Final Revised Quick Scan

Quick Scan for Anthrax in Kakamega

DRIVERS

Consumption	Consumption of Meat from Infected Carcasses	Poor Handling of Infected Carcasses and Contaminated & By-products	Increased Demand for Animal Derived Protein	Consumer Preferences & Preciousness consumption of Animal products like blood or liver	Blood consumption as a delicacy in rural communities which can be a significant risk factor for human and livestock infection	
Demographics & Development	Positive Human Population Growth Rate	Income Segments & Purchasing Power	Animal Production & Population	Occupational Hazard such as working with animals, processing, spore exposure	Population pressure leads to increasing land degradation which contributes to poor animal feeding practices	
Climate & Environment	Soil Properties (ph and texture can affect risks)	Extreme Weather Conditions	Climate suited to livestock husbandry	Dwindling of land increase exposure	Sharing of ecosystem	Poor water management
Policy & Geopolitics	Limited Disease Surveillance Systems	Presence of Regulatory Frameworks on Animal Health Systems & Public Health	Weak monitoring and limited enforcement of food safety standards and regulations	Inadequate vaccination coverage		
Markets	Informal marketing of cattle	Skinning before burrying sick animals	Poor infection prevention and control in market (IPC)	Low cost butcheries (slaughter facilities accessibility and fuel anthrax	Unethical market practice (ie underpaid business men)	
Technology	Increasing use of digital tools for information about meat readily (misinformation and negative)	Availability of referencing material	Use of print media and electronic media to sensitize about anthrax	CAB and Veterinary Integrated disease surveillance and response (eIDSR)		
Other	Animal Behaviour - grazing vs browsing	Geographic Factors (neighboring countries, Tranmovia, Nandi County)				

Anthrax contamination pattern in Kakamega food system

Natural System (Environment)

Human System

Food System

Supporting Services:- education, research, technology, logistics, finance, communication

live markets

ENV

butcher shop

slaughter house/ butchers

hides and skin collection points

Storage

ENV

farm

animal shed

pasture

compost manure

slaughter house/ butchers

slaughtering labs

home based slaughtering and processing

Hides and skin businesses and bandas

Processing equipment

tannery

wool processing

butcher shop

market - blood and meat

Black market, sick animals with no ante mortem, unmarked meat or by product (ie blood)

Contaminated equipment and personnel (butchers, meat handlers)

Homesteles of

household

public eateries /restaurant../ hotels

Production

Processing

Retail

Consumption

goat

pigs

ENV

ENV

ENV

market (sick animals)

transport (use of boda bodas and probox)

waste stream (ie blood and other animal parts which are risk to the soil and water sources)

Disposal

ENV

Animal (pigs, cattle, sheeps, goats, dogs, cats) and wildlife

National Environment Management Authority

Kakamega County Food Safety Policy 2023

Agriculture, Livestock, Fisheries and Cooperatives Sector Plan 2023-2032

Kakamega County Agri-Nutrition Implementation Strategy 2023-2027

The Kakamega County Dairy and Development corporation Act, 2018

National Strategy for the Prevention and Control of Anthrax in Humans and Animals, Kenya (2021-2026)

Environment

Soil

Rivers/water reservoirs contaminated with spores from contaminated soils/land

Pasture

Feedback

OUTCOMES

Disease Outcomes

- Humans
  - Morbidity
  - Mental health challenges as one of the chronic and most consumptions
  - Minor mortality
  - Stigmetization
- Animals
  - Morbidity
  - High mortality
  - Loss in production
- Environment
  - Bacteriological pollution
  - Wildlife mortality

Food System Outcomes

- Economic & Social well-being
  - Health care economic losses
  - Kakamega reputational cost
  - Unavailable labor force
  - Reduced trade in animal and animal products
  - Poverty
- Food & nutrition security
  - Production losses
  - Decreased food and nutrition security (lower uptake of meat)
  - Unfair impact of disease on food and nutrition security
- Environmental sustainability
  - Disease reservoir in the environment (water, animals)
  - Biodiversity loss (insects)

One Health Outcomes

- Human health
  - Increased inequitable health system
  - Decreased Dalies
  - Health system burden
  - Insecurity due to soci-economic consequences of anthrax
  - Increased illiteracy due to misinformation impacts of anthrax
  - → well-stocked health facilities
  - Empowered workforce, research and enhance community communication approach
  - → Improve inter operability of systems
- Animal health
  - Inequitable animal health system
  - Animal health and productive potential is reduced
- Environmental health
  - AMR contributor
  - Reduced Kakamega climate change adaptation capacity

Legend

- Contamination location
- Species at risk of contamination
- ENV — Environmental contamination
- Present in Kakamega
- Minor phenomena in Kakamega