

Kenya Veterinary

Capabilities Study

Executive Summary

The Republic of Kenya is an east African country that lies along the Equator with the Indian Ocean as its eastern border. Kenya has a diverse geographical landscape and varied climate.

The Kenya Highlands in the southeast region of the country comprise one of the most successful agricultural production regions in Africa.¹

Land for agricultural use occupies 48% of the total area of the country.² The variations in rainfall and regional climates directly affect agricultural production.

- The high rainfall zone occupies less than 20% of the agricultural land but supports about 50% of the population. Farmers in this area produce food, cash crops, and livestock.
- The medium rainfall zone occupies about 35% of the country's land area and supports 30% of the population. Farmers in this region focus on cattle, small stock, and drought tolerant crops.
- The low rainfall or arid and semi-arid lands (ASALs) form 84% of the country's total land area. Though not suited to cultivating crops, these lands support 80% of the country's livestock population.³

Agriculture is very important to Kenya's economy, contributing around 26% of the national GDP.⁴ Agriculture and food processing industries employ 80% of Kenya's workforce.⁵

Livestock production plays a crucial role in Kenya's economy. This industry contributes around 12% of the national GDP and 40% of the agricultural GDP. This sector employs 50% of the agricultural labor force.⁶

Kenya Domestic Animals – 2010 ⁷	
Species	Country population
Birds	31,827,529
Camels, etc.	2,969,111
Cattle	17,467,774
Goats	27,740,153
Sheep	17,129,606
All Animals	142,338,621

⁴ Ibid.

⁵ <http://www.nationsencyclopedia.com/Africa/Kenya-AGRICULTURE.html>

⁶ http://restechkenya.org/content/Irrigation_Policy_in_Kenya.pdf

⁷ http://web.oie.int/wahis/public.php?page=country_population&year=2010&selected_species

¹ <http://lcweb2.loc.gov/frd/cs/profiles/Kenya.pdf>

² <http://data.worldbank.org/indicator/AG.LND.AGRI.ZS>

³ http://restechkenya.org/content/Irrigation_Policy_in_Kenya.pdf

Livestock Industry



22 June 2010 Good Hope Meat in Njiru District, Kenya

Kenya's livestock and poultry production sector is dominated by dairy, beef, and dual-purpose cattle. Beef and milk account for more than 75% of the marketed livestock production.⁸

Dairy Industry

- The most developed of Kenya's livestock industries⁹
- Kenya is the largest milk producing country in sub-Saharan Africa.¹⁰
- Dairy products are mainly exported to countries of the East African Community (EAC).
- The industry is regulated by the Ministry of Livestock Development through the Kenya Dairy Board (KDB).
- There are 26 dairy plants in the country and 10 have the capacity to produce over 10,000 liters/day of fluid milk.
- Annual production of dairy products is approximately 4 billion liters.¹¹
- The dairy industry contributes 3.5% of the national GDP.
- 80% of the marketed milk in the country is produced by medium and small-scale producers.¹²
- Poor hygienic practices in milk collection and handling and the presence of anti-microbial residues in milk represent major public health concerns and create significant export constraints.¹³

Beef Industry

- Zebu cattle in the arid and semi-arid lands dominate the national beef herd but there is a significant proportion of beef coming from dairy bull calves and cull cows.¹⁴
- Total beef production is estimated at 363,000 metric tons/year.¹⁵
- Kenya is not self-sufficient in red meat and imports 385,000 metric tons/year to meet growing demands for beef.¹⁶
- 25-30% of the country's beef needs are met through the illegal movement of cattle from neighboring countries.¹⁷

⁸ <http://www.kari.org/?q=content/animal-production-research-programme>

⁹ http://www.chr.up.ac.za/chr_old/indigenous/documents/Kenya/Report/Focus%20on%20Livestock%20Sector.pdf

¹⁰ http://merid.org/~media/Files/Projects/Value%20Chains%20Microsite/Dairy_Value_Chain_Overview.ashx

¹¹ http://www.standardsfacility.org/Files/AidForTrade/Final_Kenya.pdf

¹² http://www.chr.up.ac.za/chr_old/indigenous/documents/Kenya/Report/Focus%20on%20Livestock%20Sector.pdf

¹³ http://www.standardsfacility.org/Files/AidForTrade/Final_Kenya.pdf

¹⁴ http://www.chr.up.ac.za/chr_old/indigenous/documents/Kenya/Report/Focus%20on%20Livestock%20Sector.pdf

¹⁵ http://www.standardsfacility.org/Files/AidForTrade/Final_Kenya.pdf

¹⁶ <http://www.nation.co.ke/business/news/Kenya+importing+livestock+as+local+supply+of+beef+dwindles+/-/1006/1170034/-/hn65u5/-/>

¹⁷ <http://www.bdsknowledge.org/dyn/bds/docs/552/KenyaLivestockValueChainReport.pdf>

Poultry Industry

- Responsible for the employment of 2-3 million people¹⁸
- Poultry population is an estimated 32 million birds.¹⁹
- 68% of the population consists of local or indigenous birds kept under free-range conditions.
- Commercial birds make up 26% of the poultry population. These birds, mainly hybrid broilers and layers, are usually raised at the outskirts of large towns.²⁰
- Poultry meat production was estimated to be 23,000 metric tons in 2009.²¹
- Total egg production is approximately 1.2 million eggs/year.²²
- High production costs are a major threat to this industry. The Ministry of Livestock Development is addressing this issue through subsidies and the standardization of market structures.²³

¹⁸http://pdf.usaid.gov/pdf_docs/PNADU076.pdf

¹⁹<http://www.businessdailyafrica.com/High+production+costs+hit+poultry+sector/-/1248928/1284634/-/qdw8e1z/-/>

²⁰http://www.chr.up.ac.za/chr_old/indigenous/documents/Kenya/Report/Focus%20on%20Livestock%20Sector.pdf

²¹<http://www.businessdailyafrica.com/High+production+costs+hit+poultry+sector/-/1248928/1284634/-/qdw8e1z/-/>

²²http://www.chr.up.ac.za/chr_old/indigenous/documents/Kenya/Report/Focus%20on%20Livestock%20Sector.pdf

²³<http://www.businessdailyafrica.com/High+production+costs+hit+poultry+sector/-/1248928/1284634/-/qdw8e1z/-/>

Sheep and Goats²⁴

- This industry contributes about 30% of the total red meat consumed in the country.
- Most sheep and goats reared in the arid and semi-arid lands are raised for meat.
- Wool sheep and dairy goats are reared in the higher rainfall highland regions.

Pig Industry

- Pig herds have dwindled over the years due to marketing problems and the high cost of feed.²⁵
- The government continues to encourage pig production as it plays a major role in the tourism sector. Pig production has grown steadily for the past ten years.²⁶
- Meat production is estimated to be over 16,100 metric tons/year.²⁷

Camel Industry

- Northern Kenya is home to 95% of the national herd and total meat production averages 8,000 metric tons/year.²⁸
- The camel is not only a means of transportation but also a reliable milk provider during the dry season and periods of drought.²⁹
- Camels have the potential to be the most valuable livestock species in the arid and semi-arid lands.³⁰
- However, government supported agricultural extension staff lack the necessary materials and knowledge to assist camel owners with health and husbandry issues. There is also a lack of market promotion of camel products in the country.³¹

²⁴ http://www.chr.up.ac.za/chr_old/indigenous/documents/Kenya/Report/Focus%20on%20Livestock%20Sector.pdf

²⁵ <http://www.kari.org/?q=content/animal-production-research-programme>

²⁶ <http://www.communication.go.ke/ministry.asp?ministryid=14>

²⁷http://www.chr.up.ac.za/chr_old/indigenous/documents/Kenya/Report/Focus%20on%20Livestock%20Sector.pdf

²⁸Ibid.

²⁹ <http://www.communication.go.ke/ministry.asp?ministryid=14>

³⁰http://www.chr.up.ac.za/chr_old/indigenous/documents/Kenya/Report/Focus%20on%20Livestock%20Sector.pdf

³¹ <http://www.communication.go.ke/ministry.asp?ministryid=14>

Livestock Slaughter, Marketing, & Trade



21 June 2010 City Park Market in Nairobi, Kenya

- **Food-borne diseases** are a major problem in Kenya. The Department of Public Health within the Ministry of Public Health and Sanitation is responsible for managing food safety issues.³³

- **Kenya strives to enforce** safe slaughtering practices and to increase food safety and quality. Animals are to be inspected by a veterinarian before being shipped to the slaughterhouse and upon arrival. The meat has to be inspected and declared fit for human consumption before it is sold.³⁶

- **Live animal markets** are owned by local governments, located in commercial areas, and housed in open spaces or temporary sheds. Government veterinary personnel are responsible for examining and isolating sick animals.³²

- **Kenya's access to foreign markets** is hindered by a lack of quality control and standardization of livestock products. Individual farmers are unable to meet the required health and quality standards needed for export.³⁴



22 June 2010 Good Hope Meat in Njiru District, Kenya



21 June 2010 City Park Market in Nairobi, Kenya

- **Failures to meet** international food safety standards and establish consistent disease-free zones have resulted in export bans that keep Kenya from lucrative markets in the Middle East and European Union.³⁵

- **The Kenya Meat Commission** is the largest and most modern licensed export abattoir in East, Central, and the Horn of African. Originally formed in 1950, the government reopened it for operations in 2006. Its goal is to supply top quality meat products to international markets.³⁷

³² Information was derived by private industry research analysts in the course of their normal research projects through discussions with knowledgeable individuals with good access to the information. The individuals providing information included a Doctor of Veterinary Medicine (DVM) and an Executive Government Official within the Kenya Ministry of Livestock Development, Department of Veterinary Services in Kabete, Kenya.

³³ <http://www.bioline.org.br/pdf?nd10118>

³⁴ http://www.future-agricultures.org/pdf%20files/Ag_policy_Kenya.pdf

³⁵ <http://www.businessdailyafrica.com/Corporate-News/Kenya-livestock-sector-targets-Arabian-market/-/539550/1093262/-/h959wd/-/index.html>

³⁶ Agro Industry Section Kenya Brochure - Safe Meat for all Meat Inspection Services

³⁷ <http://www.kenyameat.co.ke/>

Livestock & Government



16 June 2010 Virology Lab in Kabete, Kenya

The **Ministry of Livestock Development**³⁸ was formed in 2008 with the mandate of promoting, regulating, and facilitating livestock production for social-economic development and industrialization.³⁹ The Ministry has two technical departments:



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1. The **Department of Veterinary Services**⁴⁰ employs over 300 veterinary surgeons and over 1000 support staff throughout the country. This department has the full authority of the national government to regulate matters relating to the outbreak of animal and/or zoonotic diseases. While its infrastructure and leadership framework are well designed, the department is constrained by inadequacies in funding, transportation, trained personnel and diagnostic facilities. Services within this department include the following⁴¹:

- Veterinary Disease Control⁴²
- Veterinary Laboratory Services⁴³
- Veterinary Epidemiology, Surveillance and Economics⁴⁴
- Veterinary Public Health⁴⁵

2. The **Department of Livestock Production** utilizes the appropriate policies and legal framework to enhance and promote sustainable livestock production and markets. It employs the front line agricultural extension workers who serve as the main link between farmers and the department.⁴⁶

⁴⁰ <http://www.livestock.go.ke/index.php/departments/verterinary-services/122-departments-mandate>

⁴¹ Information was derived by private industry research analysts in the course of their normal research projects through discussions with knowledgeable individuals with good access to the information. The individuals providing information included a Doctor of Veterinary Medicine (DVM) and an Executive Government Official within the Kenya Ministry of Livestock Development, Department of Veterinary Services in Kabete, Kenya.

⁴² <http://www.livestock.go.ke/index.php/departments/verterinary-services/120-veterinary-disease-control>

⁴³ <http://www.livestock.go.ke/index.php/departments/verterinary-services/121-laboratory-services-and-veterinary-farms>

⁴⁴ <http://www.livestock.go.ke/index.php/departments/verterinary-services/119-veterinary-epidemiology-surveillance-and-economics>

⁴⁵ <http://www.livestock.go.ke/index.php/departments/verterinary-services/118-veterinary-public-health>

⁴⁶ <http://www.livestock.go.ke/index.php/departments/livestock-production/110-about-livestock-production>

³⁸<http://www.livestock.go.ke/>

³⁹<http://www.livestock.go.ke/index.php/about/mandate>

Veterinary Profession



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The **Kenya Veterinary Board** was established under the Veterinary Surgeons Act.⁴⁷ The 8-member board serves as the regulatory body for the veterinary profession and education.⁴⁸

The **Kenya Veterinary Association (KVA)**⁴⁹ is the professional membership association for all veterinarians in Kenya. The Association is involved in all advocacy issues of the animal resource industry. It is responsible for furthering the advancement of veterinary science and practice in Kenya.⁵⁰

In **2011**, the KVA reported over 800 registered member veterinarians in the country.⁵¹ In 2010, **The World Organization for Animal Health (OIE)** reported a total of 6,553 veterinarians and para-veterinarians working in the country.⁵²

In an attempt to assist Kenya in increasing its number of qualified veterinary professionals, Parliament enacted the **Veterinary Surgeons and Veterinary Para-Professionals Act (No. 29)** in 2011. This act makes provisions for the training, registration and licensing of veterinary surgeons and veterinary para-professionals.⁵³

Veterinarians at the state, local and private levels are sufficiently educated and trained in animal/zoonotic disease response and control procedures. However, at the national government level only a portion of the personnel are so educated and trained.⁵⁴

⁴⁷ http://kenyavetboard.org/index.php?option=com_content&view=article&id=59:zoo&catid=34:welcome

⁴⁸ http://www.kenyavetboard.org/index.php?option=com_content&view=article&id=79&Itemid=196

⁴⁹ <http://www.kva.co.ke>

⁵⁰ http://www.kva.co.ke/files/publications/KVA_STRATEGIC_PLAN_2007-2011.pdf

⁵¹ http://www.kva.co.ke/index.php?option=com_comprofiler&task=userslist&listid=4&Itemid=62

⁵² http://web.oie.int/wahis/public.php?page=country_personnel

⁵³ <http://www.kenyalaw.org/klr/fileadmin/pdfdownloads/Acts/VeterinarySurgeonsandVeterinaryPara-ProfessionalAct2011.doc>

⁵⁴ Information was derived by private industry research analysts in the course of their normal research projects through discussions with knowledgeable individuals with good access to the information. The individuals providing information included a Doctor of Veterinary Medicine (DVM) and an Executive Government Official within the Kenya Ministry of Livestock Development, Department of Veterinary Services in Kabete, Kenya.

University of Nairobi, College of Agriculture and Veterinary Sciences⁵⁵

- Kenya's only internationally recognized veterinary education institution
- The Bachelor of Veterinary Medicine program was fully certified in 1970.
- The college offers undergraduate, graduate, and non-veterinarian graduate degrees and research opportunities

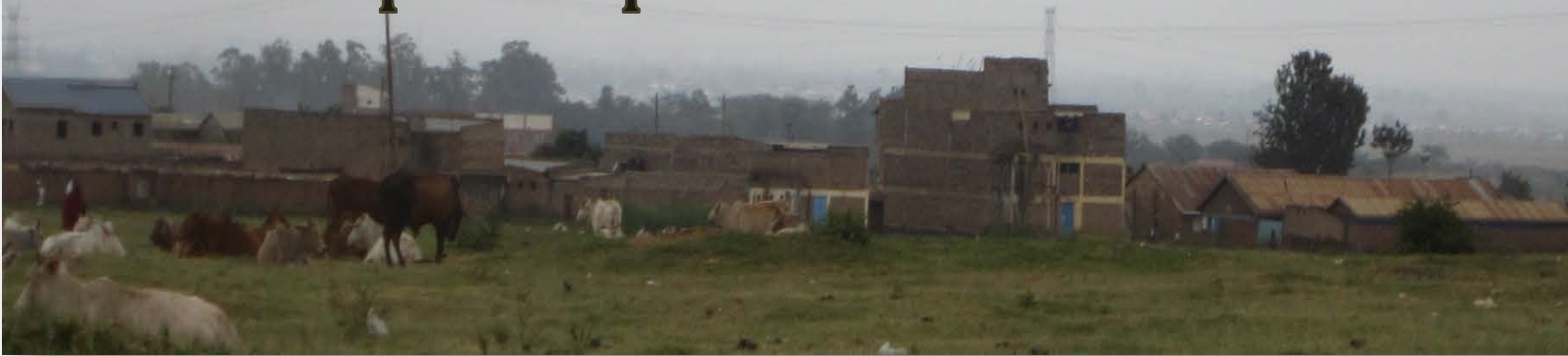
Other Academic Institutions⁵⁶

- The Animal Health and Industry Training Institute
- The Meat Training Institute
- The Kenya Wildlife Service Training Institute
- The Dairy Training Institute-Naivasha

⁵⁵ <http://vet-medicine.uonbi.ac.ke/node>

⁵⁶ http://kenyavetboard.org/index.php?option=com_content&view=article&id=89&Itemid=208

Disease Response Capabilities



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Research Capabilities

- Kenya has high quality, state-of-the art research and laboratory facilities within the national government and academia. These facilities are fully staffed with highly trained personnel. However, facilities within local or regional governments and in the commercial sector are considered inadequate.⁵⁷
- The **International Livestock Research Institute (ILRI)** has its East African headquarters in Kenya.⁵⁸ The ILRI works on developing and improving vaccines for livestock diseases.⁵⁹
- The ILRI also manages the **Hub for Biosciences eastern and central Africa (BecA)** which aims to increase the number of affordable, world-class bioscience research facilities in Africa. Located in Nairobi, it focuses heavily on livestock related research.⁶⁰
- The **Kenya Agriculture Research Institute (KARI)** is the country's premier national research facility. It coordinates 23 different research institutes and its programs include animal health research on prevalent livestock diseases.⁶¹

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⁵⁸<http://www.ilri.org/EastAfrica>

⁵⁹ <http://www.ilri.org/vaccinesdiagnostics>

⁶⁰ <http://hub.africabiosciences.org>

⁶¹ <http://www.kari.org/>

Diagnostic Capabilities

Kenya has two national reference laboratories that are managed by the **Department of Livestock Development**:

1. The **Central Veterinary Laboratories (CVL)** at Kabete serves as the government's national reference veterinary investigation laboratory for major livestock diseases. It also provides diagnostic support to other countries in Eastern and Central Africa.⁶²
2. The **Foot-and-Mouth Disease Reference Laboratory** in Embakasi is Kenya's national FMD reference laboratory. It is also a member of the OIE/FAO Foot-and-Mouth Disease Reference Laboratory Network.⁶³

Major Livestock Diseases in Kenya⁶⁴

- African Swine Fever (ASF)
- Anthrax
- Contagious Bovine Pleuropneumonia (CBPP)
- Foot-and-Mouth Disease (FMD)
- Marek's Disease
- Newcastle Disease
- Peste des petits ruminants (PPR)
- Rabies
- Rift Valley Fever (RVF)

⁶² http://www.rr-africa.oie.int/docspdf/en/2011/IDE/1_Mwangangi.pdf

⁶³ http://www.wrlfmd.org/ref_labs/ref_lab_reports/OIE-FAO%20FMD%20Ref%20Lab%20Network%20Report%202009.pdf

⁶⁴ <http://web.oie.int/wahis/public.php>

Vaccination Capabilities⁶⁵

- Vaccination is very important in the control of livestock diseases in Kenya. It is the most sustainable and cost-effective method of control and covers large proportions of animal herds.
- The **Kenya Veterinary Vaccines Production Institute** (KEVEVAPI) is the major producer of animal vaccines in Kenya.
- Among the vaccines manufactured at KEVEVAPI are those for Rinderpest, Contagious Bovine Pleuropneumonia, Contagious Caprine Pleuropneumonia, Rift Valley Fever, and rabies.
- The government relies on the institute to produce and maintain adequate reserves for vaccines for strategic use by the Director of Veterinary Services during a disease outbreak event.
- This strategic reserve includes vaccines for FMD, Rinderpest, CBPP, rabies, bluetongue, lumpy skin disease, PPR, and Newcastle disease.

Surveillance and Reporting

- The Department of Veterinary Services has an epidemic-surveillance network covering most parts of the country. Its main objective is to collect disease information for early warning and response measures.⁶⁶
- Elaborate communication networks have been established to link livestock keepers with the appropriate veterinary entities. Since their creation, these networks have greatly enhanced disease reporting.⁶⁷
- A lack of reliable transportation and communication capabilities in the more remote areas of the country often results in irregular or absent outbreak reports.⁶⁸
- Disease outbreak information is usually listed on the Ministry of Livestock Development's website and is provided in a timely manner to relevant international organizations, such as the OIE. The national government also effectively communicates and coordinates with bordering countries regarding animal disease outbreaks.⁶⁹



16 June 2010 KEVEVAPI in Kabete, Kenya

⁶⁶ <http://www.livestock.go.ke/index.php/departments/verterinary-services/119-veterinary-epidemiology-surveillance-and-economics>

⁶⁷ http://www.au-ibar.org/docs/20100301_Serecu_SocioecoBenefits.pdf

⁶⁸ <http://www.elmt-relpa.org/FCkeditor/UserFiles/File/elmt/201002/Assessment%20of%20livestock%20health%20across%20Ethio-kenya%20border.pdf>

⁶⁹ Information was derived by private industry research analysts in the course of their normal research projects through discussions with knowledgeable individuals with good access to the information. The individuals providing information included a Doctor of Veterinary Medicine (DVM) and an Executive Government Official within the Kenya Ministry of Livestock Development, Department of Veterinary Services in Kabete, Kenya.

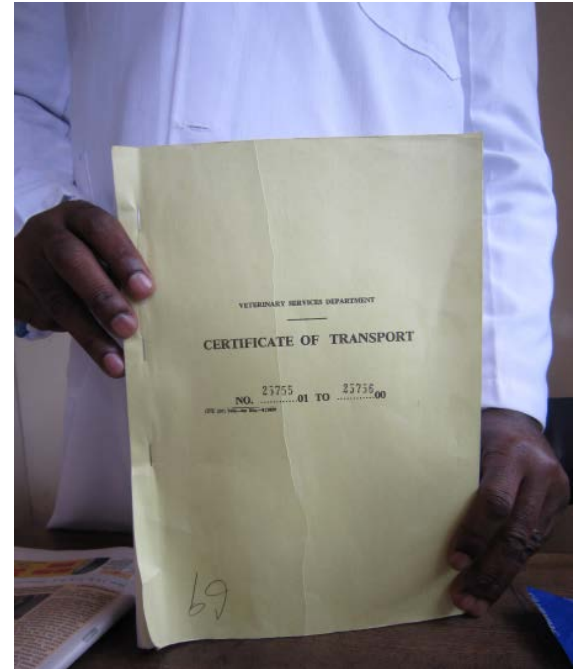
⁶⁵http://kevevapi.org/index.php?option=com_content&view=article&id=112&Itemid=110



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Animal Movement Control

- Animals and animal products imported into Kenya are subject to inspection at ports of entry by the Department of Veterinary Services. Policies and regulations at the national level are considered very strong.
- Security actions by regional or local governments at ports and land borders are more moderate and not consistently employed.⁷⁰
- One of the major factors in the spread of disease is the uncontrolled movements of livestock by farmers in search of new grazing areas or livestock markets. This movement occurs within the country but also across national borders. The cross-border livestock trade involves approximately 400,000 head of cattle per year.⁷¹
- Kenya currently lacks the necessary staff, technologies, and data to implement and enforce a reliable livestock identification and food traceability system. This limits Kenya's access to foreign livestock markets.⁷²
- Kenya realizes the effectiveness of implementing quarantines and animal movement restrictions during an animal or zoonotic disease outbreak. Kenya's veterinary officers have the authority to implement quarantines to control outbreak of high consequence animal disease. This was illustrated during a recent outbreak of FMD.⁷³



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Vector Control⁷⁴

- Kenya understands the importance of vector control in the prevention and control of livestock diseases and has national-level baiting and spraying programs in place.
- The government also provides educational programs, insecticides, treated bed nets, and spraying equipment to the population.



⁷⁰ Ibid

⁷¹ Wambwa E. Transboundary diseases at the wildlife-livestock interface at the Kenya-Somali border, with emphasis on Rinderpest. *Proc. 13th Symposium on Tropical Animal Health Production*; 2002 Oct 18; Utrecht, Netherlands. 2002. Utrecht University.

⁷² <http://www.lrrd.org/lrrd22/10/mate22182.htm>

⁷³ <http://www.standardmedia.co.ke/InsidePage.php?id=2000045818&cid=4&ttl=Livestock%20quarantine%20imposed%20in%20Naivasha%20after%20disease%20outbreak>

⁷⁴ Information was derived by private industry research analysts in the course of their normal research projects through discussions with knowledgeable individuals with good access to the information. The individuals providing information included a Doctor of Veterinary Medicine (DVM) and an Executive Government Official within the Kenya Ministry of Livestock Development, Department of Veterinary Services in Kabete, Kenya.