Foot and Mouth Disease Control Initiatives in Bhutan

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Presentation Outline

• Background
• FMD control strategies
• Issues
Farming system

• About 69% of the population depend on agriculture for their livelihood

• Of this, 90% depend on livestock

• Agriculture - subsistence type

• Livestock farming is integral part of agricultural production system
Livestock production system

• Largely extensive system of farming

• Cattle is the main FMD susceptible species (>70%) followed by goats, pigs, and sheep.

• High-altitude farmers – livestock only source of livelihood
Disease Epidemiology

- FMD is endemic in Bhutan
- Cattle are the main species affected
- Serotype O – dominant serotype
- Significant socio-economic effects
1. Institutional and policy support

- FMD control institutionalised
- FMD control initiated since 1960s
- First control policy in 1996
- Control policy revised in 2005
- Currently revision being made
2. Vaccination

- prophylactic (bi-annual or annual) and post-outbreak vaccination with trivalent (O, A, and Asia 1)

- Risk-based approach

- Minimum 80% coverage targeted

- village immunity
FMD control strategies

3. Movement regulations

• Regulated movement of livestock and livestock products

• Quarantining and testing of imported animals

• Awareness through mass media
4. Stakeholders awareness program

- Training of field staff on disease updates (epidemiology)

- Regular awareness to the livestock farmers and other stakeholders (traders)
FMD control strategies

5. Surveillance activities

- Passive surveillance (farmer-reported)

- Active surveillances in the high risk areas
5. Epidemiological investigations

- field epidemiological investigation and sampling
- Virus serotyping and sequencing
- Phylogeny (molecular epidemiology) – genetic characterisation
- Control policies strongly driven by disease epidemiology
5. PCP-approach

- FMD-PCP approach initiated in SAARC region in November 2011
- Bhutan signatory to the FMD PCP approach
- Roadmap developed using the PCP principles
- Envisaged to be in stage 3 by 2020
Bhutan’s roadmap for FMD PCP 2020

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- Roadmap developed using the PCP principles
FAO-TCP on FMD control in Bhutan

- Strengthening the laboratory diagnostic capacity for FMD diagnosis
- Study on market chain analyses for the risk of FMD incursion through the import of pig and pork into Bhutan
- Active surveillances (seroprevalence studies) in the high risk areas
- Vaccine immune studies to assess the effectiveness of vaccination program in selected districts.
• Extensive livestock farming system – risk factors for disease transmission.

• Animal movements – trading and seasonal.

• Inadequate vaccination coverage – vaccine availability

• Vaccination effectiveness at field level
THANK YOU