RIFT VALLEY FEVER SITUATION IN TANZANIA (PAST AND PRESENT)

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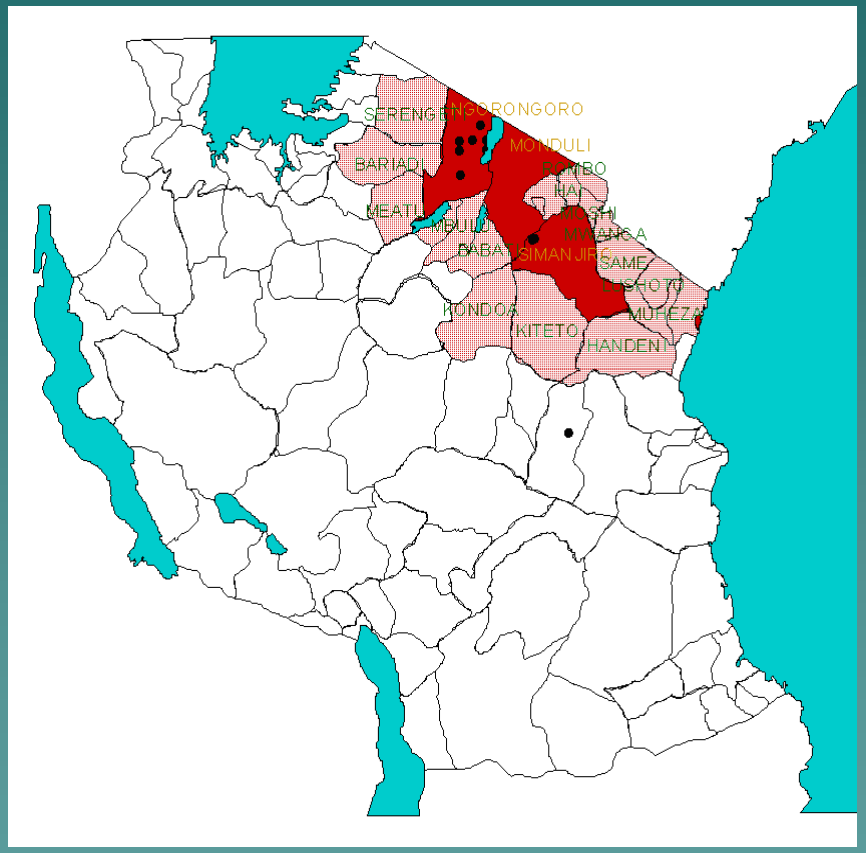
CONTENTS

- History of the Disease
- Recent outbreak
- Affected areas in recent outbreak
- Lessons learnt

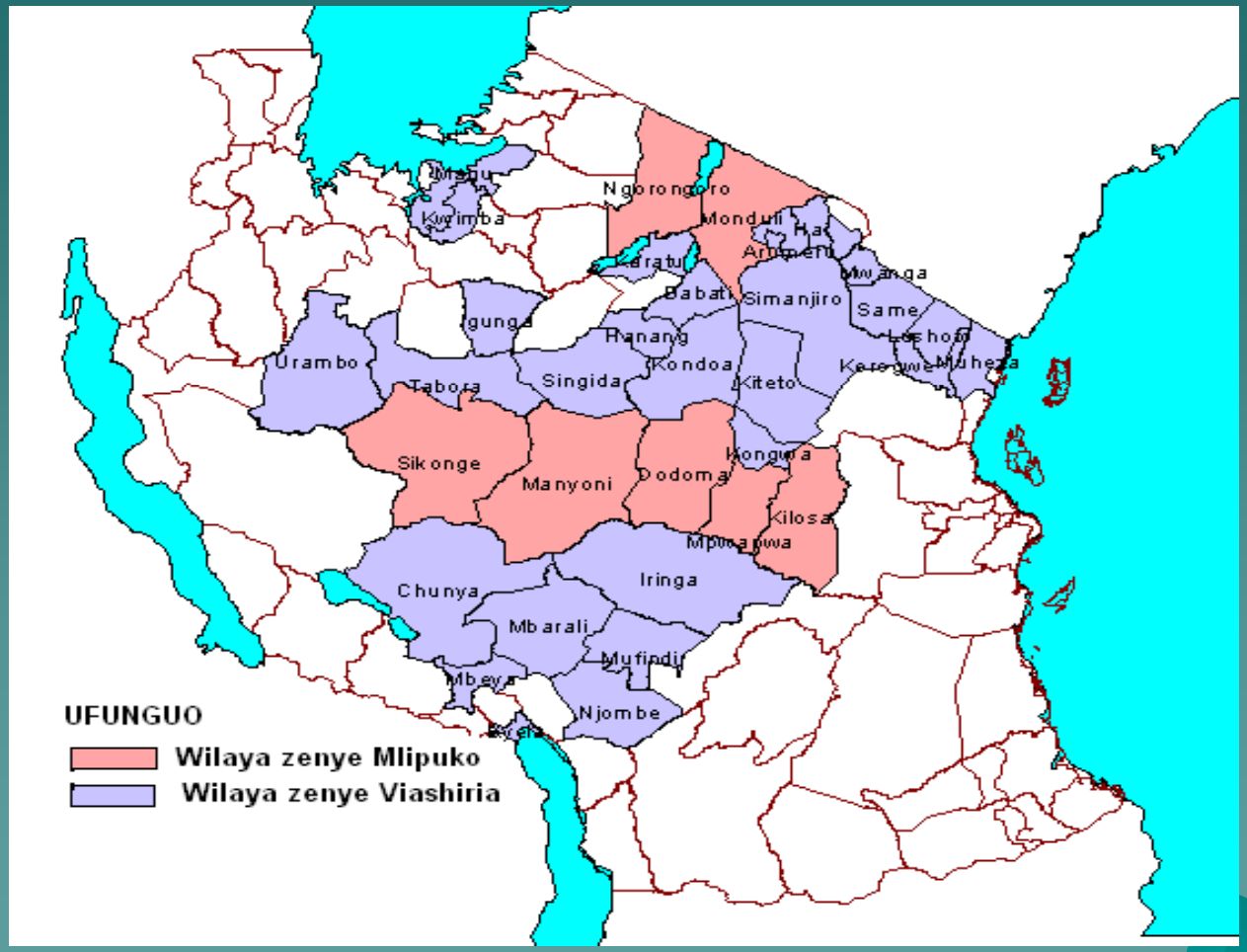
History

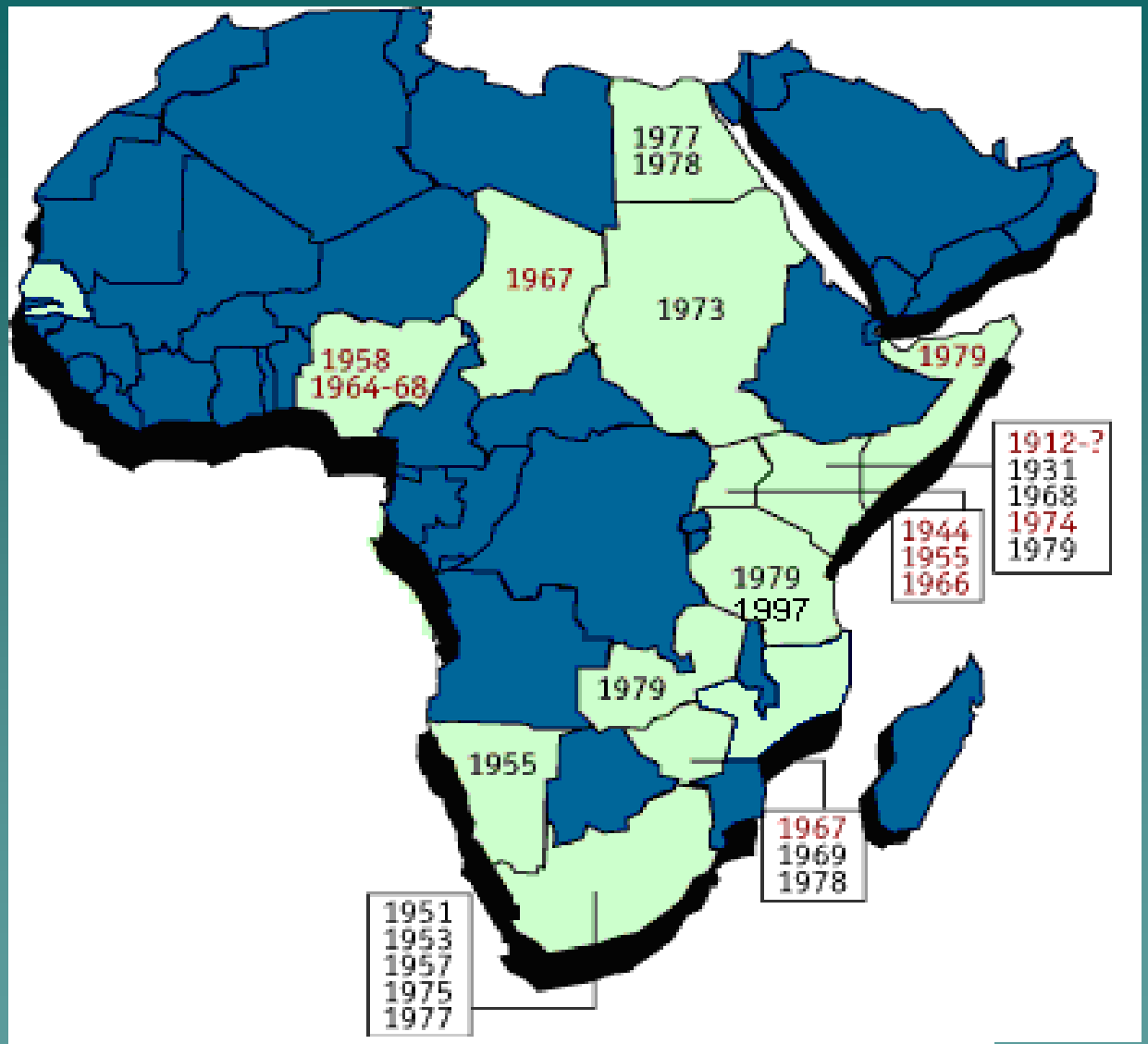
- First clinical signs were described in Kenya (1913)
- Causal agent of the disease was identified in 1931 in Kenya
- The disease has been occurring in many Eastern African countries
- The first outbreak of disease in Tanzania was in year 1977.Then followed by 1997, 1998, and 2006/2007 after heavy El Niño-associated rains.
- Outside Africa the Disease has been observed in Yemen and Saudi Arabia.

Spread of RVF in Tanzania During the 2007 Outbreak



Spread of RVF in Tanzania During the 2007 Outbreak



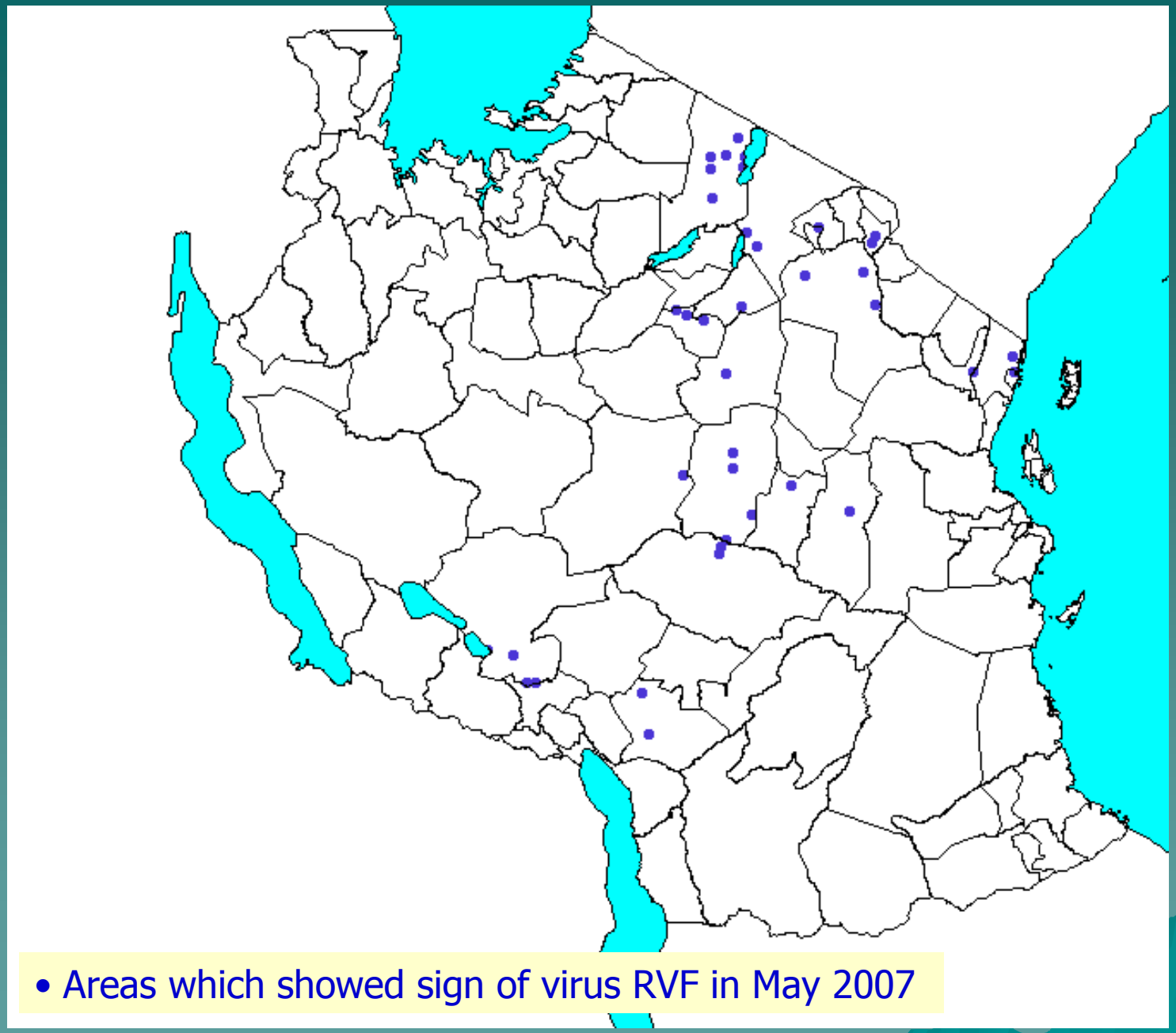


African Countries which have experienced RVF and Year of Outbreak

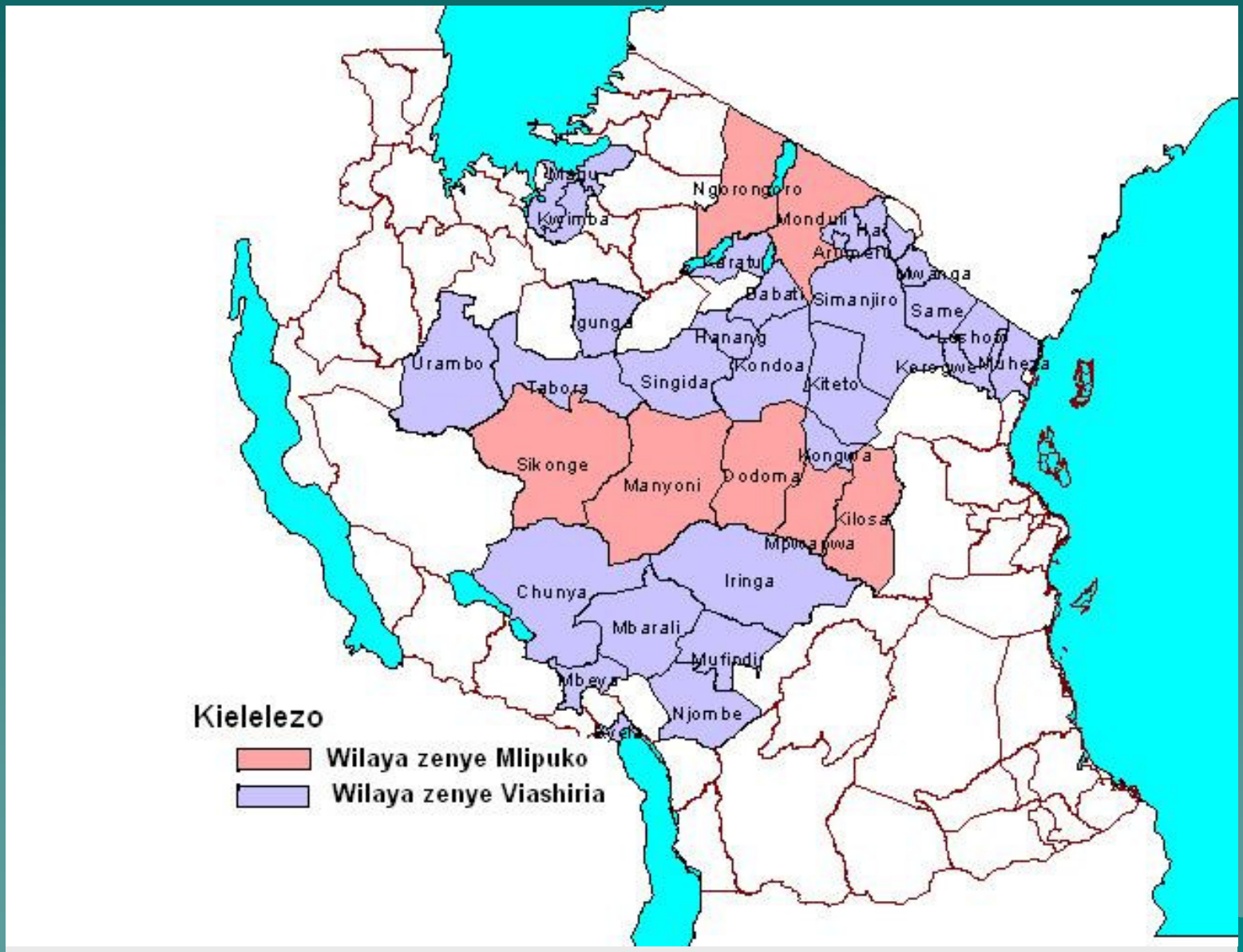
RVF situation in Tanzania

- Tanzania got alert message from FAO on possibility of RVF infection in the country. This was due to weather situation which favoured the disease in September 2006.
- Veterinary Services Department sent alert messages to Zonal VICs.
- The disease was reported in January 2007 in Ngorongoro District

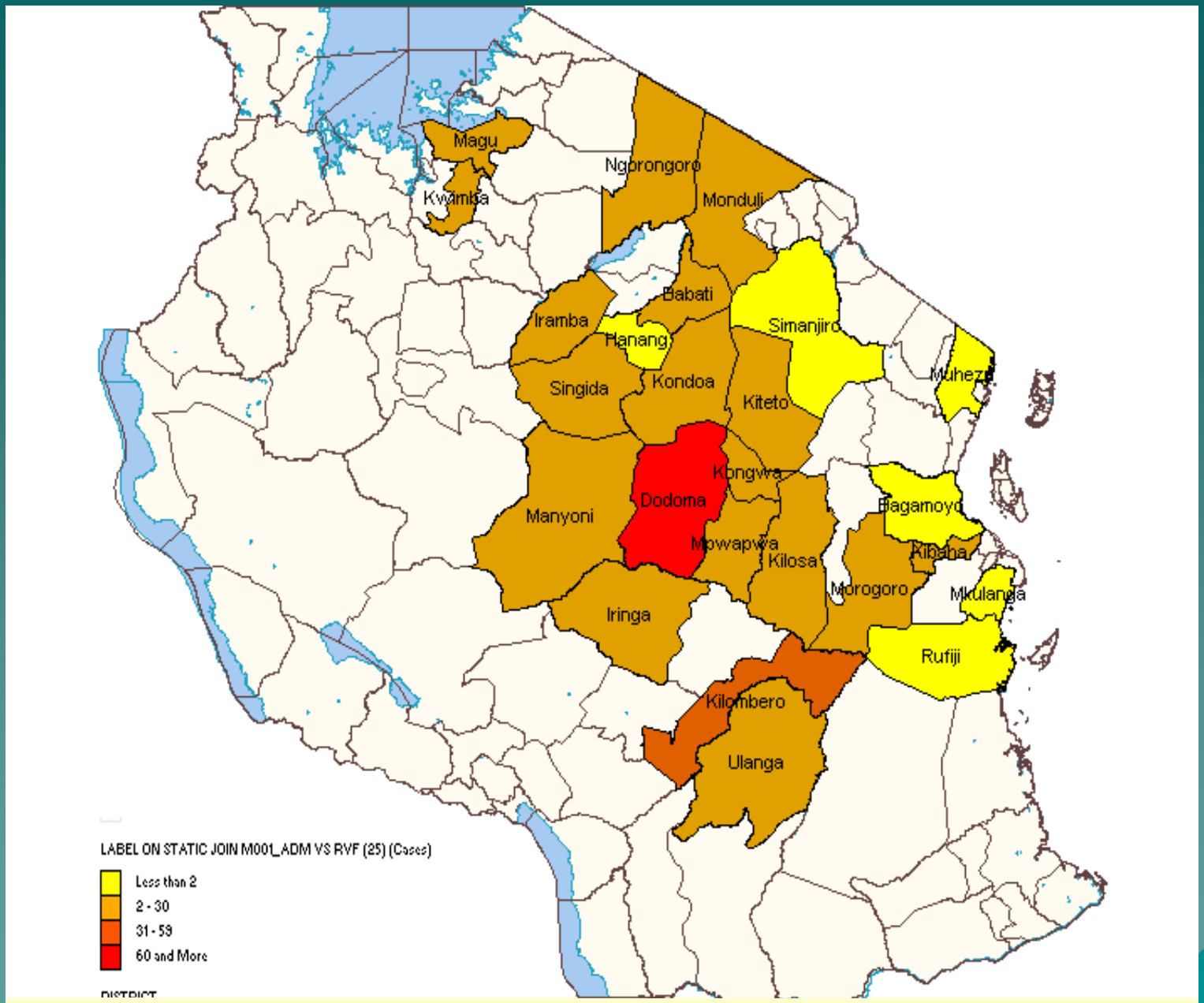
**** Areas that reported RVF by 1st February 2007.***



- Areas which showed sign of virus RVF in May 2007



Districts which had RVF and indicators of RVF in Livestock in May 2007



Districts which had patients of RVF From 31 Jan To 8 May 2007

EXPERIENCE

- Prediction of RVF can be achieved if the following are taken into consideration :
  - To have a good national disease surveillance system
  - To consider and follow alert messages from international organisations
  - To strengthen use of climate data.
  - To have a good diagnostic capacity of the disease

Surveillance of RVF

- In high risk areas good disease surveillance practice should be on monthly basis or once after every two month.
- The Districts, Regions, and Ministry should have an effective and efficient information system.
- Surveillance should be strengthened during drought as the situation be followed by heavy rainfall with flooding

Alert messages from international organizations

- FAO gave alert message on possibility of RVF

•FAO gave alert message of RVF October 2006

Possible RVF activity in the Horn of Africa

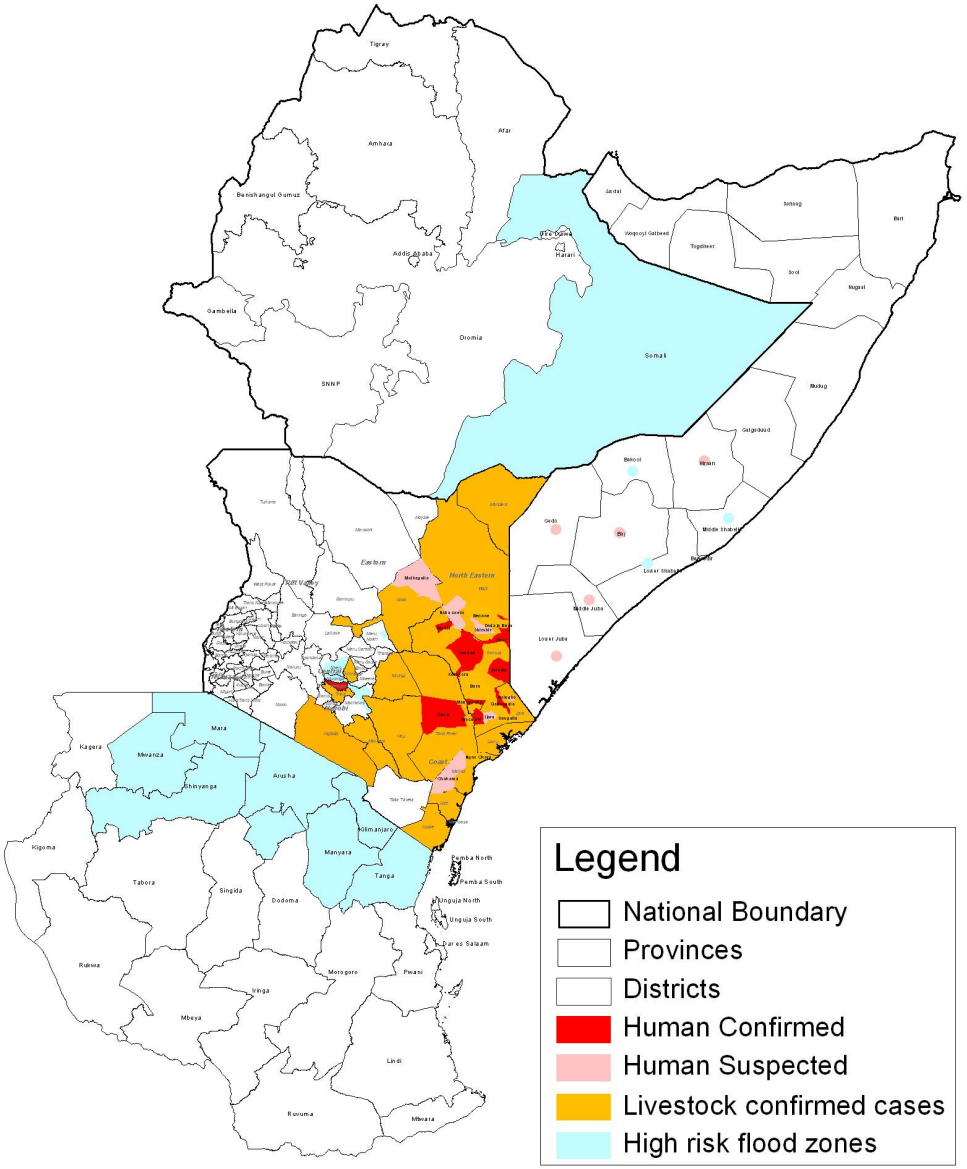
1. Introduction

Rift Valley fever (RVF) is an arthropod-borne viral disease of ruminants, camels and humans. It is a significant zoonosis which may present itself from an uncomplicated influenza-like illness to a haemorrhagic disease with severe liver involvement and ocular or neurological lesions. In animals, RVF may be unapparent in non-pregnant adults, but outbreaks are characterised by the onset of abortions and high neonatal mortality. Transmission to humans may occur through

This vertical infection explains how the disease can persist between outbreaks.

RVF virus (RVFV) is recorded to occur from South Africa to Saudi Arabia including Madagascar, in varied bioclimatic ecotypes, ranging from wet and tropical countries such as the Gambia, irrigated regions such as the Senegal River Valley or the Nile Delta, to hot and arid areas such as Yemen or Chad. The occurrence of RVF can be endemic or epidemic, depending on the climatic and vegetation characteristics of different geographic regions. In the high rainfall forest zones in coastal and central African areas it is reported to occur in endemic cycles which are poorly understood. Currently available evidence suggests that this may happen annually after heavy rainfall, but at least

Rift Valley Fever Outbreak



- What did we learn from last outbreak?

- Early warning is important
- Sensitization of public is a pre-requisite
- Early diagnosis is necessary
- Joint implementation of surveillance and control measures with Human Medical Staff is very useful.

To understand the magnitude of the problem

We were supposed to know:

- Infected animals
- Animals at risk
- Infected humans
- Human beings at risk
- Infected area
- Cost of control measures
- Cost of human cases management
- Public awareness strategy

Did we know the Disease?

- Capacity of our laboratory to diagnose antibody and antigens
  - For Rift Valley Fever CVL can do (c-ELISA, PCR, rrRT-PCR, AGID and Mice inoculations
  - All VICs can detect RVF using c-ELISA
- Did we use international organizations to be assisted to diagnose
  - We are using capacity of international organizations and university

Capacity of Diagnosing RVF Virus

- Capacity of central Lab
  - The CVL have been provided with some basic equipments and reagents to diagnosis RVF and other diseases
- Do we have expertise
  - On job Training have been organized to veterinary staff at all stages
- Did we have working tools
  - Some working tools have been purchase
- Did we know capacity of other organization
  - Cooperation with other organization have increased

Did we use our existing laws

- Animal disease act 2003
- Veterinary act 2003
- Tanzania Food Drugs and Cosmetics act 2003
- OIE guidelines

Early warning system

- Weather forecast
- Heavy rainfall- vegetation
- Experience gained from last outbreak
- Existence of RVF Virus in Rift valley
- Presence of Aedes mosquitoes and presence of animals and wild life in swampy areas

What to do

- To coordinate outbreaks
- To identify magnitude of outbreak
- To control spread of the disease
- To take care of the public health
- To take care of Economic of our country
- To build capacity of early warning and forecast of outbreaks

Coordination of Outbreak

- Coordination within veterinary Dept
- Interaction between Veterinary dept and other dept (Health, wildlife, Police and Judicial)
- Cooperation with local authority
- Cooperation with other organizations
- Report to stakeholders and feed back

To contain spread of the disease

- To identify strategies to control the outbreak
- Awareness creation
- Quarantine
- Vaccination – Surrounding outbreak

Implementation strategies

- Quarantine
- Identification of appropriate vaccine
- Meat inspection

To investigate and verification of implementation

Public health

- To identify areas without disease
- To identify abattoirs/ slaughter houses
- To identify inspectors
- Inspectors to be verified

  To have appropriate supervision

Capacity to forecast disasters

- To use weather forecast
- To study trend of the insect who spread the disease
- To check animal movement
- To build capacity to control disease and research

Disease Indicators in Environment

- Use of alert messages, climate situation, and Disease surveillance system to give **“lead time” of three to four month**

Conclusion

- RVF is the Epidemic disease also it is endemic disease
- Environment which favor the disease is unknown but there evidence that disease occur after heavy rainfall followed by flood or once after every 2to 3 years.
- Heavy outbreaks after every 5 to 15 years followed by small outbreaks