FMD IN WILDLIFE
A KENYAN SITUATION

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Introduction

• Foot-and-mouth disease (FMD) is a highly infectious viral infection of cattle, pigs, sheep, goats, buffalo, and artiodactyl wildlife species

• GDP of tourism 12% 68 billion. (KTB)

• Our mandate is to protect the animals from Disease

• More than 80% of Kenyan wildlife are found in non-protected areas leading to enhanced Transmission of diseases from wildlife to livestock
Epidemiology of FMD

- FMD is caused by an aphthovirus of the family Picornaviridae. There are seven serotypes: A, 0, C, Asia 1, and SAT (Southern African Territories) 1, 2, and 3.
- Infected animals have a large amount of aerosol virus in their exhaled air, which can infect other animals via the respiratory or oral routes.
Animals affected

• Buffaloes
• Elands
• Greater and lesser kudu
• Grant Gazelles, Thompson's gazelle
• Gerenuks, Impalas
• Elephants
• Giraffe
Domestic wildlife interphase
Rationale.

• FMD suspect are present whereas only a few are seriously monitored
• Logistical difficulties are encountered especially due to cost implication
• Benefit-Cost Analysis is a serious consideration
surveillance

- Animals first observed visually to assess general health status and note signs any signs of infection.
- Suitable ages/identified. Capture is chemical or physical.
- Wild life capture very dynamic and random selection of animals not possible.
- Animals sampled: Buffaloes Sentinel
Procedure

- Design prevalence's and sample sizes
  Ecological carrying capacity is 3000
- Buffalo populations 5000 (2008 census) in Nakuru N. Park.
- Areas protected and community areas
- Samples
- Revive animals
- Laboratory analysis
• Tracheal swabs
• Vesicular epithelium or vesicular fluid should be sent in phosphate-buffered saline (pH 7.4)
FMD suspects

Vesicles on the Gum and Tongue
Buffalo
Control strategies

• FMD Vaccination in wildlife ???
• The technique is rarely applied in the control of wildlife diseases because of the technicalities involved such as lack of validated vaccines for use in wildlife, mode of application in free ranging, lack of effective post-vaccination monitoring mechanism in wildlife.
• Culling/slaughter of affected herds.
CHALLENGES

- Intensive wildlife – livestock interaction enhances disease transmission through contact, sharing of water and pasture.
- Frequent re-infection from livestock and humans and vice versa: Enormous cost of disease surveillance/monitoring in wildlife due to expensive capture equipment and drugs
- Impracticability of some control measures such as vaccination due to cost, logistics and confirmation of efficacy of vaccines.
THANK YOU