbone and those using the belly) and held a competition at Isiolo. The results demonstrated that the Isiolo method was superior to the Mandera approach. This was due to the improved quality of the final material due to wholesomeness of the hide, low knife marks, reduced blood soaked hides (deters putrefaction) and improved desirable shape of the final material.

**Incentives to market development**

Within the leather sub-sector, Camel hides production and marketing has received unfair attention both in policy and legal direction. This has had an effect on the ultimate price offered, especially to those that attempt to produce good quality camel hides. In retrospect of the increased extrinsic and intrinsic defects, the price of Camel hide was 0.35USD/Kg which is low and is less than 50% of that of cattle hide. The effect of this is a disincentive to the producers especially in the ASAL’s, who to most have abandoned to care for produced Camel hides’ affecting its curing and marketing.

Camel production needs to have a tailored policy direction and taxation incentive that can explore the untapped potential within this segment of the subsector. For example the Hide, Skin and Leather Trade Act in Kenya (Cap 359) describes all the sources of the hides and skins but provides more emphasis on cattle, goat and sheep. Little emphasis is provided for camel and emerging livestock which has continued playing a vital role to the sectors economic growth. On the other side while the restriction of export of cattle hides and skins from sheep and goats is necessary there is absolutely no impact of the same on Camel hides as the local tanners have low interest with the hides. Due to their low global market prices, export of Camel hides should not be subjected to export tax equivalent to that of hides and skins from cattle sheep and goats, as this rate becomes punitive to the pastoralist and expensive to market the material internationally. Indeed, the paradox is that the taxes to be paid became more than what the exporter accrues as income associated with resultant exports.
Way forward

An appropriate roadmap in revitalizing this Industry alongside other traditional segments of the subsector is very important. The revitalization process will include reviewing camel slaughter and flaying techniques in the region and developing frameworks geared towards creating incentives for the Camel hides’ producers. In addition, harmonization of the whole leather sector will be essential through development of appropriate policies related to handling of Camel hides, marketing and processing for purposes of value addition. In retrospect, capacity building, technology transfer and research will have to be addressed and the importance of strengthening COMESA - Leather and Leather Products Institute is essential in this front. Further studies, evaluating the dilemma and prospect of the industry and its economic benefit will implore in depth and assist to re-emphasis the importance of Camel hides production in alleviating poverty, creation of wealth and pastoral people empowerment. As such, the evaluation exercise of the camel industry could facilitate enlightening relevant Governmental and Non-Governmental agencies on the special attention the industry requires for its revitalization and mainstreaming.

Conclusion

The dilemmas associated with the industry have been identified, but at most, the solutions are within reach as indicated in the way forward. However, the principles of political good will and prompt implementation of the sectoral strategic plans which adequately address the inherent prospects of Camel husbandry, remain the immediate, short to medium term panacea to the optimal avenues of economic growth of Camel hides production in the region. It is anticipated that, with all the stakeholders participating in the stated and other emerging interventions, the lull currently experienced in the industry will be reversed for the benefit of pastoralist. The assertion to this is based by the fact that the market potential of this commodity is available and unexplored. The tangible solution is trading the right quality material from the Camel industry smartly.

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