RETROSPECTIVE FMD OUTBREAK REPORTS FROM UGANDA AND TANZANIA BORDER DISTRICTS (2011-2016): *IMPLICATIONS FOR FMD CONTROL BY VACCINATION*

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Introduction

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- **Foot-and-mouth disease (FMD)** is endemic in Uganda and Tanzania

- Low mortality and high morbidity

- Causes significant economic consequences (123USD/y/head of cattle in Uganda (Baluka et al., 2014)

- Countries spend on control and miss out on revenues

- Farmers and people along the value chain experience high losses
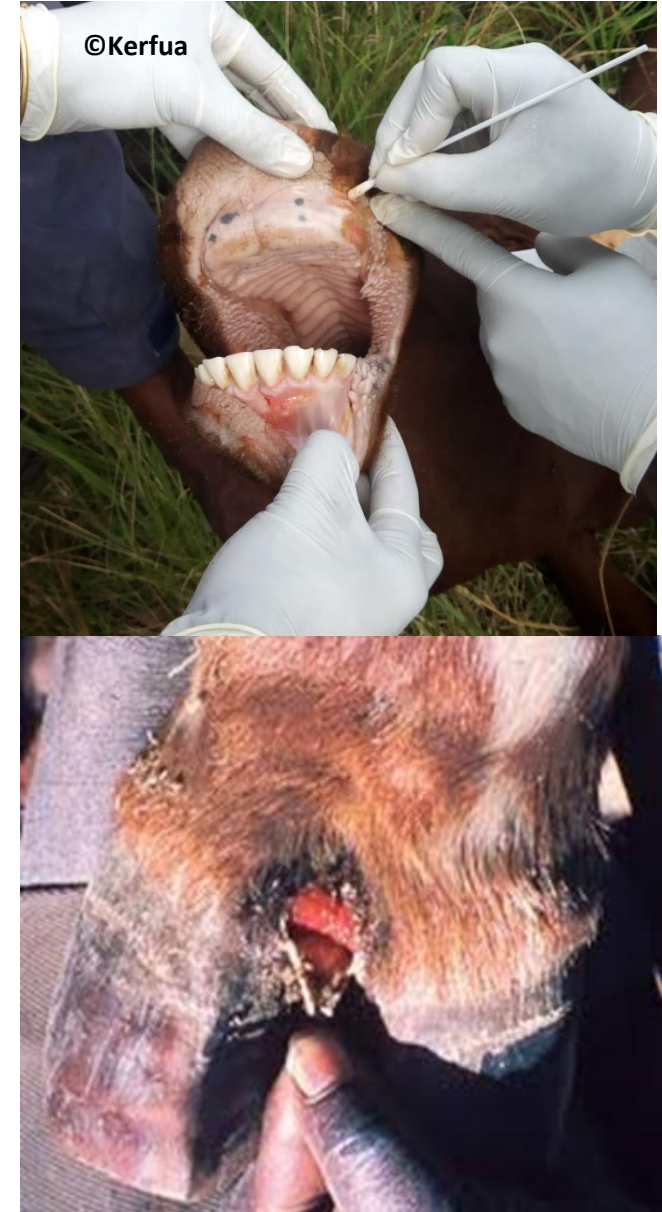
What is the Problem?

- Little is known about FMD circulation in the border area which is one of the main risk areas for FMD circulation (Di Nardo et al.,2011)

- Introduction of Progressive Control Pathway (PCP) in Eastern Africa FMD (FAO,OIE)

- 1st stage PCP- FMD

    -identifying risk points

    -developing strategies

- Limited information on of disease in endemic settings

Image courtesy of FAO
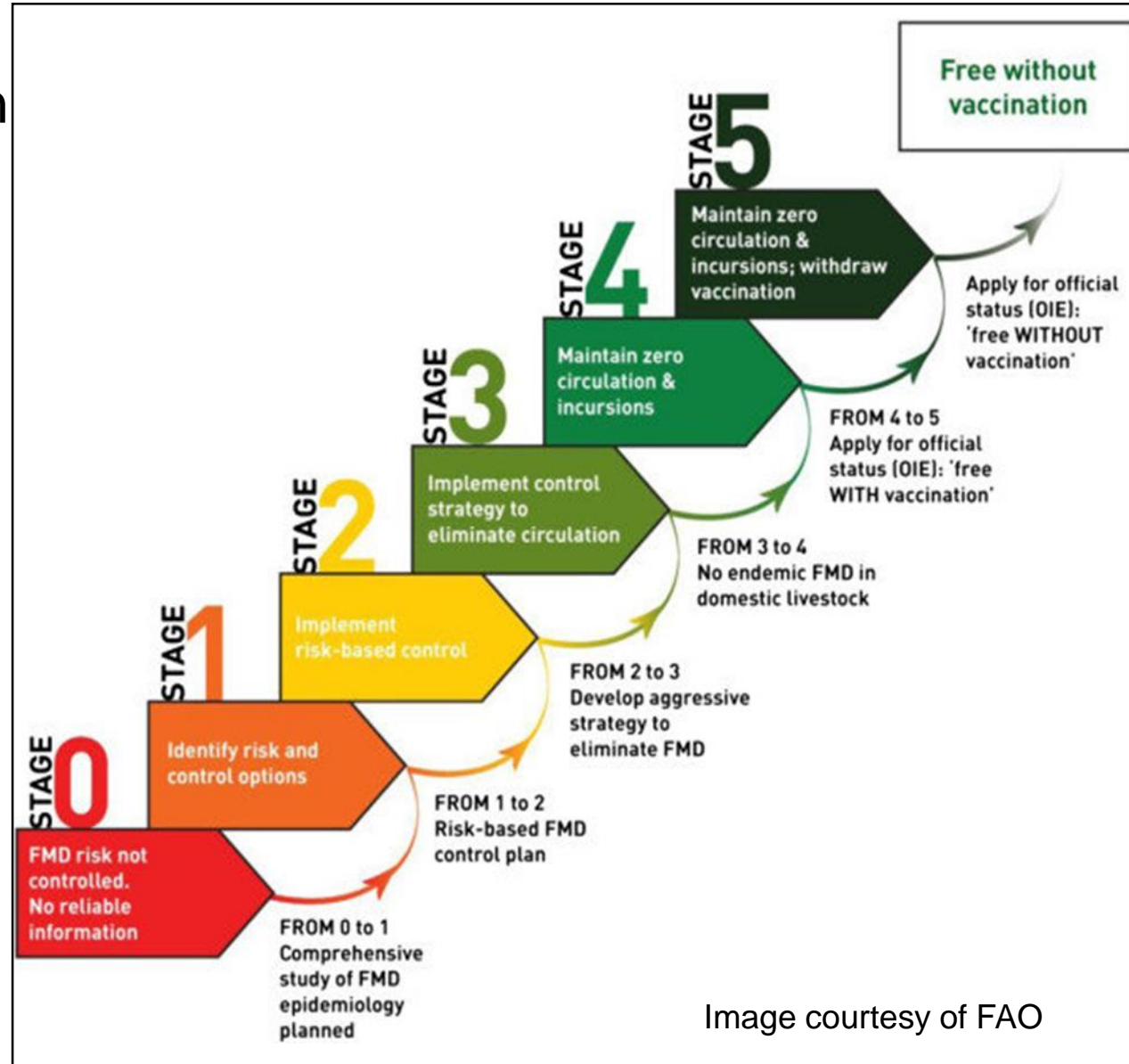
Objective

To ascertain the spatial and temporal distribution of FMD outbreaks in districts located at the border of Uganda and Tanzania (2011-2016)

Study area

Legend
- Kyerwe district
- Missenyi district
- Isingiro district
- Rakai district
- Water_Body
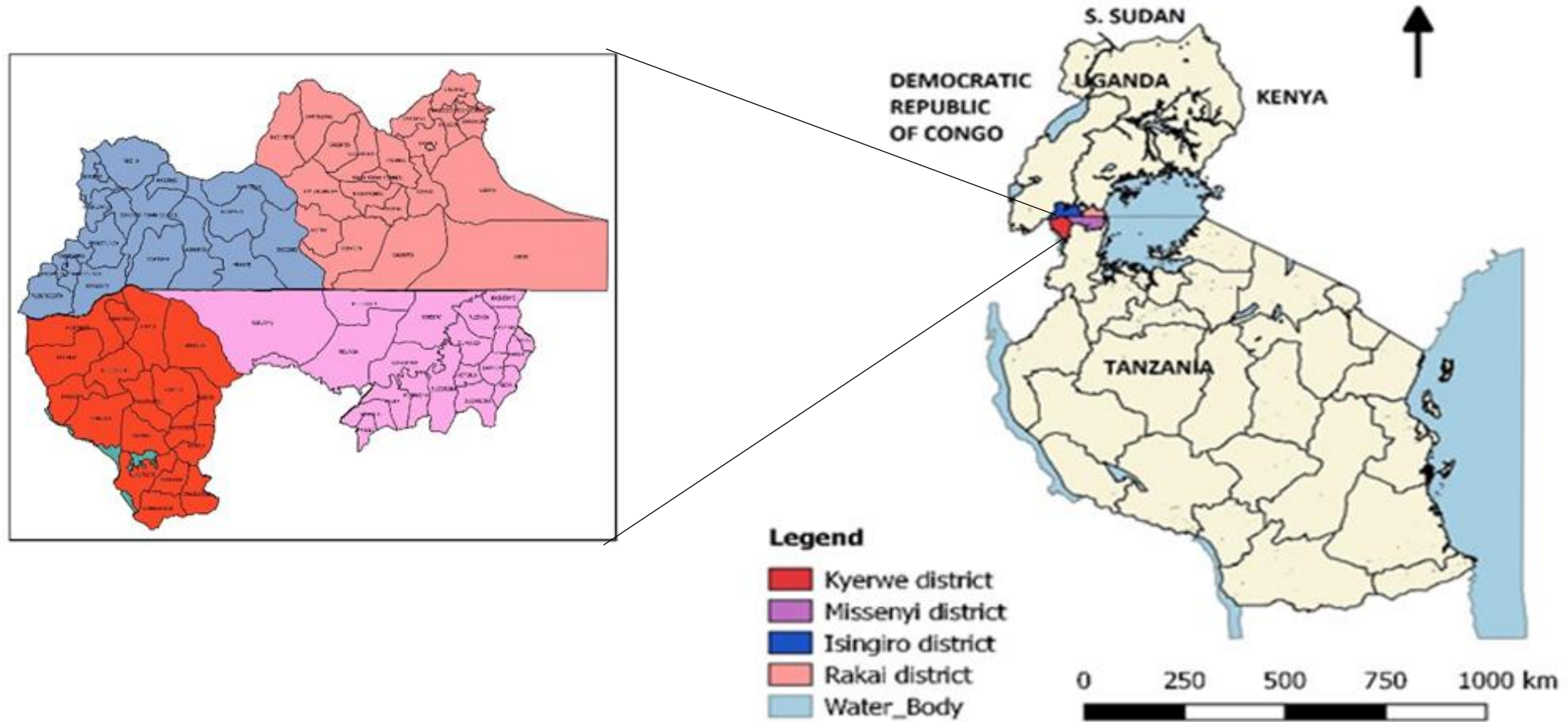
Materials and methods

- Retrospective data was compiled from National Animal Disease Diagnostic and Epidemiology Centre (NADDEC) and District Veterinary Officers (DVOs) reports and entered into Ms Excel

- Data analysed using R (V3.3.2) using generalized linear mixed effect models (package lme4)

- Response variable (no of outbreaks) and the fixed (season (wet-dry), border
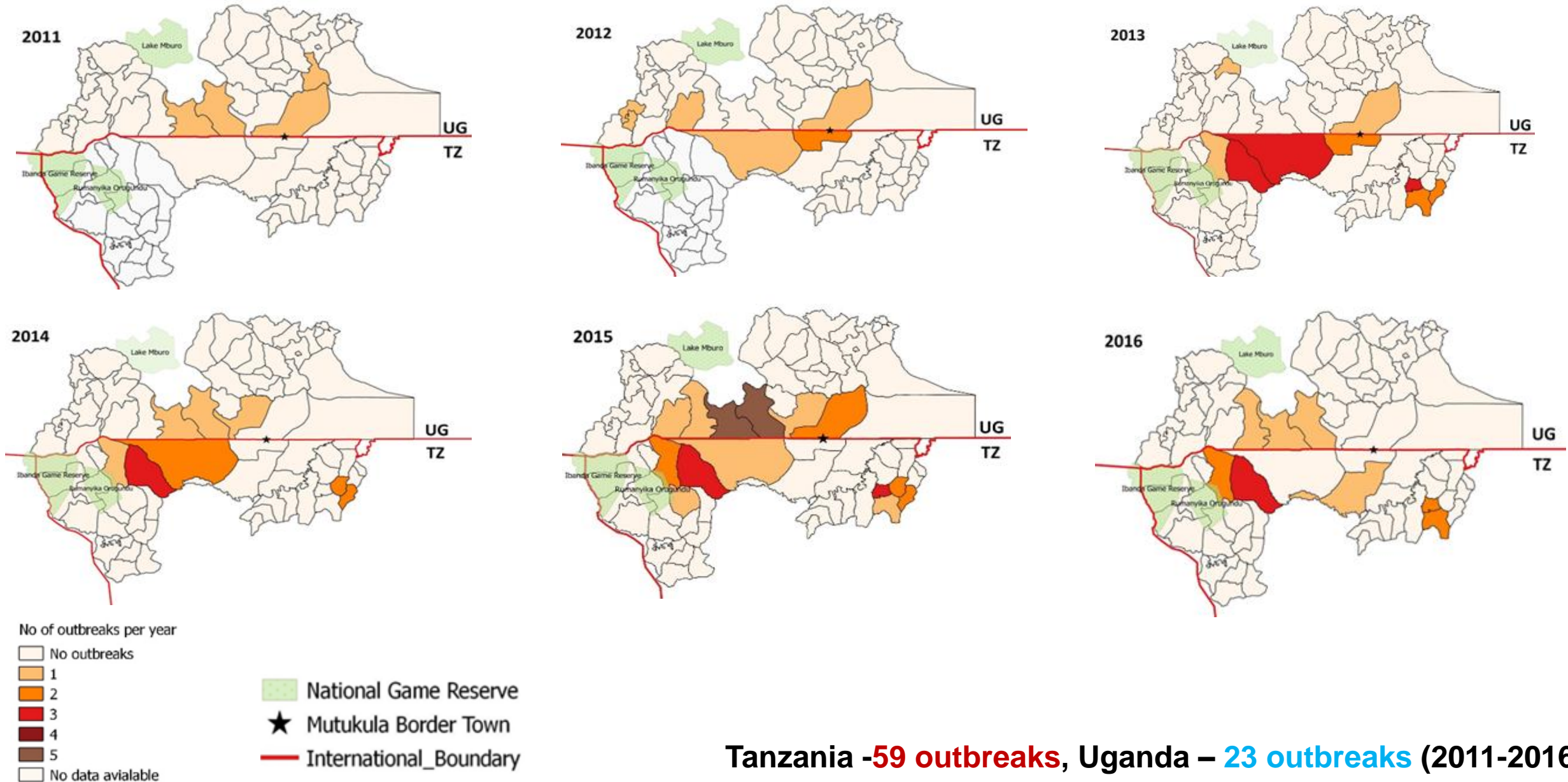
- Maps drawn in QGIS

**Wards in Tanzania = Sub-counties in Uganda

Results and discussion

- **60%** of data lacked information on serotype responsible for outbreak, GPS and number of animals at risk – most diagnosis was based on clinical signs, lack of facilities for diagnosis

- **46%** of the 82 reported outbreaks occurred in border sub-counties/wards, significantly more than in non-border areas (p<0.001)

- Only few outbreaks (**21%**)were reported in areas adjacent to wildlife areas

- The number of outbreaks per year has increased with time

- In some villages and wards/sub-counties, outbreaks were reported in several successive years (markets?, border points?, cattle routes? wildlife?)

- Serotypes present (2011-2016) were SAT 1, SAT 2, and O

Map showing spatial trend of outbreaks

No of outbreaks per year
- No outbreaks
- 1
- 2
- 3
- 4
- 5
- No data aviable

National Game Reserve
★ Mutukula Border Town
— International_Boundary

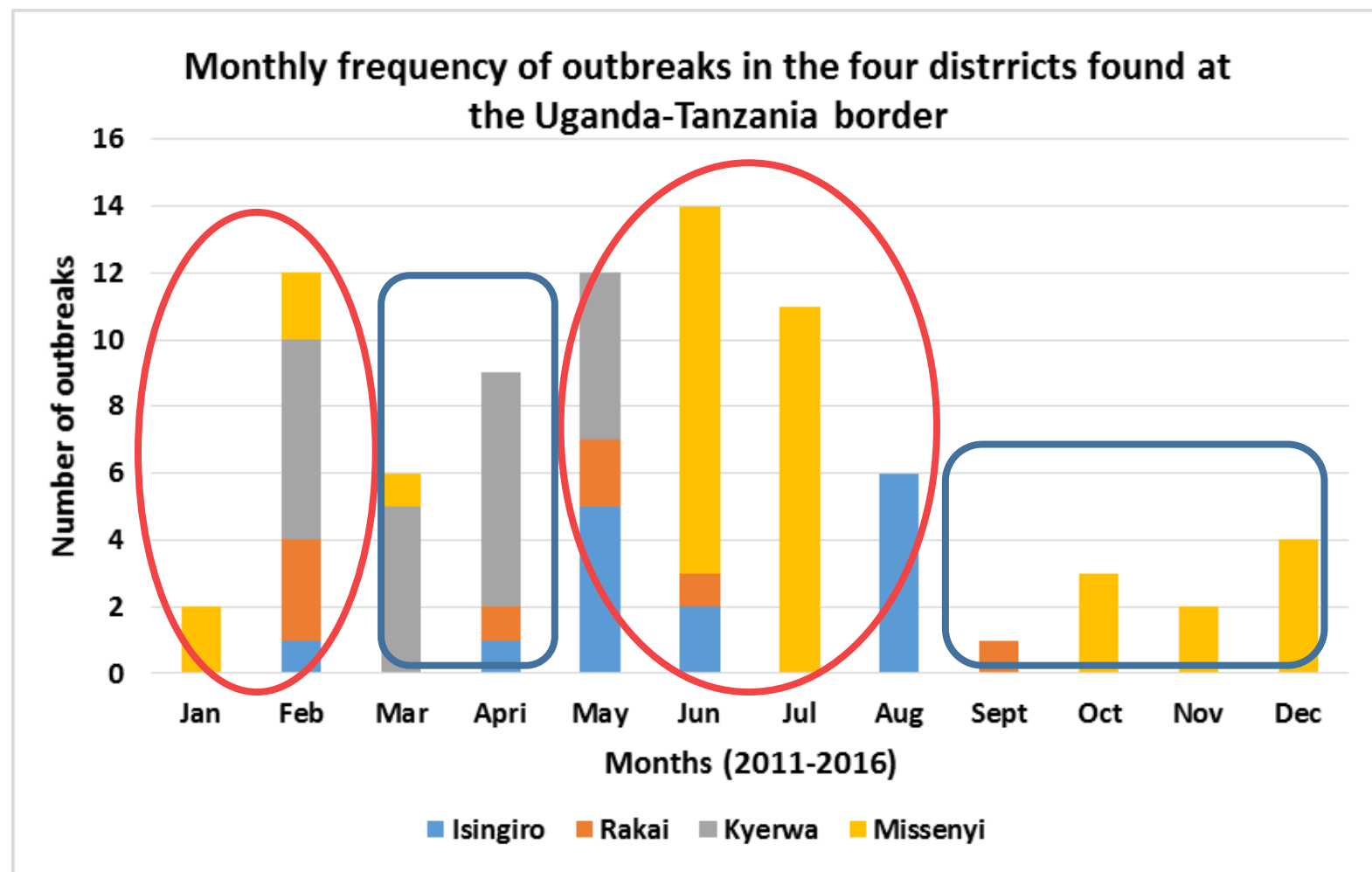Tanzania -59 outbreaks, Uganda – 23 outbreaks (2011-2016)

Temporal trends

Outbreaks were reported on average 3 months apart with no particular pattern

69.51% of outbreaks during the dry season

30.49% of outbreaks during the wet season

Monthly frequency of outbreaks in the four districts found at the Uganda-Tanzania border

Conclusions and recommendations

- More reports in Tanzania – different livestock disease control policies

- Reporting systems need improvement – should be holistic

- Most samples are not analysed in order to determine vaccine serotype to be used

- More collaborative efforts are required for trans-boundary FMD control

THANK YOU FOR YOUR ATTENTION