

# CMC-AH Crisis Management Centre Animal Health

## **Better prevent to better control Lessons learned from past emergencies**

**“RIFT VALLEY FEVER: CHALLENGE, PREVENTION AND CONTROL”**

Mombasa, Kenya  
14 November 2012

# Mandate

## Rapid response

to transboundary animal diseases (TADs)  
and emerging animal disease threats



# Partners

- **OIE and WHO**
- **Others**
  - USDA
  - USAID
  - CDC (USA)
  - DAFF (Australia)
  - European Union
  - France Vétérinaire International
  - Swedish resource group
  - Swiss Veterinary Authority



Australian Government  
Department of Agriculture, Fisheries and Forestry



# What we do

Organize **missions** and develop **tools**  
to assist veterinary services  
responding to **HPAI** and **other TADs**



# When we deploy

- Newly infected country
- Country at high risk of infection
- Country affected by significant epidemiologic change
- Upon government request



# How we work

- Alert and planning
- Mission
- Transition



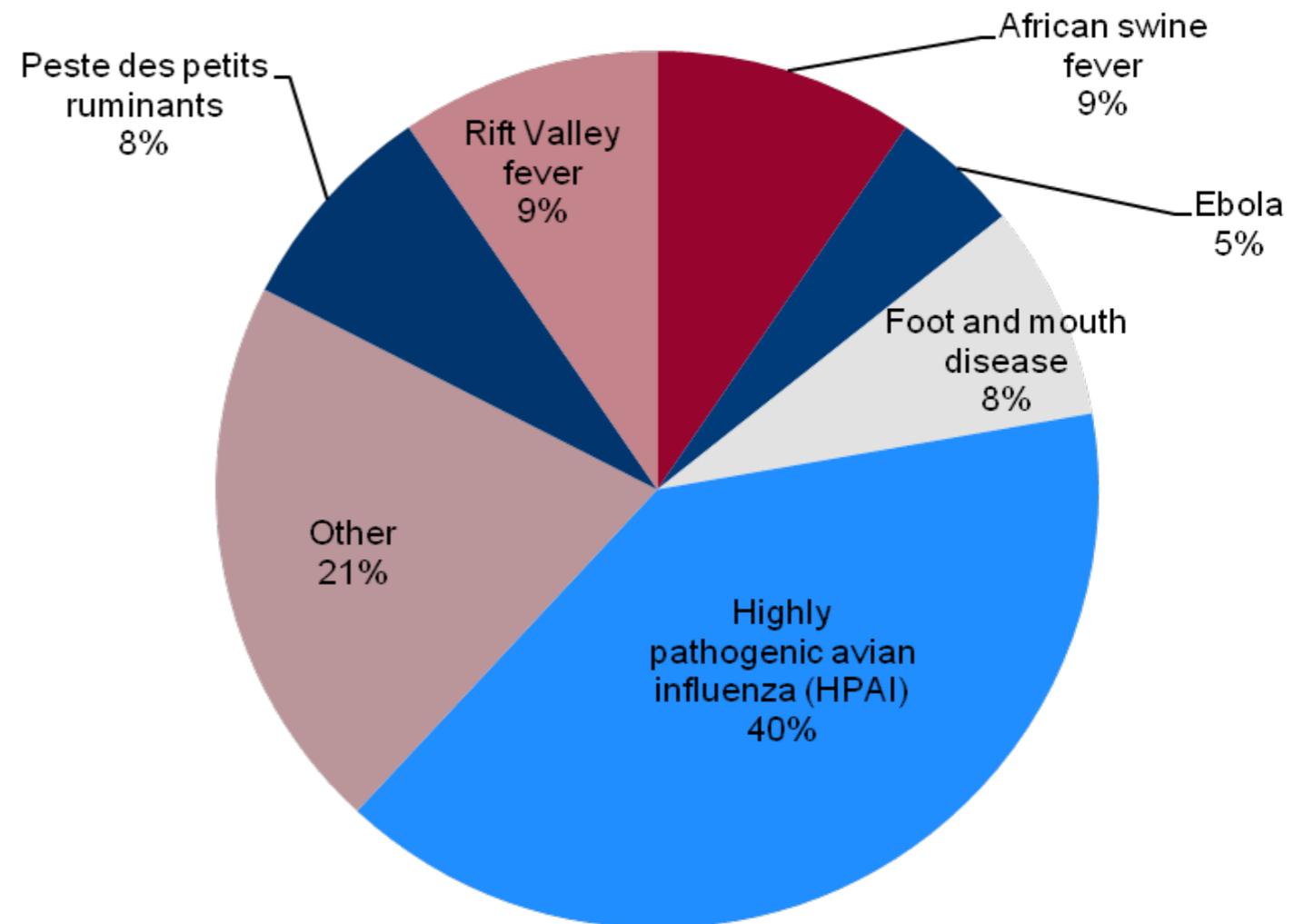
		Date & Time Prepared	06/05/2008 0945
<b>CMC-AH Action Plan</b>		Action Plan Number	#10
		<b>Madagascar RVF</b>	
<i>Mission Name</i>			
Mission Start Date		29 April 2008	
Mission End Date		13 May 2008	
Mission Team Members		Stephane DeLaRocque	
Mission Coordinator		Chris Mandrà (Squarzone back-up)	
Date Request Received	Country(s) Affected	Fiscal Year	
16 April 2008	Madagascar	2008	
Operational Period (1-7 days)	From:	To:	
1 day	06/05/08	07/05/08	
<b>OBJECTIVES of Mission</b>			
<ul style="list-style-type: none"> <li>• To assist and advise the veterinary services to improve immediate control measures to reduce the propagation of Rift Valley fever in the cattle (and other susceptible livestock) and its impact on the human populations.</li> <li>• In collaboration with the ministries concerned, to develop a strategy of intervention and an action plan for the prevention of and the response to RVF. This plan will include a strategy of disease monitoring, outbreak intervention, vaccination and public awareness transfer at the populations at risk</li> </ul>			

# Missions at-a-glance

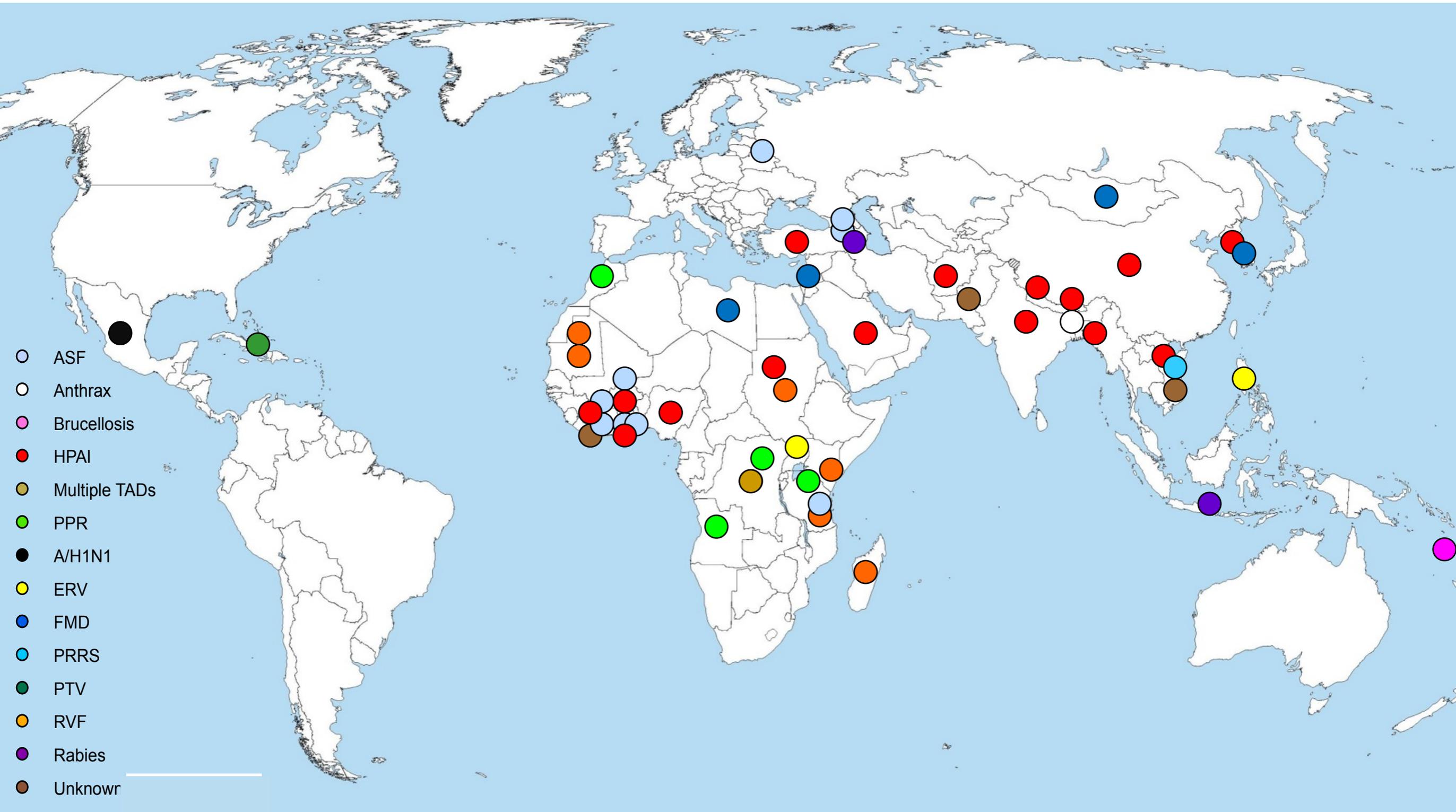
- 62 missions
- 41 countries



Diseases addressed



# Missions to date



# RVF episode in 2010

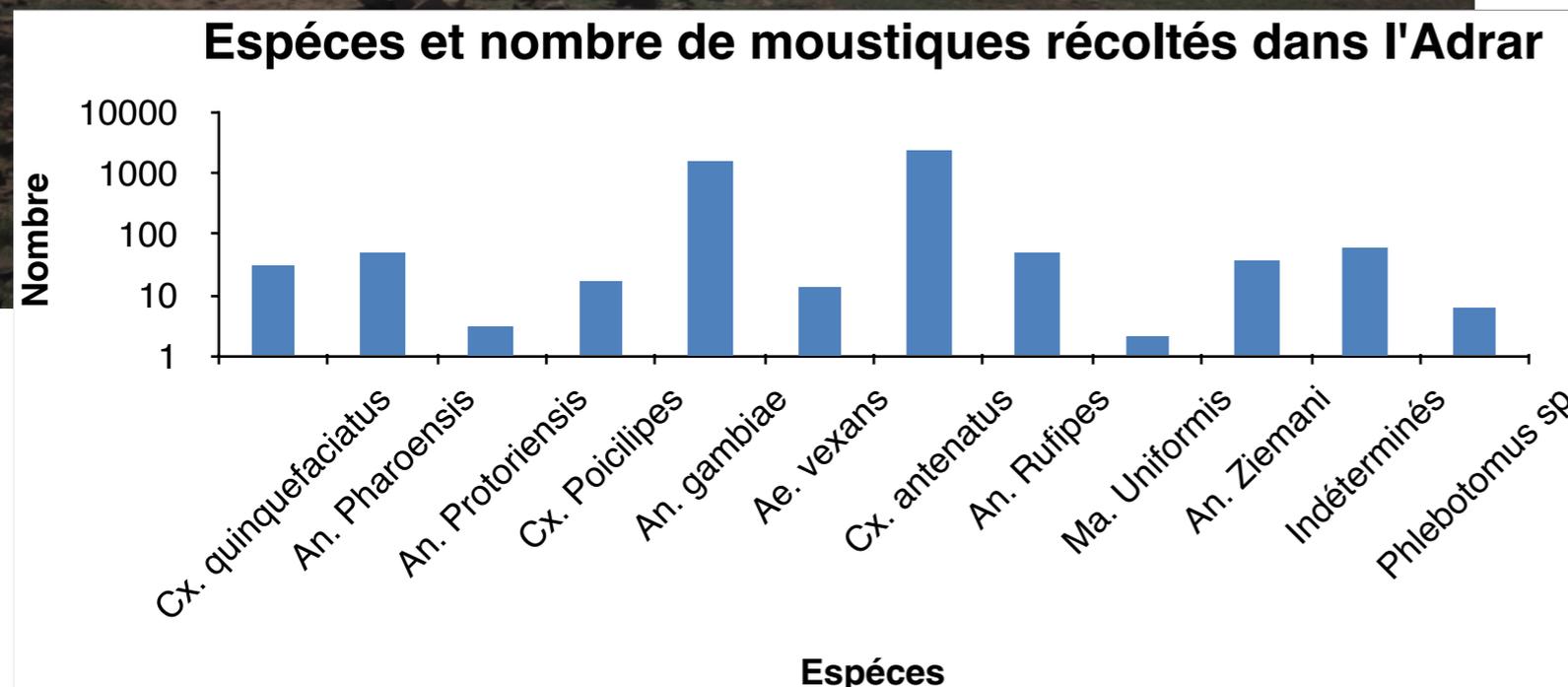


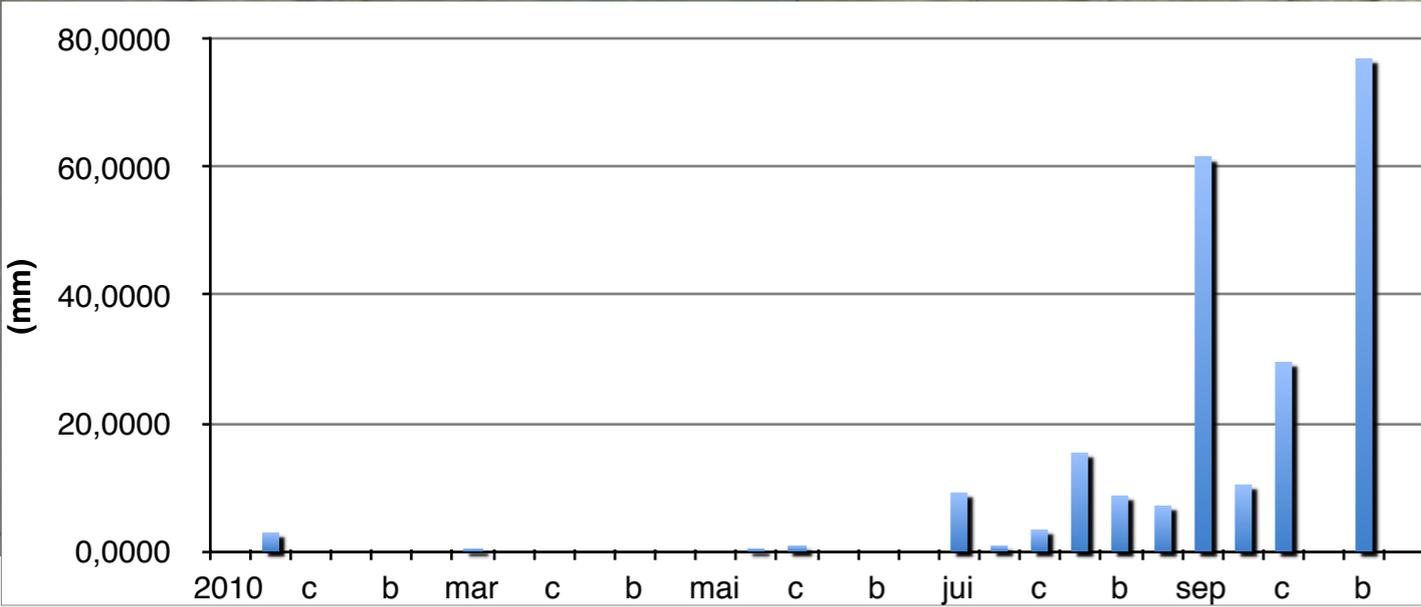
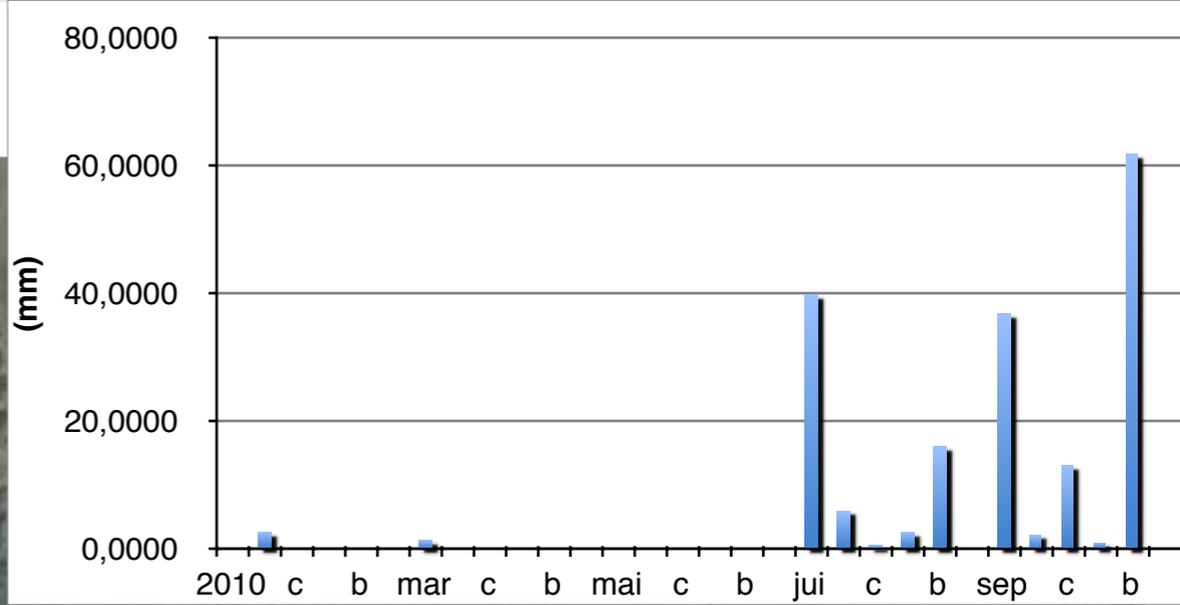


# New environmental conditions...

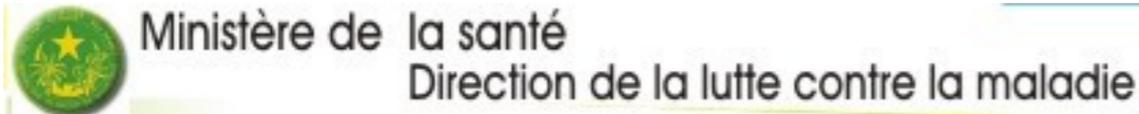


... allowing  
development  
of mosquito  
populations





# Crisis communication but...



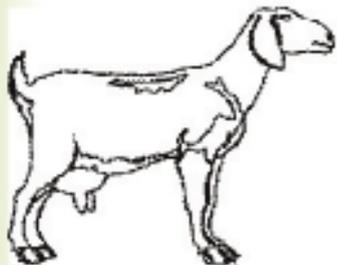
## Ministère de la santé Direction de la lutte contre la maladie Dépliant sur la prévention contre la fièvre de vallée du Rift

Ce que vous devez savoir sur la fièvre de vallée du Rift

**Eviter de boire le lait non pasteurisé ou**



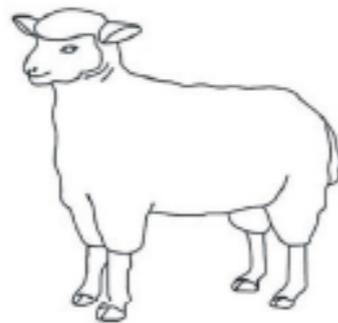
**Ne vivez pas dans la même maison avec les animaux**



**Les cadavres des animaux doivent être brûlés ou enterrés**



**Ne jamais toucher les animaux malade et leurs carcasses ou leur des fœtus**



**Des Bien cuire les la viande des animaux avant de les manger**



**Informez les services vétérinaires de tous les animaux malade**



**Portez un cache nez au cour de l'abattage**



**Se lavez les mains avec du savon et de l'eau avant d'entrer et après avoir**

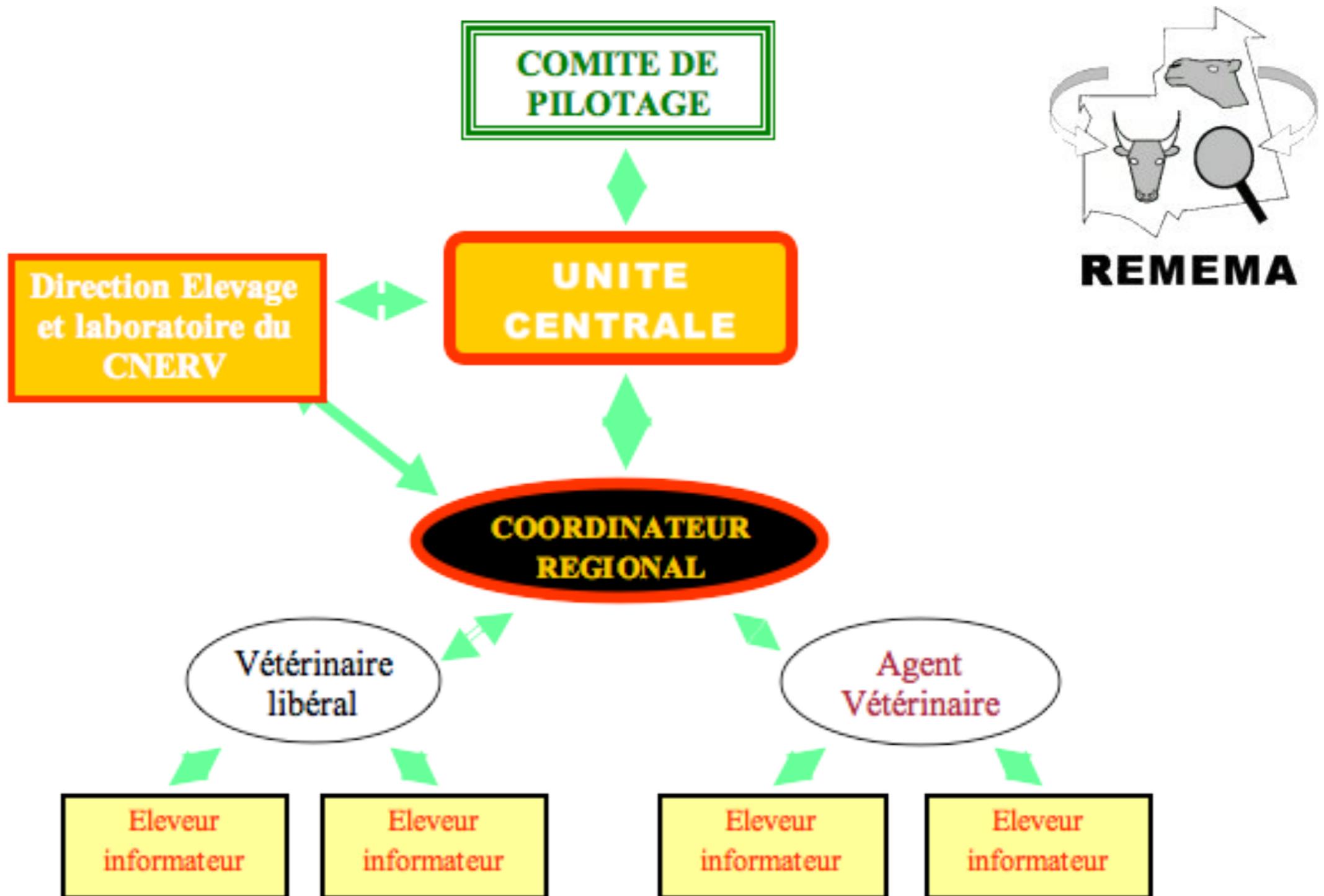


République Islamique de Mauritanie

Honneur - Fraternité - Justice

Ministère du Développement Rural

# A model in disease surveillance...



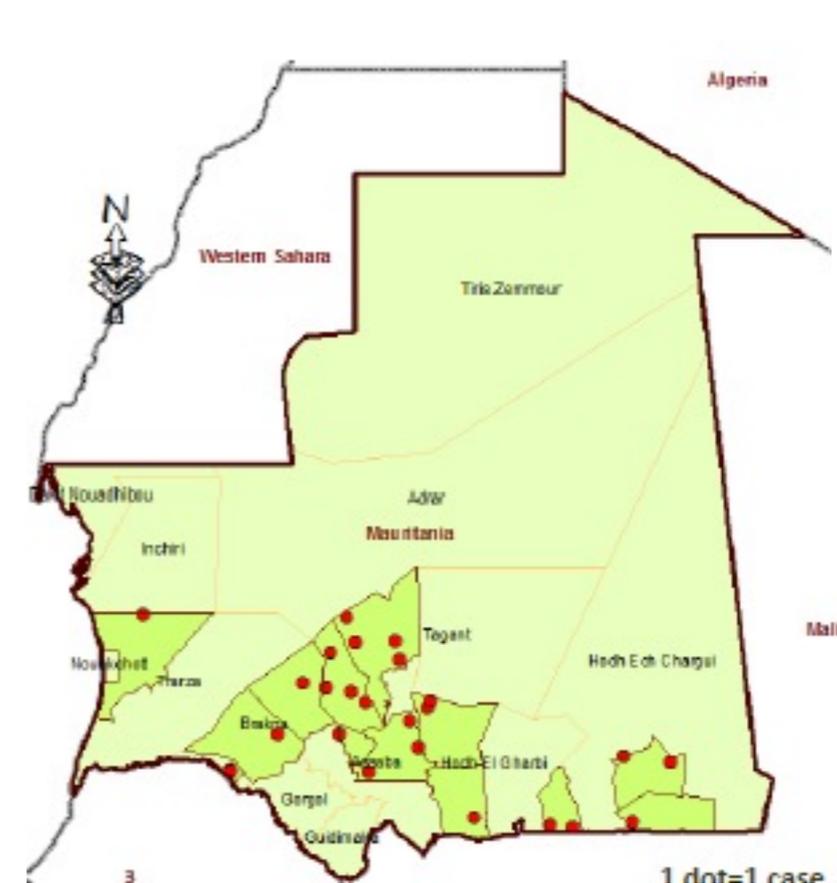


# A peculiar epidemiological situation ?



Ministère de la santé  
Direction de la lutte contre la maladie

Suspected cases of hemorrhagic fevers in  
Owad Naga, Ouneija, Lehlewa et  
Tourgueyline



République Islamique de Mauritanie  
Honneur - Fraternité - Justice

Ministère du Développement  
Rural

# IgM+ and human cases (30/10)

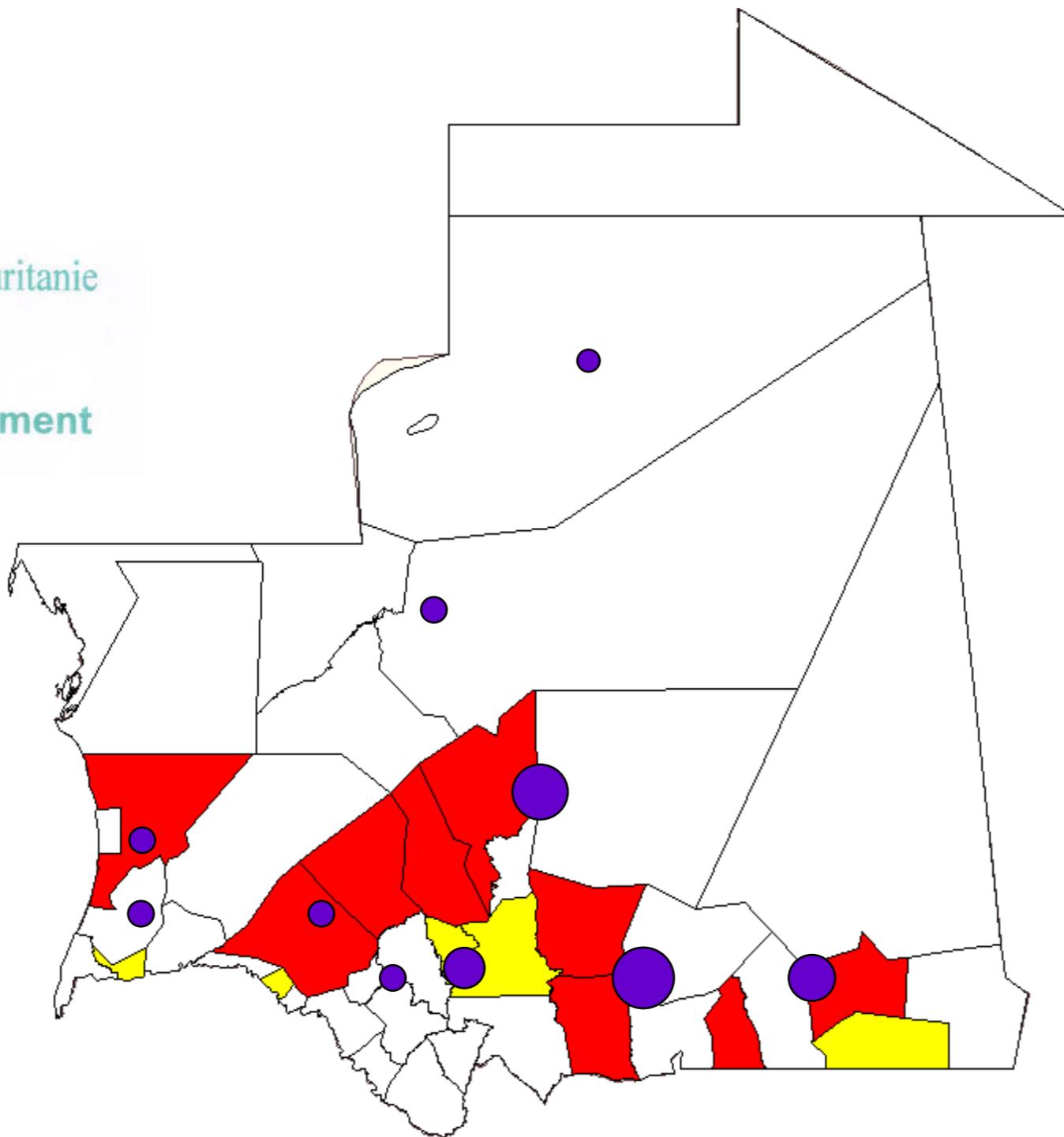
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IgM+ in animals

203/1863



District with one FVR case

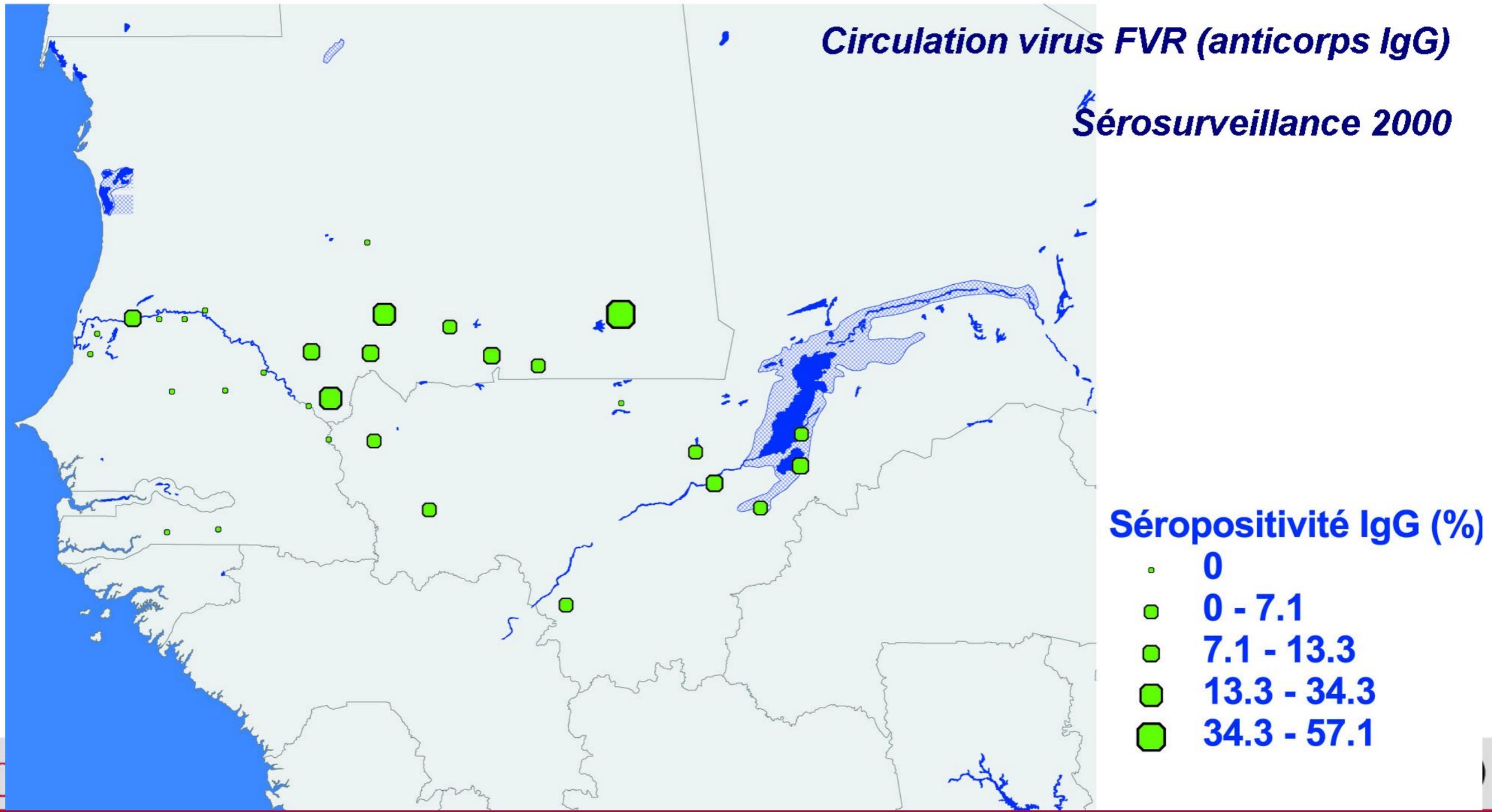
District with 2 or more FVR cases

17/34



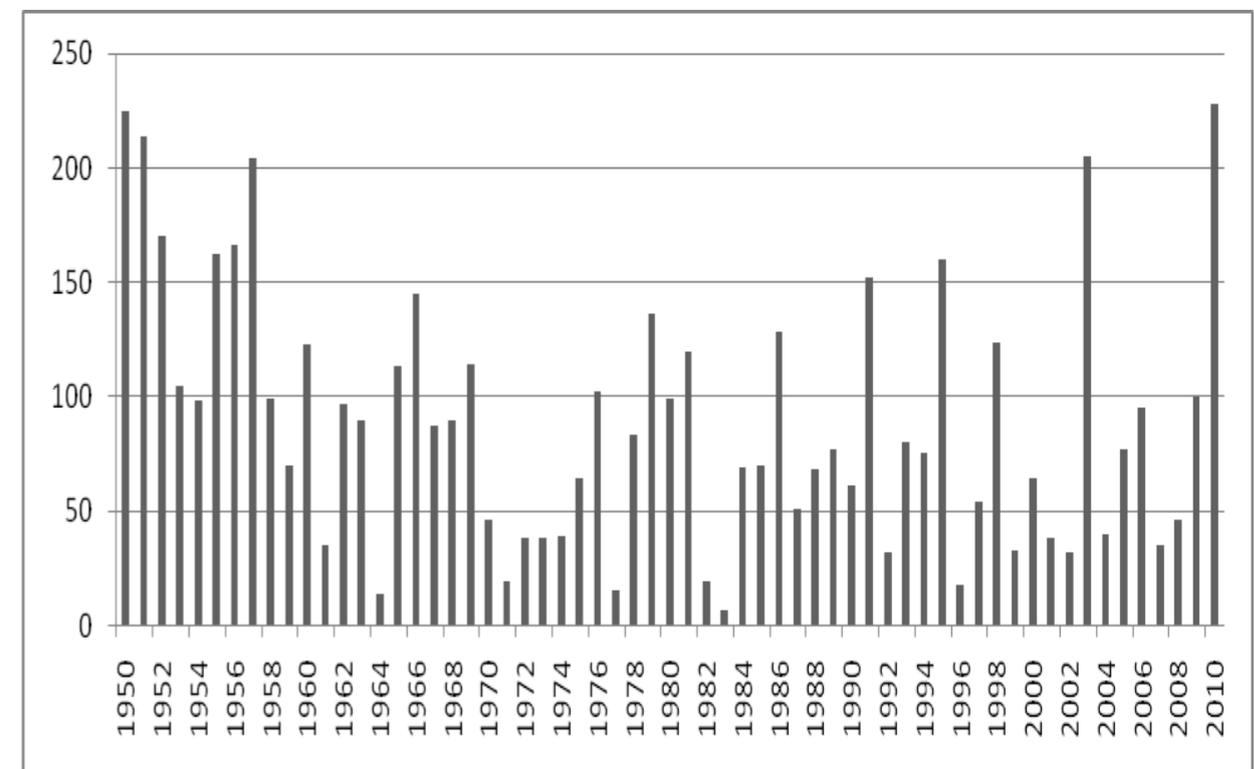
# Monitoring viral circulation in high risk area

Sentinel herds monitoring (IgG antibodies detection)



# Risk factors to be considered for a targeted surveillance...

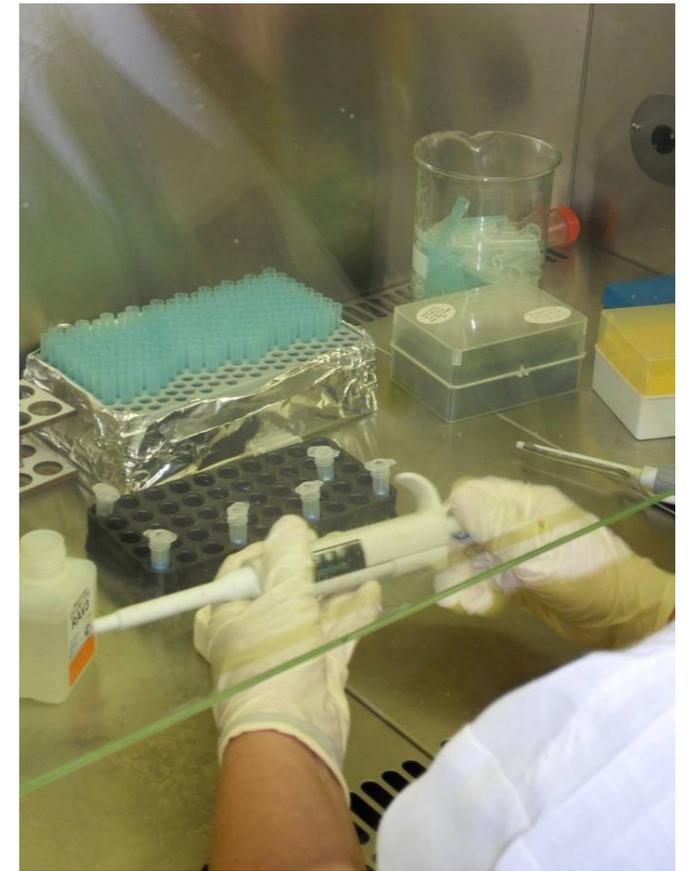
Outbreaks of fever non responsive to anti-malarian drugs



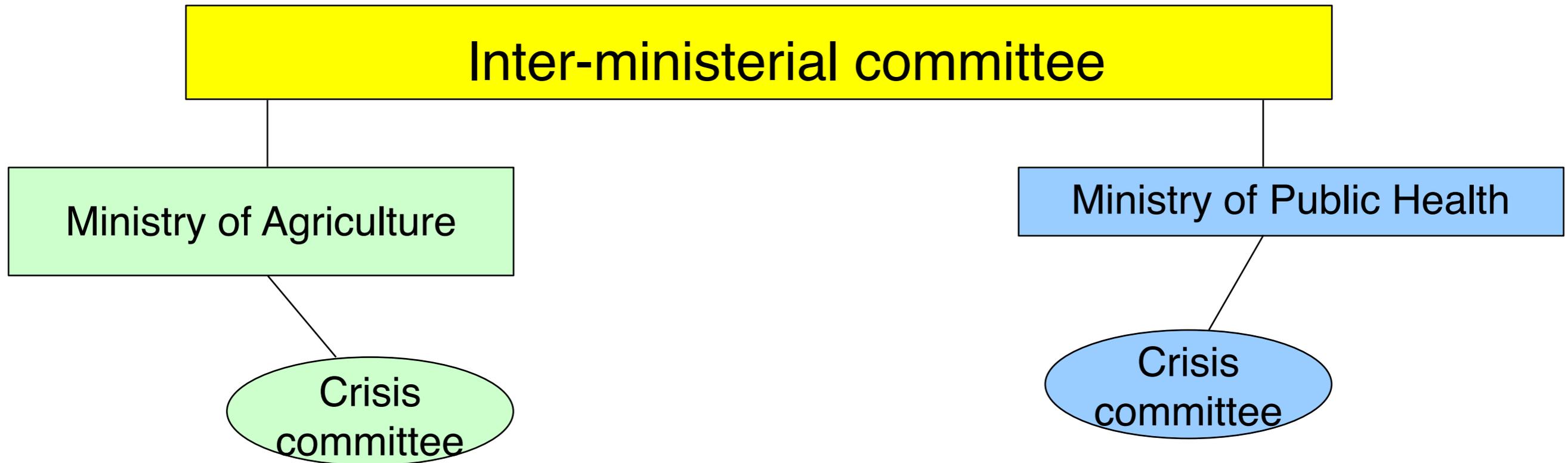
# Immediate actions following first human cases



- Control of mosquitoes
- Increased controls for Eid
- Inter-ministerial communication and collaboration
- Timely response (CNERV , AH Directorate)



# Coordination of MPH/MAg...



**Contingency  
plan?**

# Coordination of MPH/MAg...

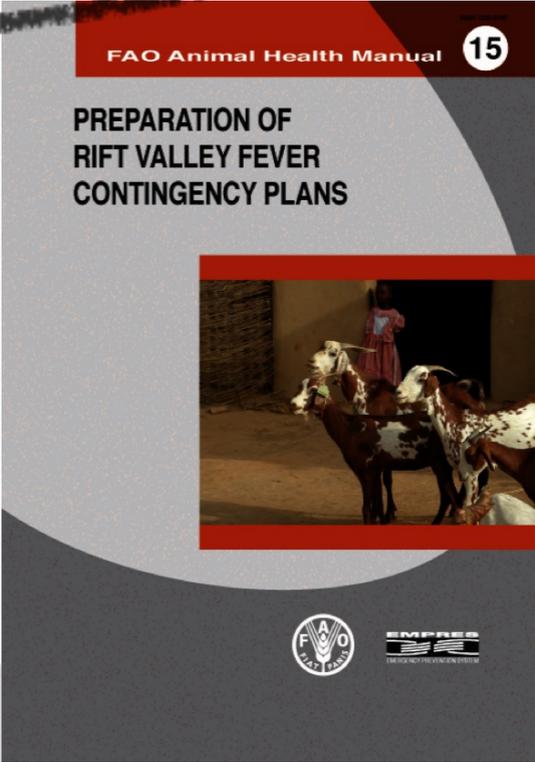
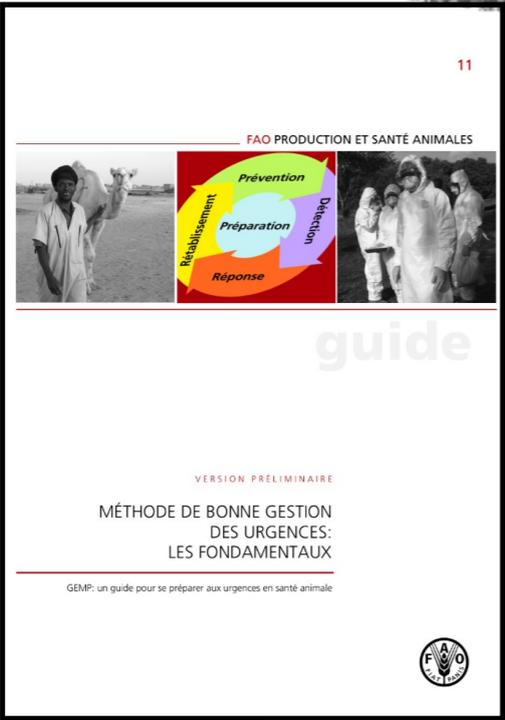
Ministry of Agriculture

Crisis committee

Ministry of Public Health

Crisis committee

Contingency plan?





**Request for a scientific opinion concerning the risk of introduction and spread of Rift Valley Fever in in the EU neighbouring countries of the Mediterranean region**

**Sofie Dhollander**  
**Animal Health and Welfare Unit**

1. Provide an update on the **global occurrence** of Rift Valley Fever and possible changes in the distribution during the last 10 years.
2. Provide maps of the region of concern\* and other countries of the Mediterranean Basin (including EU Member States), displaying the **geographical distribution of potential invertebrate hosts**, taking into account their vector competence and seasonal variation in abundance.
3. Assess the **risk of introduction of RVF** into the region of concern\* especially through the movements of live animals and vectors.
4. Assess the **risk of RVF becoming endemic**, with clinical outbreaks or not, in animal and vector populations in the region of concern\*.

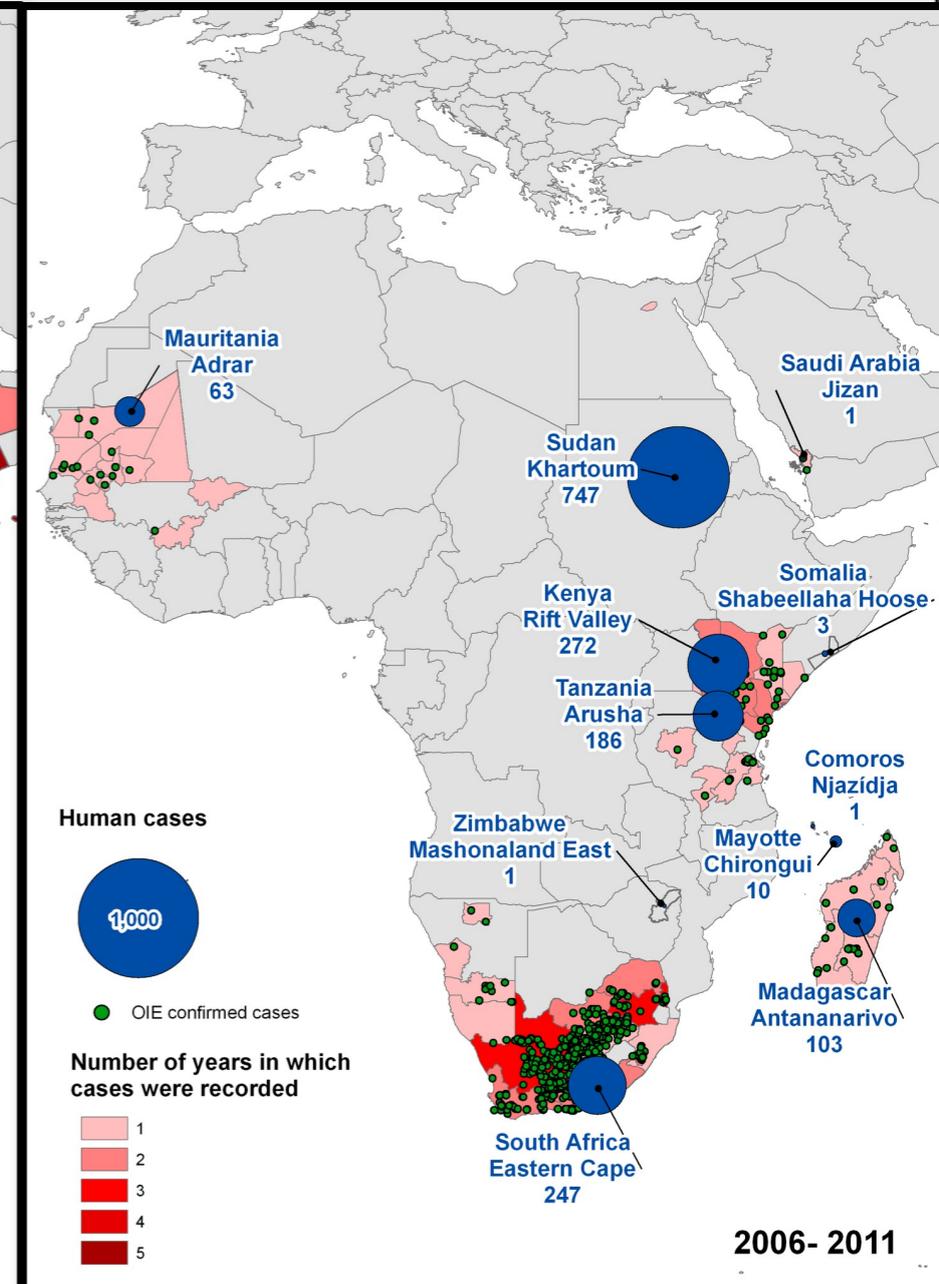
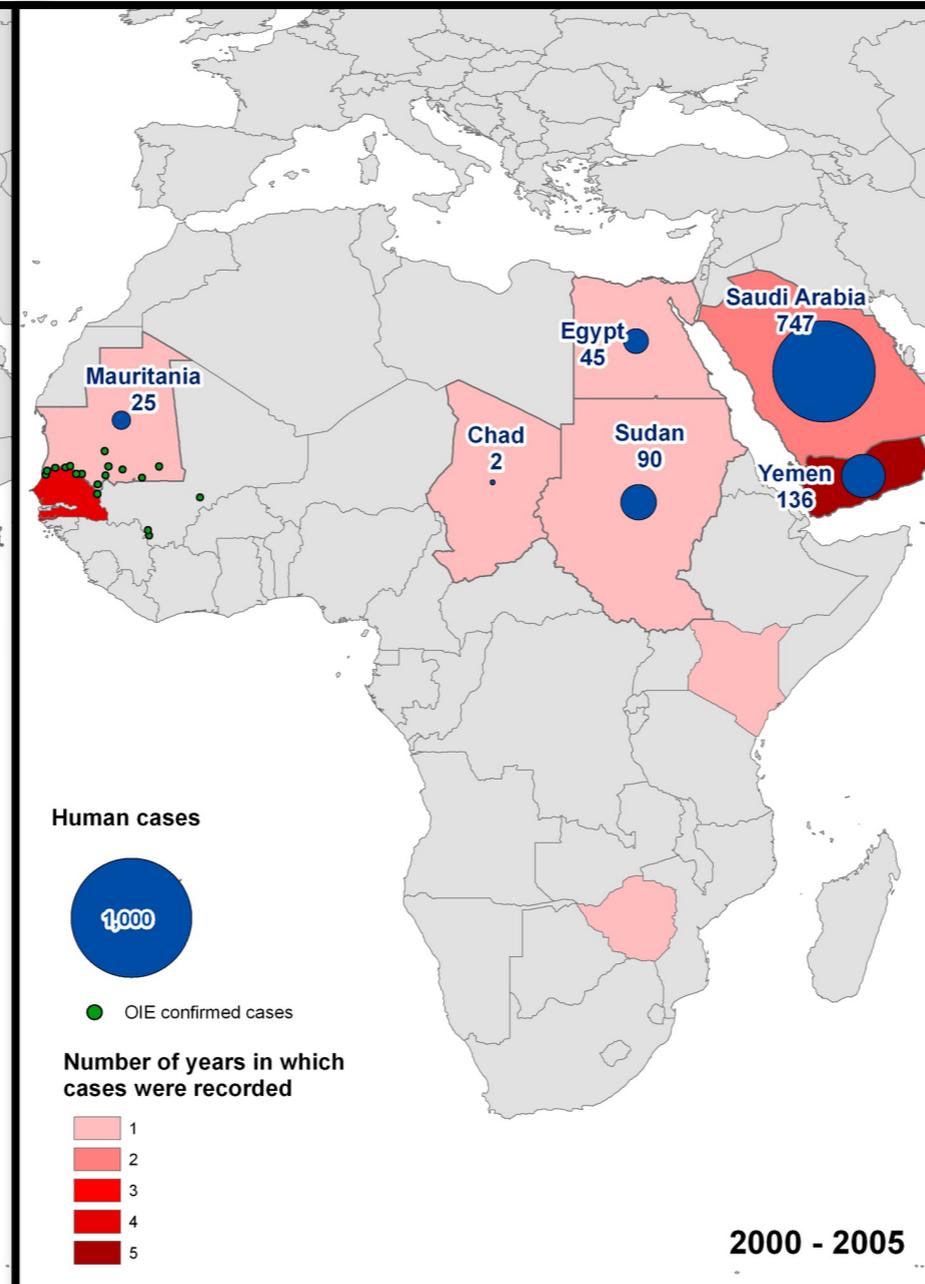
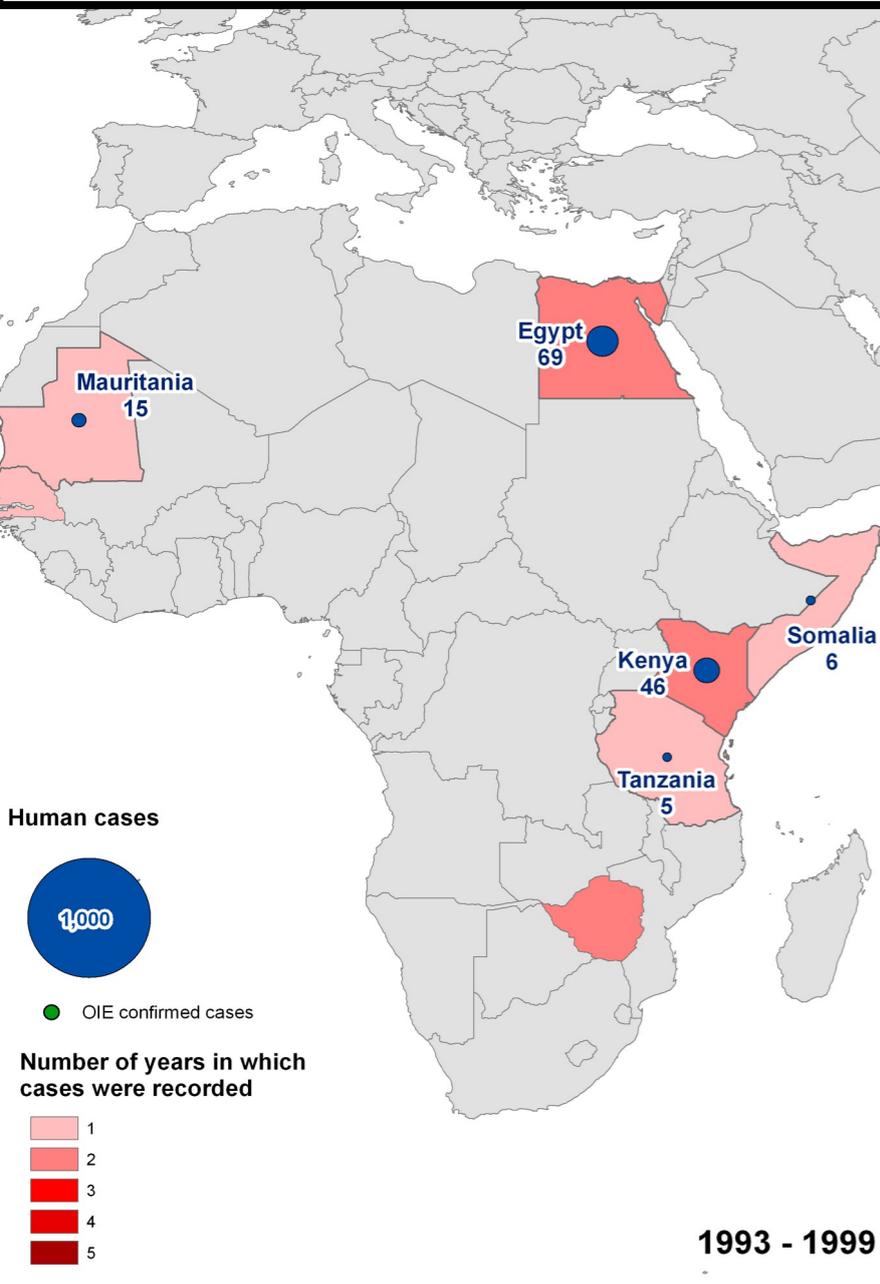
# Concerned region (ROC) for risk assessment:

Mauritania, Morocco, Algeria, Tunisia, Libya, Egypt, Jordan, Israel, The Palestinian Territories, Lebanon and Syria



- **Narrative literature review, resulting into:**
  - Maps showing countries with different colour codes in relation to the frequency of outbreaks
  - Detailed tables in annex listing all information on outbreaks or prevalence data found over the last 2 decennia

# Preliminary results TOR1:



- **Systematic literature review, resulting into:**

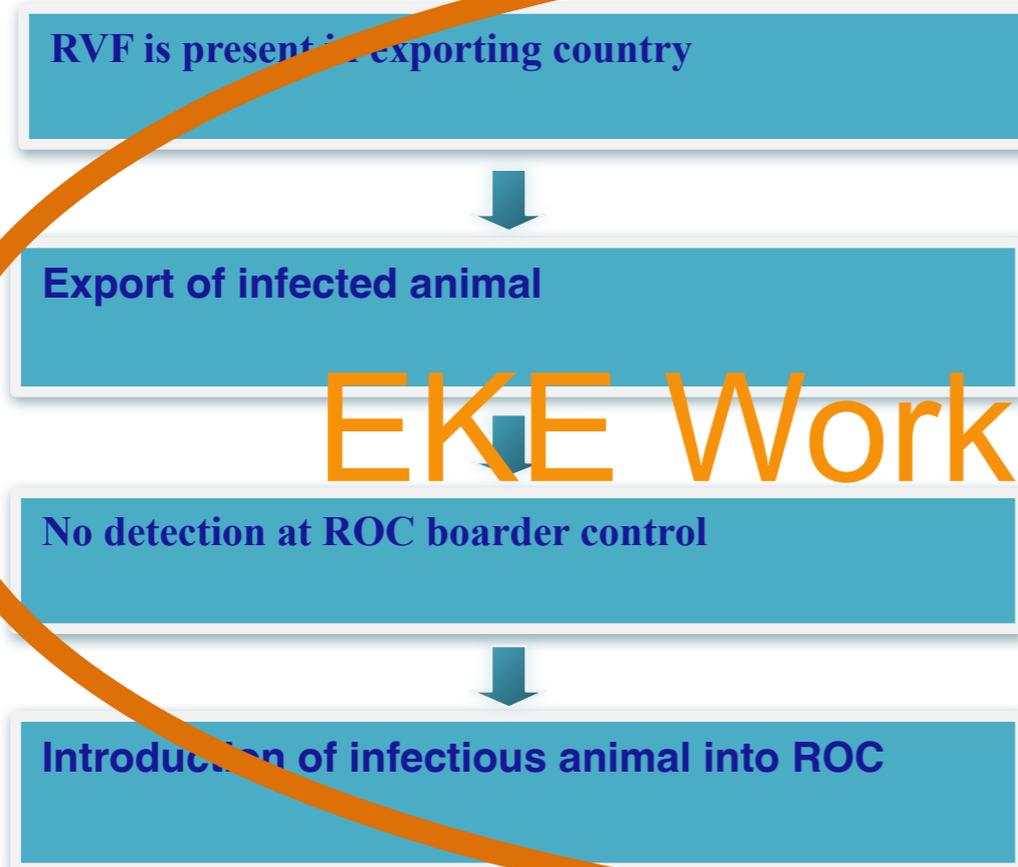
- Maps with reported presence of competent mosquitoes vectors



- **Spatial techniques, predicting suitable mosquito habitats resulting into**

- Maps with predicted presence of competent mosquito vectors

# TOR 3: risk of introduction RVFV into concerned region



EKE Workshop

**-Introduction via infectious animals = semi-qualitative assessment, based on:**

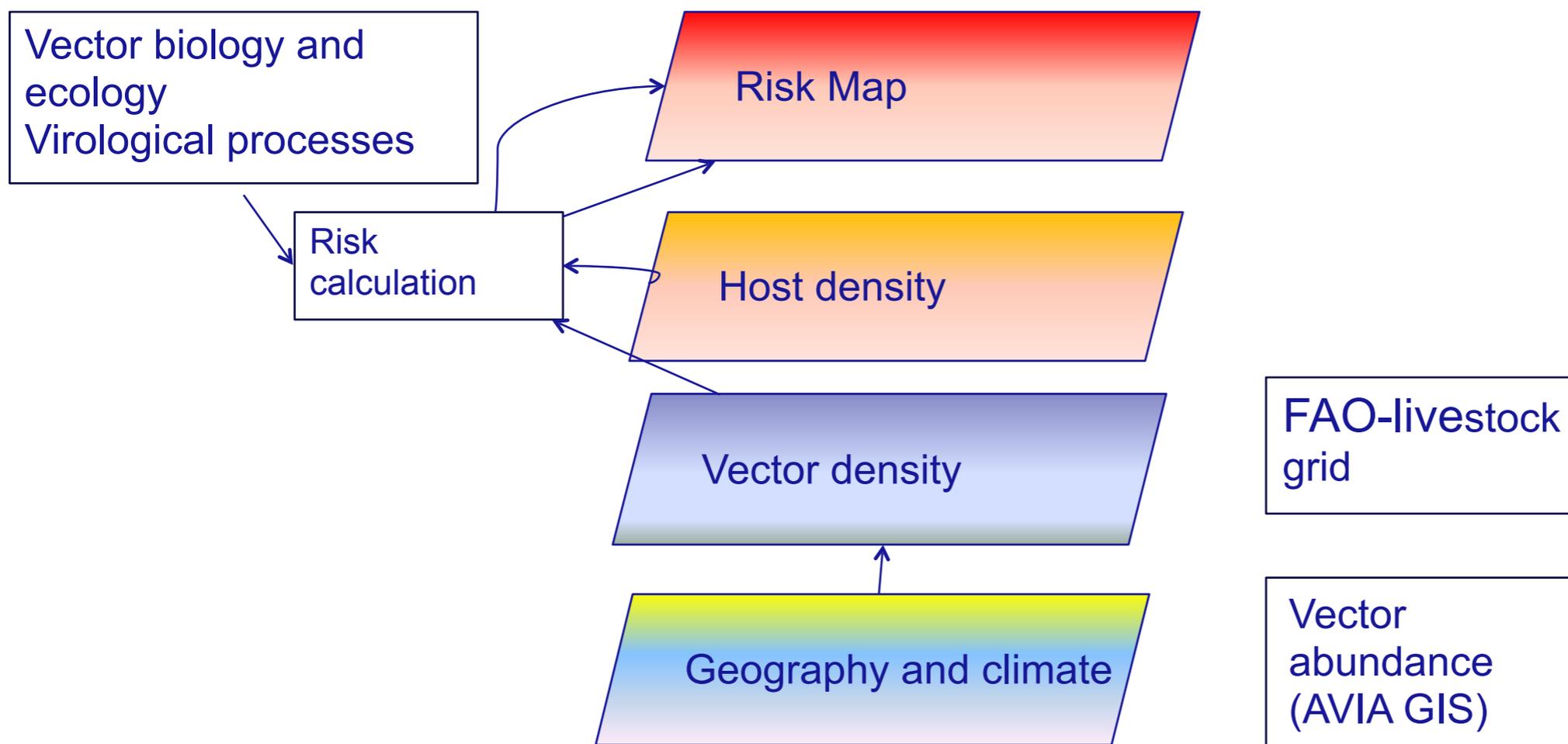
- Prevalence in exporting countries
- Number of imported, infected animals into ROC
- Sensitivity of testing system at border control

**-Introduction via infectious vectors, contaminated meat, = qualitative assessment, based on expert opinion**

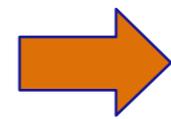
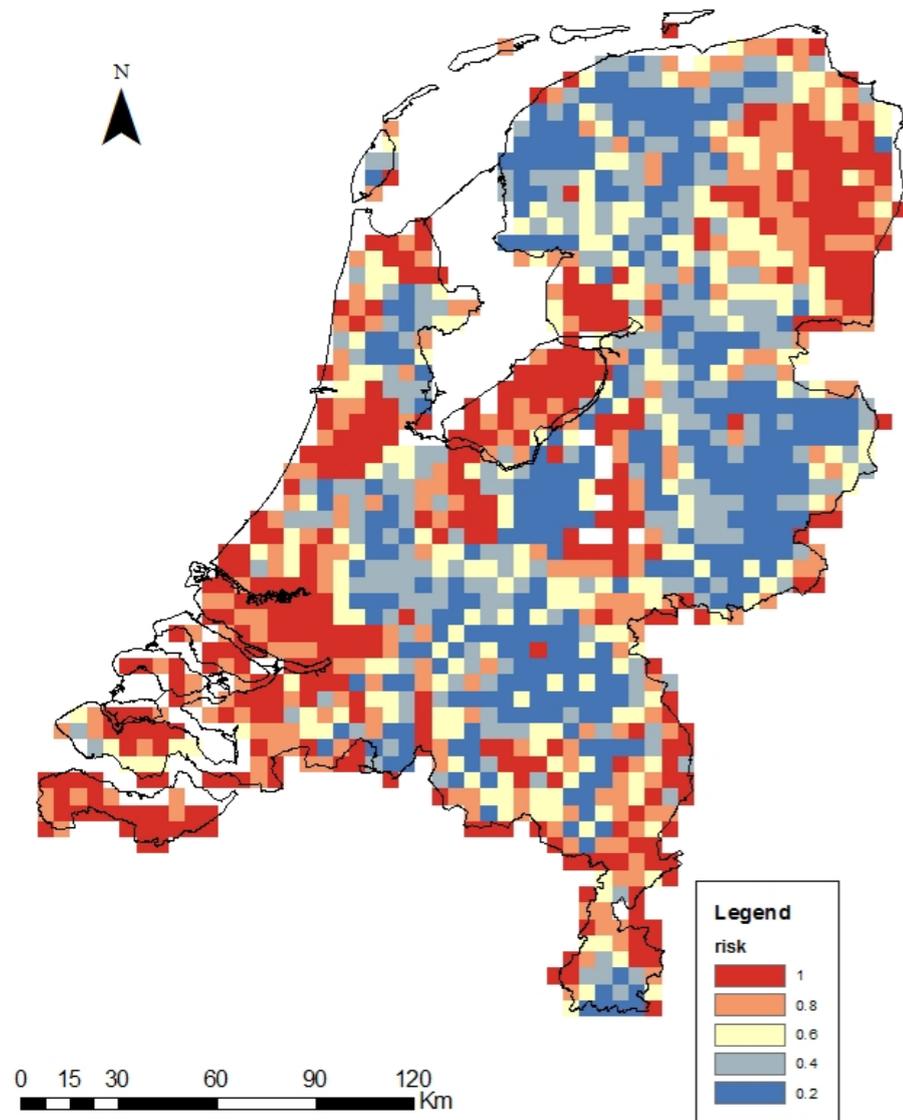
**-Introduction via contaminated meat = qualitative assessment, based on expert opinion**

# TOR 4: RVF becoming endemic,

- Model the potential of an **outbreak** of Rift Valley fever and the likelihood to **persist** in the ROC?
  - Model, seasonality & reproduction number
  - Risk maps based on livestock density and “known” vector species



- Risk maps



Creation of similar maps for Concerned region

# Timeline Mandate

4 April 2012	24 May 2012	10-11 July 2012	27-28 Sept 2012	14-15 Nov 2012	Jan 2013	Feb 2013	Mar 2013
<p><b>EFSA accepted Mandate</b></p>	<p><b>Working group meeting 1:</b></p> <ul style="list-style-type: none"> <li>-Discuss ToR's</li> <li>-Discuss methodology</li> </ul>	<p><b>Working group meeting 2</b></p> <ul style="list-style-type: none"> <li>-Fine-tune methodology</li> <li>-Decide on needs of data and expertise</li> </ul>	<p><b>Working group meeting 3</b></p> <ul style="list-style-type: none"> <li>-Preparations EKE-workshop</li> </ul>	<p><b>EKE workshop</b></p>	<p><b>Working group meeting 4</b></p> <ul style="list-style-type: none"> <li>-Draft opinion</li> <li>-Discuss conclusions and recommendations</li> </ul>	<p><b>Present opinion for discussion to AHAW Panel</b></p>	<p><b>Present for adoption to AHAW Panel</b></p>

- **Trade routes and volumes of ruminants traded to destination countries**  
Parameter that will be elicited based on this information: the number of animals traded from RVFV source area to RVFV receiver area
- **Prevalence in resource areas**  
Parameter that will be elicited based on this information: proportion of traded susceptible animals that are infected in RVFV source area
- **Sanitary measures before export, and after import of susceptible ruminants from potentially infected areas**  
Parameter that will be elicited based on this information: the proportion of infected animals that are cleared for departure from RVFV source area, AND the proportion of infected animals arriving at RVFV receiver area which are cleared for entry into the ROC in a given year.



Thank you  
for your  
attention