

## Twinning project focusing on several diseases - challenges and lessons learnt

Drs C.Batten<sup>1</sup>, C.Ayebazibwe<sup>2</sup>, C.Oura<sup>1,3</sup> and  
E.Tuppurainen<sup>1</sup>

<sup>1</sup>The Pirbright Institute, United Kingdom

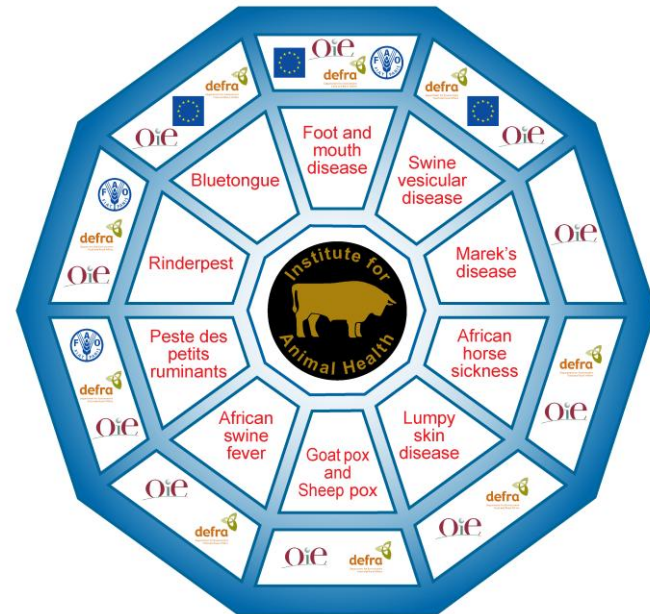
<sup>2</sup>National Animal Diseases, Diagnostic and Epidemiology Centre  
(NADDEC), Entebbe, Uganda


<sup>3</sup>School of Veterinary Medicine, University of the West Indies, Trinidad  
and Tobago

# The Pirbright Institute

- Pirbright Institute is OIE, FAO and European Community Reference laboratory for Foot and Mouth Disease
- OIE reference laboratory for African Swine Fever, sheep pox, goat pox and lumpy skin disease
- FAO and OIE reference laboratory for Peste des Petits Ruminants (PPR)
- OIE and European Community reference laboratory for Bluetongue

## Reference Laboratories at the Institute for Animal Health



	WRL = World reference laboratory of FAO
	RRL = Regional reference laboratory of OIE
	CRL = Community reference laboratory of EU
	DEFRA = UK reference laboratory

© Pirbright Institute 2012



# Twining between the Pirbright Institute and NADDEC

- Goal is to establish the first OIE Reference Laboratory in the East African region
- PPR, lumpy skin disease, sheep pox, goat pox, FMD and BT (OIE listed diseases in Uganda)
- Diagnostic capacity and technical expertise are essential for the early detection, control and surveillance of these diseases
- Covers the molecular and serological methods



# Objectives

- In general good progress
- Provide training of Ugandan staff at Pirbright laboratory and on site in Entebbe
- Set up diagnostic tests at NADDEC
- Set up a sample management system
- Set up a quality assurance system

In this presentation we will discuss the challenges we have met during this project





# Transfer of funds from the UK to Uganda

- Most of the research institutes in the UK currently use a shared financial system (Shared Services Centre)
- The transfer of money is slow and payment for goods or services in Uganda has suffered serious delays
- The payment process might be easier if a local bank account could be set up for the project
- Need to budget for additional costs: banking fees, customs charges



# Ugandan staff visits in Pirbright

- Planning of the visit must be started well in advance
- Due to bio-security reasons documentation required for a visitors to a high-containment laboratory has substantially increased (security clearance, reference letters both from academics and employer, copy of passport in advance)
- Visa applications – not automatically granted, requirements by the immigration authorities
- Visitors need to get a valid visitor visa depending on the duration of the visit and if the work will be carried out inside the restricted area, check academic and business visa guidance
- In some cases it has required several applications for one person, each of which costs approximately £200



# Laboratory tests

- The twinning project focuses on the development, optimization and validation of nucleic acid techniques (real-time PCR method)
- When problems arise, expertise to correct the fault or obtain spare parts should be readily available – **local technical assistance is not always available**
- If available simple “back up” tests should be set up (conventional PCR)
- In general, for any test used in the candidate lab, as many reagents as possible should be available through local suppliers – **often challenging**



# Well characterized samples

- The validation of tests, to be used as positive and negative controls, for training purposes
- Transfer of biological material: reference materials i.e. live viruses, sample panels and reference sera
- Letter of undertaking from the recipient lab and import permit from the competent governmental authority in receiving country
- Two export permits need to be applied from UK government for the export of live virus or infectious samples
- Process usually takes approximately 2 to 3 months
- Need to use logistic companies specialized in the transportation of dangerous goods
- **The ultimate aim is to generate a sample bank at NADDEC – create own reference materials**





# Sample collection

- In remote areas the condition of the roads, extreme weather conditions and flooding may either prevent or delay the access to the sampling area or return to the lab
- Some regions may be unsafe to operate in, the safety of the operating staff may be compromised, as well as the quality of the samples
- The most remote areas may not be sampled at all
- Sufficient amount of funds should be made available for the successful collection of field samples
- Reliable vehicle (4x4) required
- Security guards may be required for the safety of equipment and the staff



# Transport of samples

- Maintenance of the cold chain during the transport is a major challenge
- In order to sample also the most remote areas the local governments should consider the provision the regional laboratories with competent staff and a possibility for cold storage
- During “Sample Management” training course (Sept 2012) NADDEC provided the regional field vets with insulating boxes and materials required for the sample collection



# Frequent power cuts

- Need for the support from the local government
- The performance of the lab relies on the constant power supply
- The running costs of generators are high due to the current price of diesel
- Invest in cooling systems for use inside the freezers
- All the vital reagents such as enzymes, primers and probes should be stored in insulating boxes with cold packs inside the freezers





# In conclusion: Government support essential

- Commitment from the local government is vital for the sustainable development of the candidate labs which is required for the early detection and control of high-impact animal diseases in the country
- Infrastructure needs to be solid and maintained – constant power supply, fuel for generators, building maintenance and renovations – **supported locally**
- To provide competent staff for the candidate laboratory and also for regional laboratories – **vital for success**
- Could local governments provide reward to labs with twinning projects?



# Acknowledgements

- World Organization for Animal Health (OIE)
- Dr C.S. Rutebarika, ACDC, MAAIF
- Dr Anna Rose Ademun-Okurut, director NADDEC
- NADDEC: Dr Moses Dhikusooka, Dr. Martin Esau, Mr Eugene Arinaitwe, Mr Milton Bahati, Ms Carolyn Namatovu Kisinga, Ms Gladys Kiggundu, Ms Mary Nanfuka
- Pirbright: Dr Mark Henstock and Ms Lorraine Edwards



The Pirbright Institute receives strategic funding from BBSRC.

[www.pirbright.ac.uk](http://www.pirbright.ac.uk)



*Thank you for your attention!*

Eeva Tuppurainen, *Vet Med Lic, MSc, MRCVS*

OIE expert for Lumpy skin disease, sheep pox and goat pox

[eeva.tuppurainen@pirbright.ac.uk](mailto:eeva.tuppurainen@pirbright.ac.uk)

The Pirbright Institute

Ash Road

Surrey

GU24 0NF

United Kingdom