



**THEME**

**SAFE AND QUALITY MEAT FOR NUTRITION,  
HEALTH AND WEALTH CREATION**



# Sliced up and weighed

*It's a meaty affair at KICC Nairobi today and tomorrow as traders and other meat industry stakeholders from all segments exhibit how best to enjoy the various forms of this delicacy. Entry is free. This journal presents some interesting insights too.*





THEME

SAFE AND QUALITY MEAT FOR NUTRITION, HEALTH AND WEALTH CREATION



# Creating an enabling environment for growth of local meat industry

FROM THE CABINET SECRETARY, MINISTRY OF AGRICULTURE, LIVESTOCK FISHERIES AND COOPERATIVES



Hon Peter Munya, MBS

The Ministry of Agriculture, Livestock, Fisheries, and Co-operatives coordinate four key sub-sectors of Kenya's economy that contribute over 30 percent of the National GDP. The sub-sectors are crop and research development; livestock development; fisheries and blue economy development; and co-operatives development.

It is the responsibility of the government to ensure that there is good governance, fairness, transparency and accountability among the industry players, both locally and internationally. To ensure these are attained, various support institutions have been created to provide policy, legislation and guideline on how to conduct meat businesses.

At international level, the World Organisation for Animal Health (OIE) has been accredited by the World Trade Organisation (WTO) to set guidelines and standards to be fol-

lowed by countries dealing with animals and animal products.

Codex Alimentaris Commission, which is a joint Standards Programme of the Food and Agricultural Organisation (FAO) and World Health Organisation (WHO), aspire to protect public health by developing standards and encouraging their implementation. Kenya is signatory to treaties establishing these organisations, and therefore, our laws and standards on animals and foods of animal origin must meet them.

The policies currently guiding Kenya's livestock sub-sector have a great bearing on the performance, growth and development of the meat industry. The livestock policies included:

- (i) **Vision 2030 Medium Term Plan III & Agenda 4:** To attain 100 percent food and nutrition security and therefore achieve a globally competitive and prosperous country with high quality life by 2030. Meat contributes to this.
- (ii) **Sessional Paper No.2 of 2020 on Veterinary Policy:** Provides direction on safeguarding safety

of food of animal origin, sanitary standard of animal feeds, inspection and certification of premises and equipment for use in the meat industry.

- (iii) **Sessional paper No.3 of 2020 on livestock policy:** Provides direction for meat production, marketing of meat animals and meat products, and value addition of meat.
- (iv) **Agriculture Sector Transformation and Growth Strategy:** Provides strategy on transformation of agricultural value chains into commercial entities through targeted investment.

Other key policies governing the meat industry include veterinary laboratory policy, foot and mouth policy and various other commodity strategies the Ministry has put in place.

The legislative frameworks that govern the meat industry directly, are about 14. They include the following: Meat Control Act; Kenya Meat Commission Act; Rabies Act; Cattle Cleansing Act; Veterinary Surgeons

and Veterinary Para-professionals Act; Prevention of Cruelty to Animals Act; National Biosafety Authority Act; Food, Drugs and Chemical Substance Act; Animal Disease Act; Uplands Bacon Factory Act; Fertilizers and animal feedstuff Act; Public health Act.

These legislations govern the meat industry along the entire value chain – from production, to processing, distribution, and retail, plus all the attendant activities at every stage.

It is worthy to note some frameworks are obsolete, contradicting or irrelevant. The State Department for Livestock is reviewing all livestock legislations with the aim consolidating them, expunging others and making them relevant to the current situation.

We believe that participation in this meat expo is good for the general public, meat industry development partners, and private sector players, because of the pivotal role the industry plays in achieving food and nutrition security, and wealth and employment creation.

Welcome all.

## MESSAGE FROM THE PRINCIPAL SECRETARY

Kenya obtains its meat from various animal species kept by livestock farmers and pastoralists. Occasionally, meat is also obtained from other animals not under the purview of State Department for Livestock or not officially registered as meat animals.

The arid and semi-arid areas supply over 85 percent of total red meat animals, comprising indigenous beef cattle, namely Small East African Zebu, Galla goats and sheep, produced in extensive pastoral systems relying mostly on natural pastures.

In other parts of the country, there are mixed production systems that include commercial large-scale and medium farms and ranches, and small-scale farms.

Here, though farmers largely depend of natural forages, they also provide varying levels of feed supplementation. Animals produced under these systems are mostly of improved breeds or crosses of local animals with European breeds. For cattle, the Borans and Sahiwals dominate, but there is also a large output from dairy farms of culled animals and bulls.

The government has put in place systems to maximise livestock production. They include provision of extension and animal health services; development of water supply systems for livestock through construction of dams, pans and

supply of piped water; development of market infrastructure, including sale yards, auction rings; and establishment of a national livestock market information system (NLMIS), which currently covers over 20 markets.

The activities are undertaken in collaboration with county governments, and with support from development partners, notably the European Union, USAID, GIZ, IRLI, JICA, DFID, and governments such as Israel, Denmark, Hungary, and Poland.

Also, the National Government is putting up four export standard slaughterhouses at Wajir, Isiolo and Garissa, in addition to the Kenya Meat Commission.

The Kenya Meat Commission was set up as an export processing plant and serves the strategic function of being the last resort buyer of farmers' meat animals. It has two meat processing plants: One at Athi River in Machakos County, with a daily slaughter capacity over 500 cattle and 1000 small stock, and the other at Miritini in Mombasa County, with a daily capacity to slaughter 250 cattle and 500 small stock.

The meat industry continues to register modest growth, averaging five to seven percent annually. Revenue obtained by livestock through slaughter in 2019 was valued at Ksh107.4 billion for cattle, Ksh7.5 billion for sheep and goats, and Ksh9.2 billion for chicken.

There is still great potential to expand



Harry Kimutai

the use of these animals. The proposed export processing zone authority for livestock is expected to benefit 6.5 million livestock farmers with a Ksh2.1 billion investment.

## Masterplan

The state department is currently developing the livestock masterplan to cover 10 priority livestock value chains of all the meat animals. Data will be collected from the 47 counties and each will be analysed by county. Each county will prioritise which value chain to focus on.

The developed plan will then be incorporated into the county integrated plans and other national plans to allow for focused implementation of livestock

sector programmes, of which meat industry is top.

## Next three years

In the next three years, the state department will focus on enhancing skills to support the meat industry. A total of 2,400 students will graduate from the livestock sub-sector training institutions. Some 3,000 animal health interns will be recruited, and 4,010 stakeholders trained in various aspects of livestock production.

Towards creating an enabling environment, six policies, seven Bills, 10 livestock regulations and 11 strategies and plans will be developed or reviewed.

To ensure compliance in animal health training and practice, 9,000 animal health practitioners will be registered and Kenya Veterinary Board Resource Centre will be completed and equipped.

To enhance regulation of veterinary medicines, an average of 1,500 veterinary medicines will be registered, 20 plants audited annually on Good Manufacturing Practice, and an average of 473 veterinary pharmacies licensed annually.

To increase meat animal production and productivity, 2,250 sheep and goats breeding stock will be availed to farmers.

To ensure improved livestock breeds, an average of 30 semen distribution premises will be licensed annually.

To sustain the Big Four livestock interventions, 15 private feedlot operators will be supported with technical designs and guidelines. Some 6,000 acres of pasture will be established. A total of 2,960 piglets will be availed to farmers, 290,000 indigenous poultry chicks distributed to SMEs and 8,500 bee colonies distributed.

To mitigate drought related livestock losses, an average of 50,000 TLUs in eight counties will be insured annually. Five pasture seed banks will be established and maintained.

To enhance livestock disease management and control, 149 million assorted animal vaccine doses will be produced; 217,000 diagnostic samples analysed for animal diseases in nine veterinary laboratories; 11 disease risk surveillance missions carried out; and eight regional veterinary investigation laboratories audited for ISO certification.

To enforce sanitary and phyto-sanitary standards, veterinary operations in 15 points of entry will be enhanced.

## Conclusion

The meat industry provides the most plausible pathway out of poverty, food and nutrition insecurity for most households, including those who do not own land. It is important that all actors join hands with the government in investing across all the meat value chains nodes and segments.



**THEME**

**SAFE AND QUALITY MEAT FOR NUTRITION, HEALTH AND WEALTH CREATION**



# Welcome to Kenya's first meat expo and conference

**Event is a melting pot of players keen to lift the industry to a whole new level**

BY EVANS ONGWAE

For the next two days, the expansive Kenyatta International Convention Centre (KICC) will witness sizzling conversations about the local meat industry. Kenya's first ever *Meat Expo and Conference 2021*, which begins today and ends tomorrow, is a melting pot of players keen to lift the industry to a whole new level.

This inaugural forum organised by the Nation Media Group (NMG) and its partners, including the Ministry of Agriculture, Livestock, Fisheries and Co-operatives, marks a new dawn for an industry yet to tap its full potential.

Agriculture cabinet secretary Peter Munya, the chief guest, will deliver the keynote address today and tour the exhibition centre.

The event theme is: *Safe and Quality Meat for nutrition, Health and Wealth Creation*. This theme aptly captures meat's importance and the elements to make the industry competitive. Safety and quality are critical catchwords in the nation's drive to transform the industry into the serious money-maker it is supposed to be.

The meat expo and conference is a rich event that will be graced by experts who will discuss various aspects of the meat value chain – from production to marketing, processing and,

finally, distribution to consumers. Entertainment, delicacies and an entirely mouth-watering experience are part of the day's programme too. These will take place concurrently with the exhibition. The forum is also an opportunity to network among industry players.

Today morning, Kenya Markets Trust, KEMLEIC and RETRAK will give the opening remarks on the status of the meat industry.

Panel discussions focusing on "Creating Conducive Policy and Regulatory Environment" will follow. This will then be followed by highlights of Government initiatives to boost supply and new markets. Thereafter, the live TV discussion, aired on NTV, will focus on Development Partners' initiatives to boost markets.

The panellists include State Department for Livestock Principal Secretary, Harry Kimtai, Kenya Meat Commission (KMC) Managing Director Brig J.N. Githaga, GIZ Office Kenya Country Director Bodo Immink and USAID Kenya representative.

Group Chief Executive Officer of NMG Stephen Gitagama, governors present, Mr Kimtai, and State Department of Livestock and Fisheries Chief Administrative Secretary Lawrence Omuhaka, will make their remarks after the live panel discussions.

A second live TV discussion will open with the topic, *Making Our Meat Industry Competitive in the Region*. The



Nation Media Group CEO Stephen Gitagama (centre), accompanied by Harry Kimtai, Permanent Secretary, State Department for Livestock; Kenya Meat Commission (KMC) Managing Commissioner James Githaga and Board chair Patrick Obath, during a pre-Kenya Meat Expo event at KMC on November 9, 2021. PHOTO | SILA KIPLAGAT

audience will be invited to discuss the kind of investments the public and private sectors need to invest in the industry to create more wealth.

Panellists will include Dr Cristopher Wanga of the State Department of Livestock; Dr Ernest Njoroge, the Resilience and Livestock Advisor, USAID Kenya and East Africa; Dr Bonface Kaberia of the Kenya Markets Trust; Arch Lee Karuri of FINTRINET; and Reinhard Nitsch, Head of International Sales, M Food Group GmbH.

The third live panel discussion will focus on *Meat Safety & Consumer Perception*. It will also tackle the issue

of post-harvest losses and how to reduce them. Yet another topic of focus during the session will be on the changes meat retailers and processors need, to deliver safe meat to consumers. The panellists will be Prof Erastus Kang'ethe, a food safety consultant; Dr Joyce Thaiya of the State Department of Livestock' Food Hygiene Section; Willy Kimani, Chairman, the Retail Traders Association of Kenya (RETRAK) and a food safety expert from VDMA Services.

The fourth live panel discussion will address the following issues: How livestock producers can meet the de-

mand for the consistent supply of quality meat; how the country can meet its meat deficit and also feed its people; and the changes needed to enable producers get the best out of the industry. Panellists include Col Biwot, Chief Operations Officer, KMC; Dr Richar Kyuma, State Department of Livestock; Dr John Wamahiu of Kenya Markets Trust and Meshack Mwaui, Chief Executive Officer, Eastmeat Suppliers Ltd.

All Covid-19 protocols will be observed throughout the event.

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THEME

SAFE AND QUALITY MEAT FOR NUTRITION, HEALTH AND WEALTH CREATION



Welcome to the expo: There's much to learn about us and our work in the meat sector

WORD FROM THE CEO



Alison Ng'eny-Otieno, CEO, Kenya Markets Trust

We are delighted as an organisation to play a strategic role in the ideation, conceptualisation and organisation of this first-ever Kenyan Meat Expo. This is a dream come true for us, that has been realised by lots of labouring, planning and collaboration with sector stakeholders and our other strategic partners.

As Kenya Markets Trust, we pride ourselves in our transformative work that has led to the improvement of livelihoods of Kenyans across different value chains in the country.

To date, over one million Kenyans have seen an improvement in their livelihoods due to the work we have undertaken in the agricultural inputs, livestock and water sectors, which are our cores areas of focus.

My hope is that through the information in this publication and testimonials of our engagements, you will catch a glimpse into the spirit of our work and appreciate the contribution that our amazing team is doing to make Kenya a better place for all of us.

Further, I invite you to the Expo where you can learn more about our work and the meat sector in general, as I believe that we are all stakeholders in it – whether as producers, processors, traders, businessmen or consumers of meat and meat products. There is something for everyone at the Expo.

# Meat quality and safety: How adoption of improved standards opens doors of profitability and job creation

## Background

Meat is one of the oldest traded commodities in the world. In Kenya, it is a widespread delicacy.

In ordinary traditional settings in Kenya, livestock keeping is cultural and for subsistence. It is also a measure of wealth and a medium for marriage transactions. However, with increasing urbanisation and civilisation, livestock rearing is widely commercialised today.

The growing demand for meat and increased sophistication of consumer preferences has changed the outlook of the meat industry. Rigorous breeding programmes aimed at achieving high feed conversion abilities over shortened periods of time to feed meat-thirsty populations are here with us. More slaughterhouses and abattoirs have come up.

But the emergence of roadside chicken slaughter and processing stations, especially in high population settlements and extremely busy cattle abattoirs, have introduced a modern food safety threat into the food chain. In many of these places, personal and premise cleanliness is seldom observed, often owing to the reality that slaughterhouses require volumes of water – a scarce resource – to maintain the required hygiene standards.

To slaughter a goat in a commercial slaughterhouse, one requires at least 20 litres of water, 10 litres for poultry and 100 litres for a cow. In view of this, a majority compromise hygiene, allowing pathogens into meat, which happens to be a good medium for harmful organisms to thrive if the handling is not hygienic.

## Safeguards

There are elaborate laws in Kenya to safeguard consumers. The Meat Control Act regulates how livestock is slaughtered, inspected for human consumption, and

how meat is transported. The regulations even dictate that no meat should leave the abattoir when hot and freshly slaughtered. Meat should be chilled to achieve core temperatures of 8-16 degrees centigrade. This allows it to settle and lower its pH from 6.8 to 5.4, thus creating an acidic environment that fights harmful micro-organisms.

There are other private sector standards such as HACCP and ISO, which stipulate even more stringent hygiene measures to ensure safety of meat products. These are globally accepted standards.

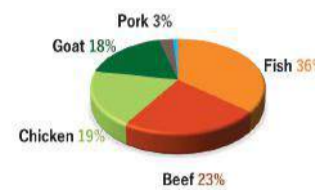
## Meat retail outlook

A majority of meat retailers in Kenya hang or place carcasses in non-temperature controlled cubicles or display glass. Common meat retail players include the estate butcheries, supermarkets and hotels. Kenya's per capita meat consumption is estimated at 14kgs, against a global average of 31.6kgs and Africa's average of 25.1kgs. Arid and semi-arid regions produce about 80 percent of the country's meat basket.

Most meat retail outlets operate under minimal stocks for the day and add little or no value addition. The common practice is where walk-in customers ask for good meat and a unit of measure. Thus, it is said that in Kenya, we do not have meat butchers but meat cutters. The story is changing though, with the entry of modern supermarket butcheries and upgraded estate outlets, that are now differentiating meat into specific cuts for different recipes.

The most preferred meat type, according to a KMT report, is fish, followed by beef, chicken, goat. Pork is the least popular.

Sadly, with lack of consumer information on differentiated meat cuts especial-



ly with the red meat, you find a consumer who buys beef fillet and cubes for stewing, or gets T-Bone steak for boiling. Even worse, an Ossobuco, which is best boiled, is sometimes cut into cubes and fried.

Lack of adequate infrastructure and skills to enable meat retailers in the informal meat retail channels discourages any meaningful meat value addition. Poor hygiene standards and practices in a majority of hot chain butcheries results in high losses due to inefficiencies in operating costs, associated with stock management and low value addition.

Investments in a proper cold chain and hygiene and food safety standards should be pursued. It creates more money by enabling value addition and differentiation, reducing wastages, enabling creation of more valuable products with increased shelf life, as well as improved consumer confidence and traceability.

Kenya Markets Trust (KMT) identifies this as a leverage point towards catalysing growth in the meat market systems.

In the last seven years, KMT has supported Neema Slaughterhouse to implement the HACCP standard. Today, Neema Slaughterhouse is a market leader that attracts export markets. It became the first HACCP-certified community-owned local abattoir in East and Central Africa. Neema Slaughterhouse brags to serve seven export markets, mainly in the UAE. It also has slaughter contracts for butcheries that value their customers and their business by keeping high hygiene standards.

## Modernisation of butcheries

Estate butcheries that have witnessed the transformation of the meat sub-sector on safety standards and have seen value are continually investing in modernising their facilities.

Presently, Kenya Markets Trust and GIZ's Business Scouts for Development programme commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, are currently partnering in further developing the meat processing sub-sector through a pilot one-year programme, that will see meat companies in Kenya benefit from improved technologies, expert handholding, and new technologies. We jointly believe that the infusion of world-class technical expertise and technologies will drive innovation and improve the competitiveness of the meat processing sub-sector, leading to a healthier population, job creation and securing incomes and livelihoods of many households.

The Dagoreti slaughterhouses – a complex of a number of local abattoirs – have not been left behind. They have been investing in educating their staff on hygiene and safety standards, in cold rooms/chillers and in modernised meat transport carriers.

The media has also played a role in driving consumer education and awareness around meat safety and quality, thus promoting and creating demand for more hygienically handled products.

Investment in a modern butchery would cost between Ksh4-6 million. Such an investment will enable minimum profit margins of 30-40 percent from meat cuts and about 70 percent margins from value added products.

## Improving market systems for the benefit of all

In today's world, we witness the daily co-existence of the 'haves' and the 'have-nots'. There are enormous amounts of wealth and improvements in technology, economies and social lives, that people living a century or two ago would not comprehend. At the same time, poverty is present alongside this wealth and development.

A 2019 report by WHO and UNICEF shows that one in every three people globally does not have access to safe drinking water. The World Bank reports that about 10 percent of the world lives in extreme poverty of less than \$1.9 a day. These numbers are grossly skewed towards women and youth, especially those in sub-Saharan Africa. Further, FAO reported that over 800 million people faced hunger in 2020 worldwide, a situation worsened by the Covid-19 pandemic.

Everyone, including poor and marginalised people, need markets for their livelihoods. For example, a pastoralist from Wajir County keeps animals as a source of livelihood. Whenever he needs to pay school fees for his chil-

dren, buy food for his family, or raise finances to cater for medical needs, he quickly goes to the market with his animals and trades them for money.

Unfortunately, market systems are often inaccessible and expensive for certain value chain actors, and are heavily skewed towards the 'haves' in society. These markets may also be uncompetitive, informal and unable to meet the needs of the poor and marginalised effectively.

In his book, Development as Freedom, economist Amartya Sen of India argues that actual development is about expanding the fundamental freedoms of each individual. This, he says, extends to the market systems as the primary route through which humanity trades, interacts, socialises, and gets livelihoods.

Adam Smith, an 18th century Scottish economist and philosopher, had similar views. He saw the freedom of exchange and transaction as part of the basic freedoms that all people should have access to.

In the views of these two scholars, for real development to happen, mar-

ket systems must be inclusive and competitive, and should benefit all the players, including the poor and marginalised.

Kenya Markets Trust (KMT) is an innovative market leader in transformational market systems development. We focus on interventions that modify the incentives and behaviour of businesses and other market players to ensure lasting and large-scale beneficial change to all players of the value chain.

This approach presents a departure from the traditional view of development, where outsiders would prescribe and provide what they viewed was lacking in a specific context, to a more sustainable tactic involving working with existing market players to provide long-term systemic changes that are sustainable beyond the life of a project or organisation.

Since we began our work in 2011, close to 1.1 million households today have recorded improved livelihoods, and over 1.3 million are accessing new markets in the agricultural inputs, livestock and water sectors in Kenya.

### Our Impact

Our work spans across all the 47 counties in Kenya where we work through key partnerships with businesses, representative bodies, governments and other relevant institutions in The Agri-Inputs Sector, The Livestock Sector and The Water Sector.

## 1,089,423

households with improved livelihoods

## 34

significant enabling policies, regulations, processes and informal rules have been influenced by KMT across its focal sectors

## 710

businesses have recorded improved performance

## 307,010

new jobs are estimated to have been created in wider economy due to sector growth

## 1,329,392

people are accessing new markets, services, products and information

## GBP 238,589,275

increase in annual income/savings in selected sectors

## GBP 50,639,744

value worth of investments has been leveraged

**MEAT EXP**  
A Kenyan sizzling experience



**THEME**

**SAFE AND QUALITY  
MEAT FOR  
NUTRITION, HEALTH  
AND WEALTH  
CREATION**



**KENYA  
MARKETS  
TRUST**  
Better Markets, Better Lives

# Facts about meat that could improve how you consume it



**M**eat, the flesh and organs of animals – and this includes fishes and birds – is no doubt a popular delicacy, but many of us consume it without enough information that would help us appreciate it better.

A little bit of science will be useful.

After an animal is slaughtered, a number of chemical and biochemical reactions occur that convert muscles found in live animals to meat. This process takes about 12-24 hours in beef, but it is faster in pork and lamb.

In meat, there is a protein called myoglobin. This protein has similar functions like the one found in blood, called haemoglobin, which binds oxygen to become oxyhaemoglobin and takes it to the cells.

So, when an animal is slaughtered, and after a series of complex chain reactions, myoglobin combines with oxygen and forms a compound called oxymyoglobin, which is cherry red in colour. Meanwhile, myoglobin without oxygen is purplish.

The amount of myoglobin in meat principally determines the colour of that meat. Red meat, as mostly derived from four-legged animals, has more myoglobin than the white meat found in fish and birds. The amount of myoglobin in meat is determined by a number of factors like diet, species, age, activity of the muscles, among others.

Meat colour is the first quality attribute

the consumer interacts with and helps form the decision on whether to buy the meat or not.

**After an animal is slaughtered, a number of chemical and biochemical reactions occur that convert muscles found in live animals to meat.**



Myoglobin has three colour transitions, depending on circumstances: Cherry red in fresh meat when oxygen is present; brown when the meat has been on display for a while; and purplish when myoglobin has very low oxygen. The colour transitions can be observed in meat on display counters, but have no spoilage implications. The important message here is to help one determine if the meat they just bought was indeed meat of muscle!

#### **Composition of meat**

Meat contains proteins, carbohydrates (sugars), fats, minerals and vitamins and water. Protein content varies, but it averages

about 22 percent. The protein in meats is highly digestible, with net utilisation value of 0.7 to 0.8 compared to that of plant sources, such as from legumes, at 0.5 to 0.6.

Amino Acids are the building blocks of proteins. There are those that the body can synthesise, but others must be taken in the diet. The latter constitute the essential amino acids, while those the body can synthesise are regarded as non-essential.

Meats are a good source of both the essential (8) and non-essential amino acids (12) in appreciable amounts. They are a good source of important minerals too: Iron, copper, magnesium, zinc, selenium. They also contain vitamins in concentrations that meet the body's requirements. Both water and fat soluble vitamins are abundant. Worth noting is Vitamin B12, which is only available in animal-based foods and not present in plant foods.

Fats are the other components found in meats. Fats are classified as saturated (SFA) and polyunsaturated fats (PUFA). The amount of fats varies from 8-20 percent in the body. Fats act as energy depots and insulates organs like the heart and kidney from heat loss. Plant oils are also good sources of fatty acids found in animal fats.

In meats, carbohydrates are stored in the form of glycogen, while in the blood, energy takes the form of glucose. The water compartment in meat is the largest, taking about 70-75 percent.

## Demystifying myths about red meat

### **Myth 1: A good fat covering on meat is necessary for it to be of good eating quality**

Many consumers have the perception that unless the meat has a good covering of fat, the meat does not have a good eating quality. Others feel that when the meat is being roasted and the fat does not drip into the fire, then the meat is not of good eating quality.

Flavour is one of the meat eating qualities discerned by consumers. But if one takes lean meat from different animal species and cooks them separately, one will not be able to tell from which species the meat came. On the other hand, if fats from different animal species are cooked separately, the species differences can easily be discerned. This is because the flavour precursors are fat soluble and cooking fat releases them, and one is able to detect the species from which the fats came.

There is enough fat in the intermuscular flesh, called marbling fat. It contains adequate flavour compounds for species aroma to be discerned when the meat is cooked. Thus, lean meat has enough flavour intensity necessarily for good quality meat. You do not always need a good fat covering to enjoy your favourite piece of meat.

### **Myth 2: You do not need animal source foods, a plant source can provide the necessary nutritional requirements**

Micronutrients are important. Of these are the amino acids, which are classified as either essential or non-essential.

Meat provides eight of the essential amino acids. Lysine is the limiting amino acid for man. Soy provides lysine, but other cereals like corn have tryptophan as a limiting amino acid.

While cereal can supply the essential amino acids, the protein from plants sources have low net protein utilisation, which is half that of protein from animal source foods.

The high net protein utilisation (0.7-0.8) makes animal source foods more nutrient dense than the plants source (0.4-0.5).

Vitamins are important micronutrients. Meats are a good source of these micronutrients. Of concern is Vitamin B12, which is only found in animal source foods and absent in plant foods sources. Vegetarians would need to be supplemented with this vitamin.

Vitamin B12 is found in both red and white meats. This vitamin

is essential for keeping the body's blood and nerve cells healthy, and helps in the production of DNA.

### **Myth 3: Consumption of red meats will cause lifestyle diseases**

Lifestyle diseases are associated with the way people live. They include heart diseases, high blood pressure and cancer. Risk factors are mainly diet and inactivity. But these are not the only risk factors. Age, gender, race/ethnicity have also been found to be associated with cancer and cardiovascular diseases. These are non-modifiable, while diet and activity are.

Much literature linking red meats to cardiovascular diseases and cancer have done so when they consider consumption of total meats (unprocessed and processed meats). When the two are separated and unprocessed red meats are compared to processed red meats, evidence point to no increased risk of cardiovascular disease and related cardiovascular mortalities like stroke.

The association of red meats to cardiovascular disease is because of the nature of fats. Red meats have saturated fats and low in unsaturated fats. White meats are high in unsaturated fats. While chicken meat with the skin contains the same fat level as medium fat red meat (44 percent), removal of the skin reduces this fat to five percent. This level in white meat is not lower than the figure for lean red meat.

Saturated fats have been associated with increase in the low density lipoprotein cholesterol, which causes narrowing of blood vessels, with the resultant increase in blood pressure and heart disease. The fatty acids that have been linked with this are palmitic and stearic acids. While palmitic acid increases low density lipoprotein cholesterol, stearic seem to reduce this.

Linoleic acid and Linolenic acid (essential fatty acids) are transformed in the body to produce Omega-3 fatty acids that have an effect in reducing the low density lipoprotein cholesterol and reduce the risk to high blood pressure, and cardiovascular diseases. Red meats can contribute about 20 percent of the long chain omega-3 polyunsaturated fatty acids intake.

Meat is an essential source of highly available proteins and trimming off the fat reduces the level of saturated fatty acids.

Red meats, when part of a varied healthy diet, have no increased risk as they provided more nutritional benefits to the consumer.



*A cut above the best*

# KENYA MEAT COMMISSION

The Kenya Meat Commission (KMC) was formed in 1950 through an act of parliament with an objective of providing a ready market for livestock farmers and providing high quality meat and meat products to consumers. It is a public institution and by far the oldest and the most experienced meat processor in Kenya and the larger East African region.



### VISION

To be a preferred world class meat and meat products processor.

### MISSION

To procure, process and market high quality meat and meat products at competitive prices using efficient and environmentally friendly systems to the satisfaction of customers and other stakeholders.

### QUALITY GUARANTEE

- ☑ Kenya Meat Commission procures all its raw materials for its processes with due consideration of high quality standards at all times.
- ☑ Kenya Meat Commission products are Halal certified by Supreme Council of Kenya Muslims (SUPKEM)
- ☑ Kenya Meat Commission is certified as ISO22000:2005, Food Safety Management System and ISO. Our Products conforms to Kenya Bureau of Standards (KEBS) requirements.

### CUSTOMER SERVICE COMMITMENT

Our central purpose: " ...is to contribute to food security and customer satisfaction by offering high quality meat and meat products, and related services."

## OUR PRODUCTS

### CARCASSES

Whole Lamb/Goat  
Choice Beef Carcass  
Fag Beef Carcass  
Standard Beef Carcass

T-Bone Steak  
Prime Ribs  
Striploin  
Rump Steak  
Rumps teak Sliced  
Fillet Untrimmed  
Fillet Trimmed  
Boneless Cubes Beef

### BEEF CUTS

Boneless Chunks  
Ossobuco  
Topside  
Silverside  
Top Rump  
Chuck On Bone  
Chuck Off Bone

Rib Eye  
Short / Spare Ribs  
Sirloin Steak  
Sirloin Roll  
Stewing Beef  
Meat On Bone  
Eye Roast

Trotters  
Soup/Beef Bones  
Soft Bone  
Neck Bone  
Stir Fries  
Ordinary Mince  
Lean Mince

### VALUE PACK

Meat On Bone  
Short Ribs  
Rump steak  
Minced Meat

### FAMILY PACK

Meat On Bone  
Short Ribs  
Rump steak  
Top Side  
Minced Meat

### VALUE- ADDED PRODUCTS

Beef Burgers  
Beef Sausages  
Meat Balls  
Canned Corned Beef  
Beef Smokies



THEME

**SAFE AND QUALITY MEAT  
FOR NUTRITION, HEALTH  
AND WEALTH CREATION**



# Why it's time something was quickly done to improve country's largest source of livestock

BY EVANS ONGWAE

**T**he first ever Meat Expo and Conference takes place as drought is killing livestock in some parts of the country. Estimates of this loss have not been made, but there is no doubt that the country needs to manage the vast lands that produce the bulk of meat – whether from cattle, goats, sheep or camel.

For one, ASALs – or arid and semi-arid lands – cover 80 percent of the country. This region, mostly comprising the northern part of the country and the Rift Valley, suffers droughts the most. Yet it is home to the country's largest population of livestock. Thus, images of cattle, sheep, goats and camels dying or dead highlight the loss the country suffers almost perennially.

What can be done to reduce such unnecessary deaths that might plunge farmers into poverty? Who can buy such animals when drought

is approaching, allowing farmers to salvage some wealth instead of losing it all when little can be done to change things? Can the private sector buy these animals, slaughter and can them? Can the Government change this sad narrative by buying the livestock and giving farmers money with which to restock once the rains arrive?

In short, can the Meat Expo and Conference help the country find ways to stem such losses once and for all? Can guests at the conference suggest sustainable ways to produce livestock in arid areas?

The dominant production system in the ASALs is pastoralism, which is not considered efficient although it is argued that the pastoralists' environment demands so. It is practised across the whole of Northern Kenya and in the southern rangelands (Laikipia, Narok, Kajiado).

In the past, it has been less well understood and poorly supported

compared to other forms of land use. Recent studies have, however, shown these views to be misplaced. Many Governments, including Kenya, now recognise the contribution of pastoralism to food security, environmental stewardship, and economic growth, and are seeking to protect and promote the mobility on which it depends.

The challenge is how to address the complex problems of vulnerability, enabling communities to move beyond survival and subsistence to sustainable development. How can pastoralism be refined?

As the Government has identified in previous surveys, it is necessary to strengthen and institutionalise natural resource and drought management. Such initiatives will improve the management of natural capital, reduce the impact of natural shocks and diminish acute vulnerability by reinforcing preparedness and mitigation activities and by improving the effectiveness of

response interventions.

It is also necessary to empower communities so that they can successfully identify, implement and sustain their development priorities through community-driven development.

Thirdly, it is necessary to foster a conducive and enabling environment for development in the arid lands through policy support, advocacy and improvement in the delivery of essential services, complementing existing sector programmes.

Various policy makers have noted that improving pastoralism or promoting the professionalism of livestock rearing in the drier parts of the country will be a game changer. If farmers can learn to improve productivity and avoid the ravages of drought on stock, meat production can improve significantly. This will go a long way in reducing the country's meat deficit.

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THEME

SAFE AND QUALITY MEAT  
FOR NUTRITION, HEALTH  
AND WEALTH CREATION



# Driving the meat industry forward: No time to be casual with transport

At today's Meat Expo and Conference, various stakeholders will get the opportunity to ask all about Toyota's full range of vehicles for the industry

BY EVANS ONGWAE

The story of Kenya's meat industry is incomplete without mentioning transportation. Here, motor firm Toyota Kenya Limited significantly features.

Toyota's range of vehicles, from the smallest vehicle to prime movers, help drive the industry forward.

At today's Meat Expo and Conference, various stakeholders will get the opportunity to ask all about Toyota's full range of vehicles for the industry.

Toyota Kenya offers end-to-end transport solutions across the entire meat supply chain. These vehicles are used to transport animal feeds to

farms, livestock to markets and slaughter houses, and products to retail outlets. The company has vehicle models to facilitate the biggest factor in the industry – the cold chain movement – so as to maintain 100 percent fresh supplies.

Both small scale farmers and large commercial suppliers can find a Toyota model that suits their unique needs.

For fresh meat movement, farmers and suppliers can choose from Yamaha motorcycles, Toyota Hilux pickups, HINO light duty trucks or extra heavy-duty trucks, such as prime movers. Various cooling options are available.

The rear body of the vehicles are designed specifically for fresh foods transportation. Such units are fitted with fridge mortars to accommodate chilled to deep-frozen foods as the vehicles transport items to retail outlets. The vehicles are also designed for easy cleaning of the rear compartment, ensuring it remains neat and safe all times.

All cold room vehicles are specialised. Hence, Toyota commences manufacturing of the units



on a confirmed order basis and as per customer specifications. The motor firm has a fully-fledged engineering department in-house and has also partnered with some local conversion companies to customise vehicles according to client needs.

Toyota Kenya products are renowned for quality, durability, and reliability) and as such, are designed to cater for all harsh environments. The vehicles come standard with a well-engineered suspension that ensures they are reliable even on off-road areas.

In addition, pick-ups also come with the option of four-wheel drive (4WD) for muddy terrains.

Toyota Kenya has a network of 31 branches,

dealerships, and authorised Toyota Service Centres across the country.

Through this network, Toyota offers comprehensive aftersales package, which includes quality service and genuine spare parts. As a standard, the vehicles also come with warranty against manufacturing defect.

The quality, durability and reliability of the Toyota chassis and the specific designed bodies, meet individual needs. The firm's wide footprint across the country provides access to service and parts easily.

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**THEME**

**SAFE AND QUALITY MEAT FOR NUTRITION, HEALTH AND WEALTH CREATION**



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THEME

**SAFE AND QUALITY MEAT  
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# Opportunities in the meat value chain

**Livestock production must now shift from subsistence to commercially oriented farming, to be competitive and create more jobs**

BY EVANS ONGWAE

Kenya faces several development challenges that include high levels of unemployment among the youth, and climate change. Can meat production and value addition of the commodity create jobs and wealth in the country?

Stakeholders in the sector recognise the role that a vibrant livestock industry can play to reverse high poverty levels and contribute to the nation's economic growth.

It is interesting to note that some of the country's young people who work in the Middle East could be consuming meat and meat products from their mother countries. These products have probably been produced by fellow youths who saw opportunities in the meat industry and became fully engaged in farming. Kenya exports

meat and meat products to various countries in the Middle East.

Clearly, for various reasons, livestock are important contributors to sustainable rural development. They act as a store of wealth for future investment. Furthermore, livestock provide marketable products, which are generally of higher value and less vulnerable to critical harvest timing than many crops.

Livestock products with relatively high income elasticities are particularly attractive as a means for rural households to participate in urban-based economic growth.

Livestock are essential assets for livelihoods that could provide employment and incomes through the sale of livestock products and by-products. They could also be used as a means to access the lucrative international markets and earn foreign

exchange in addition to being important cultural resources, social safety nets and means of saving. In Kenya, livestock production must shift from subsistence to commercially oriented farming to be competitive.

Many stakeholders agree that the livestock sector has the potential to provide adequate supply of all animal products and by-products to meet domestic needs and generate surplus for export.

Livestock plays important roles in Kenya's socio-economic development. It also contributes towards household food and nutritional security particularly among pastoralists and vulnerable members of the society such as women and children. It is also used as a medium for social exchange in the payment of bride price, fines and gifts to strengthen kinship ties.

Examples have been given of people rising from poverty by keeping poultry, sheep or goats – which do not cost as much to own and raise as do the bigger animals.

In the case poultry, farmers are able



to dispose of the birds within just a few months, earning some income within a short time.

On their part, the small ruminants have the advantage of giving birth twice a year, with great chances of getting twins. So, within a short time, a single sheep or goat can breed pro-

lifically and put a farmer on the road to prosperity. Because meat is a popular commodity in the country, demand for it has not been satisfied. Therein lies the opportunity for new and practising farmers.

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## Why the camel should feature in Kenya's food security and nutrition discussions

Camel, "the desert sheep", thrives in arid and semi-arid lands. In Kenya, this is mostly in the norther and north-eastern regions.

The camel has many adaptations for survival, even under conditions of severe drought. Thus, it is a good source of sustained household food and nutrition security.

In Kenya, we have the one-humped dromedary camel and the 'Somali' breed, kept mostly by the Rendille/Gabbra and Turkana. They differ in body size and milk volumes, with Somali breed being the largest and a high breeder.

The Kenya Camel Association has estimated that camel milk and meat value chains contribute about Ksh14 billion into the economy and support more than three million households. There is a potential to double the value through private-public partnerships.

The potential of camels to provide meat, milk, hides, bones and manure has not been well exploited, given its population of 4.6 million (KNBS, 2019). This amounts to lost opportunities for investment, employment creation, food and subsequently economic improve-

ment.

Generally, in Kenya, camel products (milk, meat and hides) are mostly consumed/used by communities that traditionally keep them. However, the uptake of these products is beginning to spread, as more people discover their health benefits. Still, there is a need to deliberately popularise camel products, particularly meat and milk. It is a gigantic task that needs concerted efforts of more stakeholders.

**Meat**

The camel meat is an important food component with major source of protein and rich in fat and vitamins. The meat is lean, has low cholesterol levels and a high concentration of minerals, compared with other red meats.

A major value-added product from camel meat is Nyirinyiri. This is dried camel meat. It has a shelf-life of one year. The product is gaining popularity as more consumers seek healthier and organic food options that are also easy to prepare.

Nyirinyiri has largely been a traditional delicacy, but it is now being commercialised and modernised through improved handling for higher quality and safety.

However, the camel in-

dustry requires financing, better infrastructure, genetic improvement, supportive policies, regulations and tax regimes, and increased extension services.

The Kenya Camel Association has been popularising the camel among traditionally non-camel-keeping communities, including the Maa, Marakwet/Keiyo, Tugen, Pokot, and Borana, across eight counties.

Through the support of different stakeholders, the association has developed camel milk, dry meat and a live animal standard to facilitate investment in camel keeping, provide a fair business environment and increase incomes of households.

This has culminated into camel meat processing units in Isiolo and Marsabit counties to enable the diversification of processing of camel meat beyond drying, to include meatballs and sausages.

In collaboration with and support of the State Department of Livestock, Regional Pastoral Livelihood Resilience Project (funded by the World Bank), Nairobi and Egerton universities, KIRDI, and Agriculture Sector Network (ASNET), the association is undertaking such initiatives to fast-track the uptake of safe, hygienic and quality camel products.



Making Nyirinyiri (dry camel meat).



Preparing camel meatballs.





THEME

SAFE AND QUALITY MEAT FOR NUTRITION, HEALTH AND WEALTH CREATION



# It's no fishy matter: Why fish production needs fresh momentum

BY EVANS ONGWAE

**F**ish, a major dietary staple in several parts of the country, is becoming more widely consumed. Going back to a decade ago when a national Economic Stimulus Programme (ESP) put money in fish farming, ponds sprouted in various parts of the country, enabling more people to access this delicious source of protein.

However, what remains to be addressed is how to make fisheries sustainable – be they by small-scale or large operators, but more so among the former group.

It is also worth noting that the campaign to increase the number of fish ponds in the country needs fresh momentum.

Fish is getting increasingly popular in many parts of the country largely due to its strong nutritional value as a source of high-quality protein, fatty acids, and diverse micronutrients essential for good

health. It strongly complements the starch-heavy diets common among the poor, thus constituting a key portion of a wholesome meal.

In many parts of the country, small-scale fisheries are more prevalent, and they provide many benefits. They offer food security and improve nutrition. Communities and even entire counties can reduce poverty through fish-based economic activities.

Fish capture, processing, and trade supports thousands of poor families as a primary source of livelihood or to supplement other income-generating activities.

Small-scale fisheries pump cash into local economies, and often have strong multiplier effects.

Various studies have shown that many poor people working in agriculture turn temporarily to fisheries to supplement their incomes when crops fail or livestock are hit by dis-



Caption: Fresh stock at the Ferry Fish Market in Mombasa. PHOTO/KEVIN ODIT

ease. In this way, small-scale fisheries provide a safety net for survival.

The country's fisheries sub-sector has potential to contribute significantly to the national economy through employment creation, foreign exchange earnings, poverty reduction and food security support.

The sub-sector's contribution could be much higher if value addition across the supply chain is practised and post-harvest losses reduced to a minimum.

As many development organisations observe, a fishery is a system. It comprises an aquatic ecosystem, as well as the people and institutional arrangements governing the capture, trade, processing, and consumption of fish.

However, around the world, fisheries are being pushed to the brink of their productive capacity by over-harvesting. Other factors such as pollution, environmental degradation, and rapid development have

compounded the stress. Climate change will affect the world's fisheries profoundly.

The productive capacity of small-scale fisheries is hampered by factors that include inadequate knowledge and skills among traditional fishers. Other challenges include a lack of markets and roads, inequitable fishing rights and inappropriate management.

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## The camel as a most climate-resilient source of nutrition in the drylands



**K**enya is made up of 70 percent arid and semi-arid zones, and because of climate change, this surface is likely to expand.

Severely affected by the drought that is striking in the entire Horn of Africa, Kenya is facing an escalation of food insecurity, which already threatens the lives of 1.3 million people currently. The increasingly frequent heat waves, droughts and floods is making it almost impossible for farmers and livestock keepers to thrive, unless they adapt to the changing circumstances. This is why VSF-Suisse supports rearing of camels in Kenya and provides the concerned communities with solid



dried camel meat

trainings in camel keeping, milk hygiene, processing and marketing. Long-term animal health is promoted by working with the public and private animal health service providers and the pastoral communities. For instance, we support the capacity strengthening of the Isiolo County veterinary services to confirm animal diseases through equipping of and training of laboratory staff as well as real-to near-real time livestock and zoonotic disease reporting from the grass roots using smartphone-based disease surveillance that links the community-based disease reporters to the county and state veterinary services, thus facilitating quick response from the veterinary services to the disease events or outbreaks.



camel milk sweets



Cheese



camel milk yoghurt

VSF-Suisse also supports county-wide livestock vaccination, treatment and deworming exercises. During drought emergencies, in addition to animal health measures, we distribute livestock feed and water to save lives and protect livestock-based livelihoods for vulnerable groups.

The camel is very well adapted to the harsh climate and presents an attractive alternative to cattle rearing. They produce milk even during dry periods and droughts and also need much less frequent watering. Their milk covers more than half of the daily calorie requirements in many pastoralist communities. Camels are also suitable pack animals and meat suppliers. Their soft, plate-like soles also protect the soil

Camels are also suitable pack animals and meat suppliers. Their soft, plate-like soles also protect the soil and plants.

and plants.

With the support of Biovision Foundation for Ecological Development and The European Union, some of the projects that VSF Suisse is implementing to boost camel rearing and production include: Upscaling of Integrated camel management projects in Isiolo County, Kenya (UPICAM) funded by Biovision Foundation (2013-2021) and the European Union funded 'Building Drought Resilience in Isiolo County through Sustainable Livelihood (DRIC) 2019-2023'

Both UPICAM and DRIC aim to increase food and nutrition security, income and resilience to droughts for pastoralists, and to improve animal health. The two projects champion camel rearing and consumption and marketing of safe camel milk and meat and their products.

**Health benefits attributed to camel milk**

- Boosts the immune system
- Helps prevent anaemia
- Aids in preventing diabetes
- Prevents auto-immune disorders
- Increases blood circulation
- Helps in reducing allergic reactions,

such as lactose intolerance

- Stimulates growth and development of bones and organ systems

"There is a need for enhanced investment across the entire camel value chain to support the the producers of nearly 3 million camels in the country in order to improve food and nutrition security, job creation, income and resilience of pastoralists in the wake of climate change. Special attention should be paid to investments in standards of production, value addition and marketing with the major aim of promoting both local and international trade in camel products."

**Dr. Davis Ikiro, Country Director Kenya-Somalia Programme, VSF-Suisse**

*This article has been produced with the financial assistance of Biovision Foundation for Ecological Development and The European Union. The contents of this document are the sole responsibility of the authors and can under no circumstances be regarded as reflecting the position of Biovision Foundation for Ecological Development nor of The European Union and their partners"*



VÉTÉRINAIRES SANS FRONTIÈRES SUISSE





**THEME**

**SAFE AND QUALITY MEAT FOR NUTRITION, HEALTH AND WEALTH CREATION**



# Planning to export meat and livestock? Let's talk

**M**eat and Livestock Exporters Industry Council of Kenya (KEMLEIC) was formed in June 2016 by seven committed meat exporters. It was officially registered in February 2017.

The Council comprises meat and livestock exporters, producers, transporters, slaughterhouses and processors, and has the vision to revolutionise livestock and meat production systems in Kenya.

Its ultimate goal is to become an admired and respected global player in the meat and livestock export industry.

Join us at the Meat Expo to learn more about how you can become a member and get access to meat and livestock export markets.

KEMLEIC has identified three distinct groups of target members, which also form our market segments. These three groups of members are distinguished by their role in the livestock and livestock products value-chain. They have been segmented as:

**Producer Members**, involved in the production of livestock. Pastoralists belong to this category. They inhabit Arid and Semi-Arid Lands (ASALs). To optimally exploit the meagre and seasonally variable resources of their environment and to provide food and water for their animals, many pastoralists are nomadic or semi-nomadic.

**Exporter Members**, involved in the purchase of livestock from producers for onward export as either livestock or its products. This segment seeks to promote and market Kenyan meat internationally, principally in the Arabian Peninsula.

**Processors**, involved in processing and packaging meat and meat products. Both local and export slaughterhouses belong to this group. The council will also work with Associate Members – organisations that supply various products (e.g. feeds, vaccines, etc.) and services (e.g. transport, vaccination) to the industry. We are targeting both local and international organisations.

### Activities

**Advocacy and Lobbying** - Legislation and Policy within decision making organs.

**Industry Self-Regulation** - legal, ethical and safety standards.

**Promotions and Networking** - showcasing Kenya's commitment to high standards.

**Capacity Building** - Entire value chain. Began with food safety campaigns in 6 regions.

**Industry Promotion** - Liaise with stakeholders on specific sector issues.

**Market Access** - Increased profitability, sustainability and productivity.

### Kemleic Membership Benefits

- Priority access to KEMLEIC management
- Access to tailor-made capacity building programmes
- Access to daily market statistics from export markets
- Market and price assurance in destination markets
- Priority consideration to new export destinations
- Participation in high-level round table

meetings relating to international markets

- Participation in high-level exclusive networking events hosted by KEMLEIC for members
- Follow up on company specific issues with the National Government and county governments
- Profiling and linkage of member's website to KEMLEIC website and social media pages
- Assistance to access top Government officials for company specific issues
- Consideration for participating in business travels overseas organised by KEMLEIC partners on complimentary basis
- Partnership opportunities in various areas within the livestock value chain
- Priority consideration to quote for KEMLEIC business (products or services)
- Discounted advertising on KEMLEIC website and social media platforms
- Exposure to different opportunities with KEMLEIC partners, e.g. financing, negotiated land lease
- Negotiated rates for services emanating from KEMLEIC partnerships, e.g. freight rates, cargo quotas and interest rates
- Participation in public-private dialogue platforms
- Participation at business-to-business forums with delegates from various countries and countries
- Participation at KEMLEIC's Annual General Meeting and other member events
- Regular updates and invitation to participate in KEMLEIC activities
- KEMLEIC Membership Certificate.

### Top Meat destinations by Export Volumes 2020 (Kgs of red meat)

	Goat	Lamb	Beef
<b>UAE</b>	6,612,774	428,063	
<b>Saudi Arabia</b>	2,076,539	427,903	
<b>Bahrain</b>	503,461	226,668	
<b>Qatar</b>	344,739	5,634	
<b>Kuwait</b>	305,320	78,154	4,150
<b>Oman</b>	140,255	436,320	

### Export values

	Value exported in 2019 (Kshs billion)			
	Brazil	Australia	New Zealand	Kenya
Meat of sheep or goats, fresh, chilled or frozen	0.06	332.56	277.84	5.70
Meat of horses, asses, mules or hinnies, fresh, chilled or frozen	0.66	0.76	-	0.69
Meat of bovine animals, frozen	605.96	531.93	223.50	0.63
Meat and edible offal, salted, in brine, dried or smoked; edible flours and meals of meat or ...	32.06	0.14	0.64	0.19
Meat of swine, fresh, chilled or frozen	158.92	8.69	0.15	0.11
Edible offal of bovine animals, swine, sheep, goats, horses, asses, mules or hinnies, fresh, ...	50.79	75.98	20.04	0.09
Meat and edible offal of fowls of the species Gallus domesticus, ducks, geese, turkeys and ...	692.59	5.43	3.76	0.01
Meat of bovine animals, fresh or chilled	95.13	292.10	32.95	0.01
Meat and edible offal of rabbits, hares, pigeons and other animals, fresh, chilled or frozen ...	0.00	2.34	14.01	0.00
<b>Value exported in 2019 (Kshs billion)</b>	<b>1,636.17</b>	<b>1,249.95</b>	<b>572.88</b>	<b>7.43</b>
<b>Average distance of importing countries (km)</b>	<b>12,096</b>	<b>8,728</b>	<b>9,879</b>	<b>3,435</b>

Source: ITC Trade Maps

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**T H E M E**

**SAFE AND QUALITY MEAT FOR NUTRITION, HEALTH AND WEALTH CREATION**



# Making the right choice for meat storage and preservation

BY IDA KEMUNTO

The food service industry is inherently reliant on meat. This product is the most difficult to store and the most expensive food item sold by the hospitality industry.

Meat of all kinds (red or white) are highly perishable. Therefore, the quality of cold chain management in its supply system is of utmost importance. It determines both safety and quality levels of the meat and meat products that ultimately reach the consumer.

Manufacturers in the meat industry frequently face the dilemma regarding the type of cold chain management to use in delivering products to retailers or end consumers. They have to also choose between frozen and cold storage.

The complexity of the global meat supply chain, with frequently long distribution channels associated with transportation of the product, makes the solutions for the chilling and freezing critical for getting the product to con-

sumers in acceptable safety and quality standards.

If the cold supply chain is breached, meat and poultry products will suffer from a range of quality problems, including shrinkage, rotting, trim loss, and unpleasant odour, colour and texture. At the worst would be subjecting consumers to health risks from pathogens.

To help maintain an unbroken cold chain in transit, the use of containerised cold rooms for trucks are important.

Sheffield Africa is a notable supplier of cold chain management facilities, in addition to a range of other commercial kitchen solutions. For containerised cold rooms, the company uses highly impermeable Polyurethane Foam (PUF) panels and stainless-steel finishing for extra hygiene.

The first thing to understand when considering storage options is that not all meats are equal and that their storage times reflect this. The fat and water content, as well as the size of the cut, will change how long a chunk of meat

should be stored.

Temperature is the main post-processing parameter in the determination of shelf-life in chilled and frozen food products. Kitchens and restaurants often utilise **upright chillers** and **freezers**, an optimal option when minimal refrigerated space is required.

**Blast freezing** meat is another quick and reliable way of preserving produce for a future date. But where **fridges** and **freezers** are in use, and more temperature-controlled space is needed, a cold room may be the optimal solution for you. Custom cold rooms are also often more energy-efficient than using multiple fridges and freezers.

Team Sheffield has a demonstrated capability to execute large refrigeration projects. They have 10,000 square feet of Cold Room PUF panels fabrication facility with a production capacity of 300 panels per month.

With an extensive range of refrigeration monitoring solutions, experience, and know-how, Sheffield's cold rooms



**A locally-made cold room facility at Sheffield Africa headquarters off Mombasa Road in Nairobi.** PHOTO | FILE

offer flexibility due to early assembly and disassembly in case of expansion or relocation.

The company's refrigeration solutions will give your products a chance to increase the shelf life under a controlled cold chain system. The goal is to create energy saving, hygienic, long-lasting, and cost-effective solutions with minimal environmental impact.

With new developments such as con-

tainerised butcheries that include a cold storage facility, meat processing solution, and a Deli, Sheffield Africa will offer you a tailor-made setup to meet your meat storage, supply, and processing requirements.

Visit Sheffield's display at the Meat Expo and their showroom for a wide range of concepts.

*The writer is a Content Creator with Sheffield Africa*



## Visit Sheffield at the Meat Expo



18<sup>th</sup> & 19<sup>th</sup> November 2021



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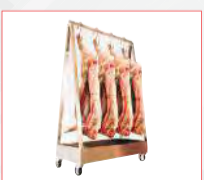
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**THEME**

**SAFE AND QUALITY MEAT FOR NUTRITION, HEALTH AND WEALTH CREATION**



**NEW APPOINTMENT**



**Mr. Timothy Mukindia**  
Managing Director

**M**urphy Chemicals (E.A) Ltd, one of the oldest and leading providers of crop and animal health products, has appointed Mr Timothy Mukindia as the new Managing Director.

Mr Mukindia will head the Company and its subsidiaries in Tanzania and Rwanda in line with our endeavour to embrace new technologies in crop protection and nutrition, with emphasis on biologicals, including seeds.

The new Managing Director has been with the Company since 2006. He has worked in different capacities, among them serving as Area Manager for South Rift, where his core responsibilities included scouting for new main distributors while selling and promoting the company's products. While serving in this capacity, Mr Mukindia successfully introduced new products and grew sales two-fold.

In the last nine years, he has been in top management as the Technical Sales and Marketing Manager. During this period, he has overseen day-to-day sales in Kenya and Tanzania, while at the same time providing technical support to the Rwanda country manager.

Mr Mukindia has a B.Sc in Horticulture and postgraduate training in strategic management and leadership. His appointment as MD follows the retirement of Mr Charles Mwangi. Murphy Chemicals (E.A) Ltd wishes Mr Mwangi all the best in his future endeavours.

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Register Through: <https://bit.ly/2YShbMm>



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THEME

SAFE AND QUALITY MEAT FOR NUTRITION, HEALTH AND WEALTH CREATION



# Responding to a growing demand for quality livestock products

Kenya needs to invest heavily in research, production, animal health, marketing and value addition of meat

BY EVANS ONGWAE

S ometime back, the Intergovernmental Authority on Development (IGAD) issued a report that cast an eye on livestock farming in the region. Member countries comprise Kenya, Djibouti, Eritrea, Ethiopia, Somalia, Sudan and Uganda.

Said the report: "Projections for the Horn of Africa show a significant increase in the demand for livestock products over the next 30 years, mostly as a result of population increase.

The report added that the projected growth in per capita consumption of livestock products is generally above that predicted for consumption of other food items, offering opportunities to improve the incomes and livelihoods of the livestock-dependent poor.

"This growth in demand for livestock products can, giv-



PHOTO | STEPHEN ODUOR

en the right policy and institutional environment, be met largely by in-country production, and is one of the few opportunities to improve the livelihoods of the region's poor, many of whom are livestock owners," stated the IGAD report.

Linking small-scale livestock producers to the expanding markets for livestock products, however, requires significant policy shifts, both at national and regional level, particularly in a changing economic environment, with tendencies towards withdrawal of government services and control over the sector, and increasing privatisation.

The objective of IGAD's Livestock Policy Initiative is to enhance the contribution of the livestock sector to sustainable food security and poverty reduction in the IGAD region.

As IGAD has observed, Kenya is among the countries experiencing increasing demand for livestock products such as meat, milk and eggs. With proper planning, it can reap the livestock dividend.

However, for the country to meet this demand and even produce more for its export markets, it needs to invest heavily in research, production, animal health, marketing and value addition. It must also address issues of safety and quality, especially since they are critical to growing the export market. Even locally, consumers need to be assured that the meat products they consume – whether beef, pork, mutton, goat meat or poultry meat – are safe. The nyama choma that Kenyans love so much should not be a source of contamination and illness.

Top meat processors in the country have invested in quality assurance and international standards that guarantee consumers safe meat and meat products. How can smaller processors be assisted to improve how they handle meat and make it safe for the public?

Maybe the Meat Expo and Conference can provide answers to this question.

[eongwae@ke.nationmedia.com](mailto:eongwae@ke.nationmedia.com)

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**THEME**

**SAFE AND QUALITY MEAT FOR NUTRITION, HEALTH AND WEALTH CREATION**



# Some camel meat, please?

BY EVANS ONGWAE

The camel is one of nature's miracles. It can survive and thrive in hot, dry areas where other livestock cannot. By the time drought brings down a camel, other animals have been in big trouble and probably a good number have lost the fight for survival.

This makes the camel, as a source of milk and meat, a treasure for farmers who keep them.

Interestingly, though, not everybody in the country eats camel meat or drinks milk from this animal. Some people have been adventurous enough to taste camel milk. However, others, out of strong cultural beliefs, dismiss camel products.

That shows the need to popularise the consumption of camel products locally

and to expand export markets. Doing so will give farmers opportunities to earn more from camel products and, thereby, raise their standards of living.

Moreover, most people associate meat largely with beef, what is obtained from cattle. Equally well known is goat meat and mutton (from goats) as well as fish and poultry. It is these types of meat that most Kenyans know and consume. Yet camels, too, are a vital source of meat and livelihoods.

Naturally, camels have not received as much attention in research focusing on breeding, husbandry, marketing and processing. Perhaps it is time more resources were put in the business of camels so that the country reaps from diverse livestock that does well in the country.

Some organisations have taken it upon themselves to promote camel rearing and marketing.

VSF Suisse is among non-governmental organisations in Kenya working with pastoral communities, particularly those in Isiolo, to promote camel rearing, and are calling upon stakeholders to consider scaling up investments in production of camel products.

"The investments should be geared towards promoting the production, value addition and local and international trade in camel products," SAYS Dr Davis Ikiyor, Country Director Kenya-Somalia Programme, VSF-Suisse.

eongwae@ke.nationmedia.com



Dr Davis Ikiyor

## Safeguarding animals to protect you: Regulatory body upholds veterinary standards



Whenever you enter a butchery to buy meat, drink milk, savour that honey, or enjoy your delicious fish or seafood, do you ever think of the quality of the food you are eating? Has it ever occurred to you that most of the products you eat are of animal origin? How trusting are you of the competence of the veterinarian who handled the animal before slaughter to ensure safety of the products you consume? And, do you know that we share quite a number of diseases with animals and that the quality of healthcare the animals receive directly or indirectly affects our wellbeing?

Worry not, for they say that everyone has a guardian angel. In this case, the Kenya Veterinary Board (KVB) does its work of being your watchdog.

The KVB is a Semi-Autonomous Government Agency whose main mandate is to exercise general supervision and control over the training, business, practices, and employment of veterinary surgeons and veterinary paraprofessionals in Kenya. The Board therefore works to safeguard animal health and welfare, leading to improved animal production and productivity, promotion of livelihoods and trade in livestock, and ultimately safeguarding public health.

Veterinary surgeons and veterinary paraprofessionals are a critical cog in Vision 2030 and the "Big Four" agenda. Kenya's Vision 2030 puts the livestock sector among the key pillars for the economic growth of the country. Further, the Big Four Agenda has recognised food and nutritional security and promotion of food safety and public health as key goals. The mandate of KVB, therefore, directly answers to the above national development blueprints.

The Board has worked tirelessly to safeguard public health through ascertaining the provision of quality veterinary services. Veterinary surgeons and veterinary paraprofessionals intervene at some of the most critical levels in the human food chain. They are in the farms not only treating animals but also advising farmers. The veterinary services thus play a role in increasing productivity, both in terms of quality and quantity. The results are quality foods of animal origin and a healthy population free from diseases of animal food origin.

The Board has achieved critical milestones towards its mandate. Since its inception in 2013, the Board has approved a total of 21 animal health

training institutions, both from the private and public sectors and ensured that they offer the best curricula in courses such as Veterinary medicine, Animal Health and Production, Range Management and short studies such as Meat Inspection and Hygiene, among others.

The Board has continuously ensured that training institutions produce qualified and competent personnel to support increased production of safe and nutritious foods of animal origin through inspection and accreditation.

The Board has an inspectorate unit that routinely goes out in the field countrywide to inspect and license veterinary personnel and premises that offer veterinary services.

Additionally, the Board ensures professionalism through its inquiry and disciplinary committee, whose terms of reference include guiding the implementation of the Code of Professional Ethics. This committee handles all disciplinary matters under the jurisdiction of KVB and gives recommendations to the Board on the action to be taken in each case.

To improve the quality of training and standardisation of competencies in the veterinary profession, the KVB established a consultant college in public health, epidemiology, and health economics. One of the objectives of the college is to encourage research and other contributions, including professional meetings, journal publications, workshops and conferences to improve expertise in the disciplines.



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In Kenya and outside markets to assess their products and manufacturing process for compliance with regulatory, quality and performance requirement.

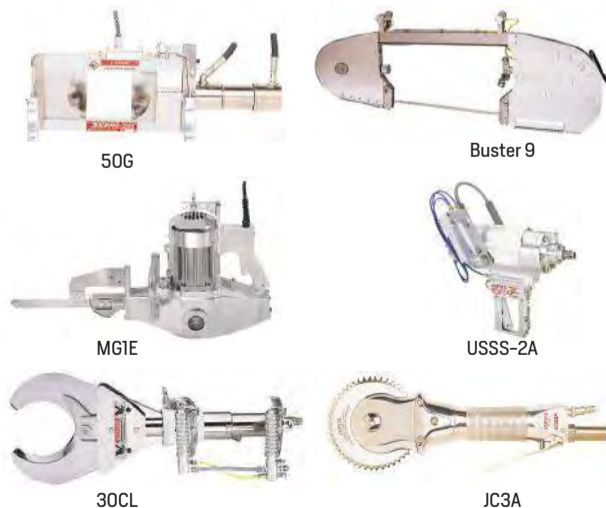
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**T H E M E**

**SAFE AND QUALITY MEAT FOR NUTRITION, HEALTH AND WEALTH CREATION**



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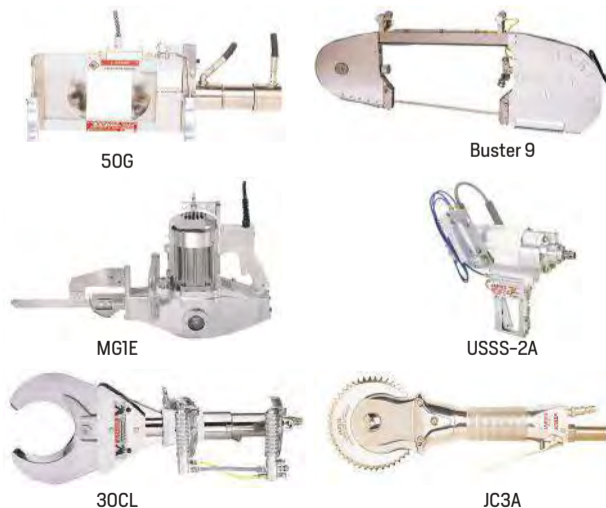
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# The untapped goldmine: Kenya's meat market



## Livestock production



**Sh163 billion**  
Total earnings from livestock and products in Kenya in 2020. A **30%** increase from **Sh125 billion** in 2016, indicating a growing demand for meat and dairy products



**300,000 tonnes**  
Local demand deficit of beef needed in Kenya, this is equivalent to **1.5 million** cattle needed to meet the demand



**14.4 million**

The number of livestock (goats, pigs, sheep, cattle) slaughtered in Kenya **2020**. This is a **31%** increase compared to 2016



**10 million**  
The number of pastoralists whose livelihoods are supported by livestock in Kenya

**12%**



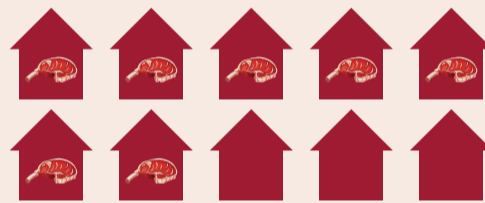
Sector's contribution to Kenya's GDP

## Consumer insights



**Sh40,984**

The average amount of money spent by **middle income** households on meat in Kenya **monthly**. **High income** and **low income households** spend **Sh119,305** and **Sh21,777** respectively

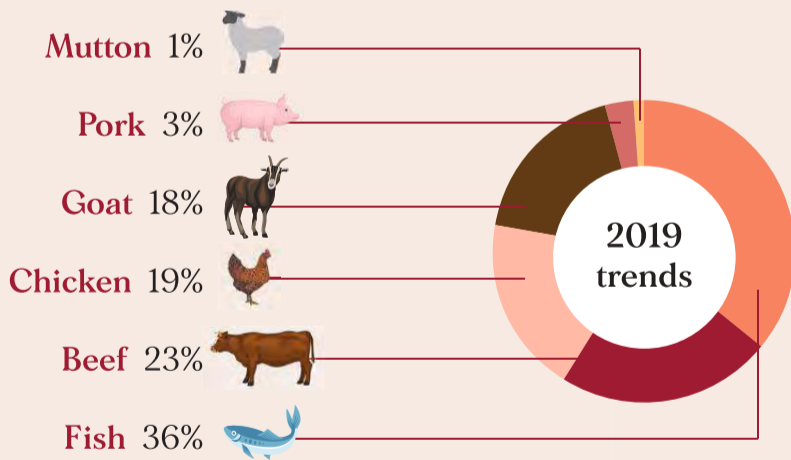


**7 in 10** of all meat consumptions in Kenya are by the low income households

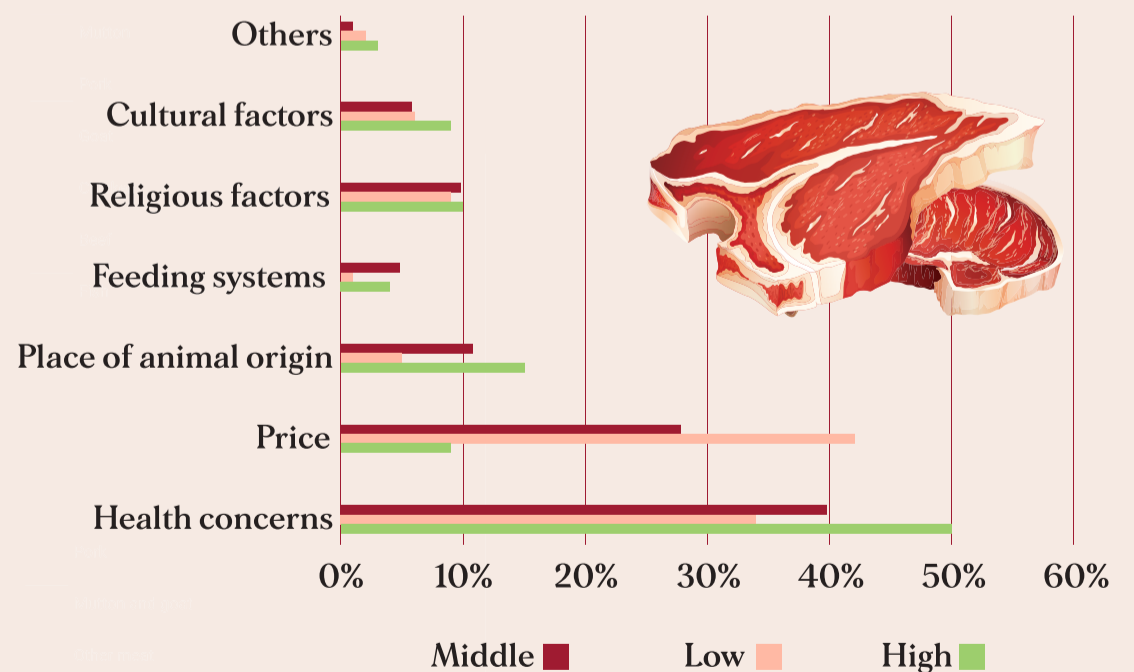
In one year, the average Kenyan consumes



### Meat type preference and trends



### Determinants of consumer preference for different meat types and meat products



Majority of Kenyans are more concerned about the health and price.

A number of Kenyans are getting concerned about the traceability of the meat they eat.

