

FMD Surveillance & FMD Outbreak Response

**Training Workshop on FMD epidemiology, diagnostics and
surveillance for strengthening FMD control in Eastern Africa
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FMD

- Foot-and-Mouth Disease (FMD) surveillance and outbreak response are critical, internationally standardized processes to detect, control, and eradicate this highly contagious viral disease of cloven-hoofed animals.
- FMD does not affect humans but can cause severe economic and agricultural devastation through rapid spread and trade restrictions.
- In the event of an outbreak a coordinated response involving farmers, veterinary authorities, and international bodies like the World Organisation for Animal Health (WOAH) is essential.

FMD Surveillance

• **Defn:** FMD surveillance, or disease monitoring, is the ongoing process of detecting and monitoring the FMD virus in susceptible animal populations.

• A robust surveillance system can help document progress toward eradication and provide evidence to regain disease-free status for trade.

Key surveillance activities

- **Active observational surveillance (AOS)** - Daily deliberate monitoring of livestock by trained on-farm observers, or Animal Health Monitors, for signs of FMD.
- **Passive surveillance** – a system that relies on farmers and veterinarians to report suspected Foot-and-Mouth Disease (FMD) cases to authorities.

FMD Surveillance (cont.)

Systematic sampling and testing:

- Collecting samples like epithelial tissue, vesicular fluid, and blood from clinically ill animals for laboratory testing.
- Using advanced diagnostic techniques such as RT-PCR and ELISA to identify the virus or antibodies.

Strategic goals - Surveillance strategies must be aligned with a country's FMD control goals, such as moving from endemic status to becoming officially disease-free.

Prompt reporting - FMD is a notifiable disease, and a crucial part of surveillance is the rapid reporting of suspected cases to veterinary authorities.

Real-time data reporting - Digital platforms like open FMD allow for real-time monitoring and reporting of FMD events globally.

Disease mapping - Mapping the locations of infected and non-infected farms helps identify clusters of infection and manage outbreak zones.

FMD Outbreak Response

Once FMD is detected and confirmed, an immediate, coordinated response is launched to contain and eradicate the virus. Response strategies depend on factors like the speed of detection, location, and resources available.

Immediate actions (within the first 72 hours)

- **Unified command:** Establish a unified command structure to manage the incident and coordinate with all involved parties.
- **Declare control areas:** Immediately designate a Control Area, composed of an Infected Zone (at least 3 km radius) and a Buffer Zone (at least 7 km radius), around the infected premises.
- **Quarantine:** Implement strict quarantines for all infected, suspect, and contact premises to prevent the movement of animals and potentially contaminated items.
- **Epidemiological investigation:** Conduct rapid tracing to identify the source of the infection and any premises that may have been exposed.

Control and eradication

•**Movement controls:** Restrict the movement of animals, vehicles, and products within and out of the Control Area using a permit system.

•**Emergency vaccination:**

May be used to protect at-risk animals in a Vaccination Zone and reduce the outbreak size, depending on the response strategy. Vaccinated animals are typically identified and are subject to movement controls.

•**Stamping-out:** A traditional control strategy where all infected and contact animals are humanely culled to rapidly remove the source of infection.

•**Carcass disposal:** Infected carcasses and animal products are disposed of properly through burial or burning.

•**Biosecurity measures:** Implement enhanced biosecurity protocols, including strict access controls, to prevent the virus from spreading via people, vehicles, and equipment.

•**Cleaning and disinfection (C&D):** Thoroughly clean and disinfect all infected premises, vehicles, and equipment to kill the FMD virus, which can survive for long periods in the environment.

Post-eradication

- **Proof of disease freedom:** A comprehensive surveillance program is used to provide evidence of disease-free status to regain trade access, following international standards set by WOAHP.
- **Continued monitoring:** Surveillance continues to ensure the disease is eradicated and to detect any potential future reintroduction.
- **Wildlife surveillance:** Monitor wildlife, such as buffalo, wild boar and deer, to detect any potential spillover events or carrier states that could threaten domestic animals.

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