



World Organisation
for Animal Health
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UPDATES ON THE WOAH LABORATORY TWINNING PROJECT ON ASF



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Veterinary Laboratory Division (VLD)

Bureau of Animal Industry (BAI)

**ASEAN African Swine Fever Workshop
Novotel Hotel, Manila, May 2-4, 2023,**

Masaganang Agrikultura, Maunlad na Ekonomiya

Project Title



World Organisation
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ASF Twinning Project

Building Capacity for African
Swine Fever (ASF)
Diagnostics in the
Philippines



ADDRL
ANIMAL DISEASE DIAGNOSIS
AND REFERENCE LABORATORY

Project Title

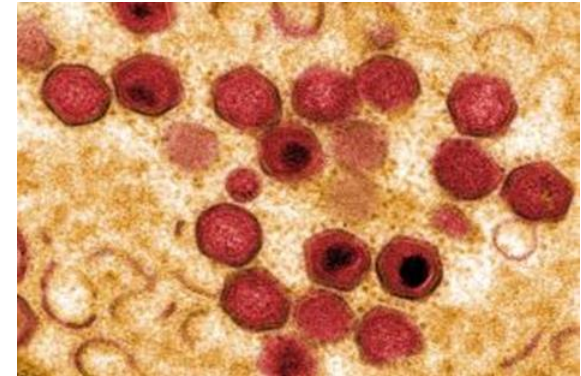
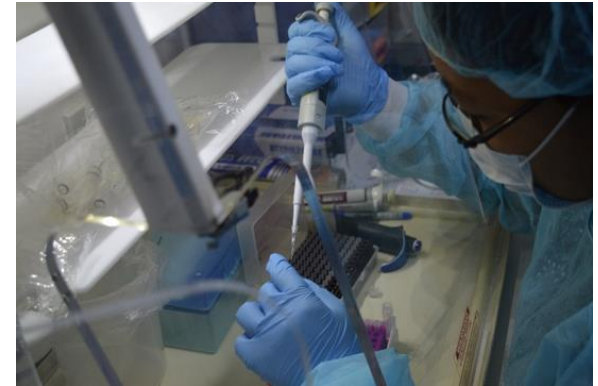
Building capacity for African Swine Fever Diagnostics in the Philippines

- **WOAH Twinning Project between The Pirbright Institute (UK) and the Bureau of Animal Industry, Veterinary Laboratory Division, Animal Disease Diagnostic and Reference Laboratory**
- **Duration : January 2021-December 2023**



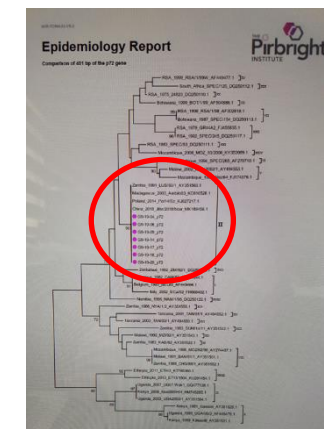
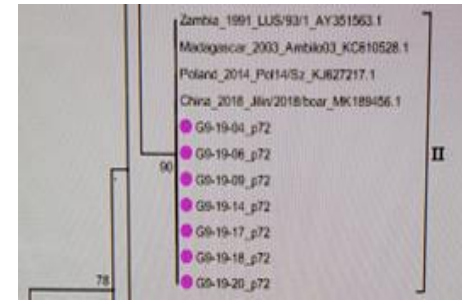
Project Objectives

- Enhance capacity of BAI-ADDRL to undertake molecular and serological diagnostics for ASF
- Develop capacity to perform virus isolation/haemadsorption (HAD) assay and other OIE recognized diagnostic methods for ASF
- Establish an ASFV bank at BAI-ADDRL

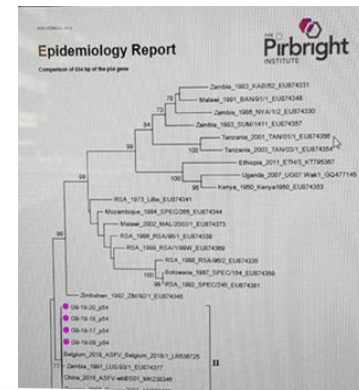
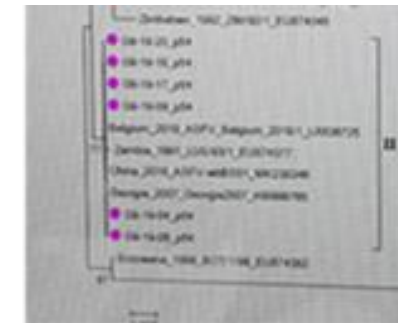


Project objectives

- Establish and publish collaborative research work on molecular characterization of Philippine ASFV isolates
- Establish the ability to analyse appropriate ASFV sequence data



Sequences of the G9/19 submission shared **100% nucleotide identity** across the 401 bp fragment of the **p72 gene** with **China 2018, Zambia 1991, Madagascar 2003, and Poland 2014** strains. G9/19 04, 06, 09, 14, 17, 19 and 20 sequences were classified as **genotype II** with a branch support of 90%. (Source: Pirbright Institute, September 2019)



Sequences of the G9/19 submission shared **100% nucleotide identity** across the 654 bp fragment of the **p54 gene** with **China 2018, I 2018, and Georgia 2007** strains. G9/19 04, 06, 09, 17, 18 and 2 sequences were **classified as genotype II** with a branch support of 90%. (Source: Pirbright Institute, September 2019)

Project objectives

- Establish and maintain a system of QA for ASFV and other diagnostic assays in line with ISO/IEC 17025 standards
- Develop capacity to evaluate new/commercial diagnostic tests for ASF

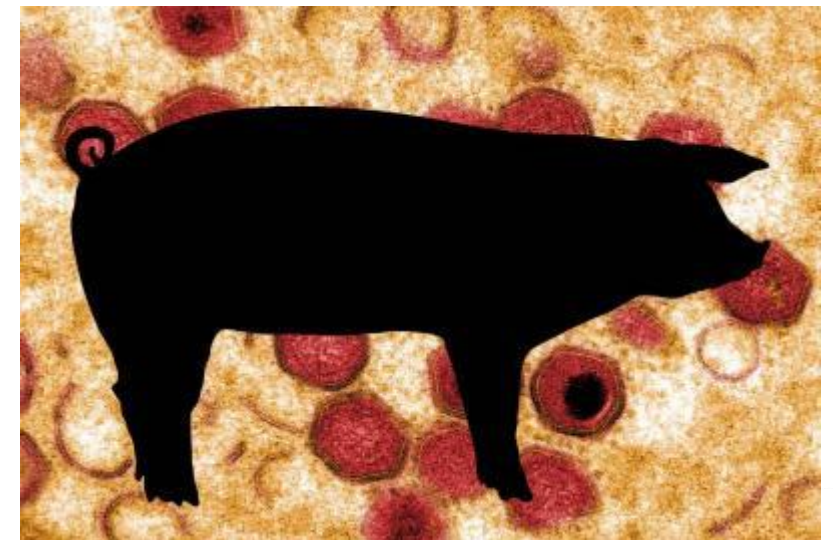


Validation of kits



The Parent Institute

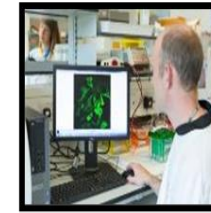
- The Pirbright Institute (TPI) is a world leading centre of excellence in research and surveillance of virus diseases of farm animals and viruses that spread from animals to humans
- WOAHP Reference Laboratory for ASF
- ISO/IEC 17025 accredited tests for ASF (Realtime and ELISA)



Pirbright twins with Philippines to improve African swine fever control

The Parent Institute

- **Non-Vesicular Reference Laboratory**
- **Diagnosis/confirmatory testing – 50 samples/year/country**
- **Technical advice/diagnostic support: ISO/IEC 17025 accreditation**
- **Real-time PCR, serology, HAD, virus isolation and virus characterisation (NGS pipeline established).**



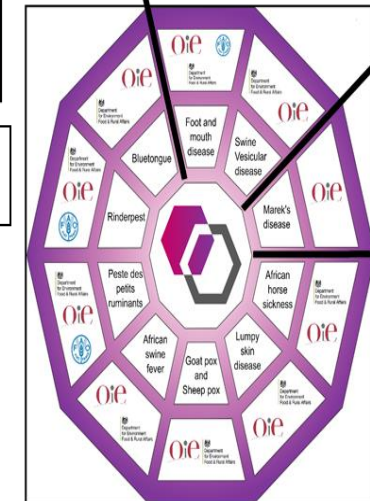
*Non-vesicular
disease*

*reference
laboratories*



*Vesicular disease
reference*

laboratories

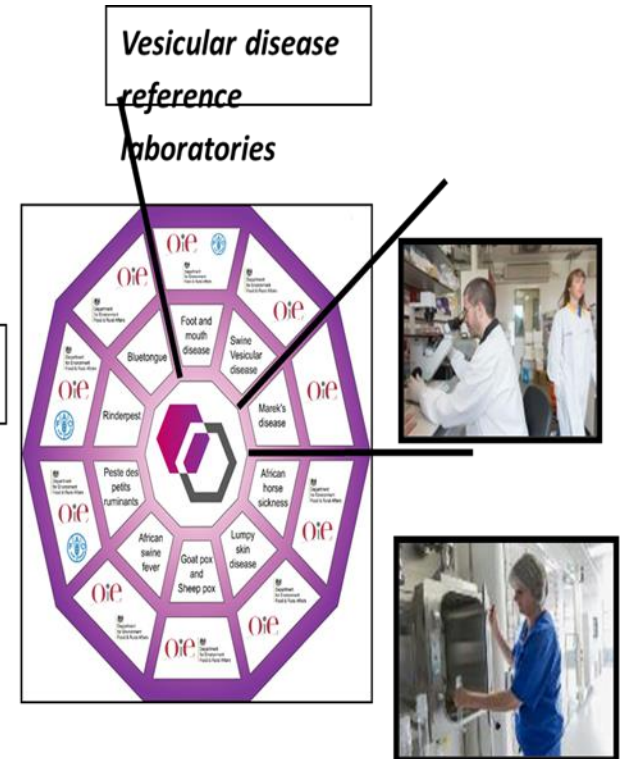


The Parent Institute

- Support for laboratory contingency planning
- Participation (and supply) of PT panels
- Reagent supply
- Research collaborations leading to high impact scientific publications



*Non-vesicular
disease
reference
laboratories*



*Vesicular disease
reference
laboratories*



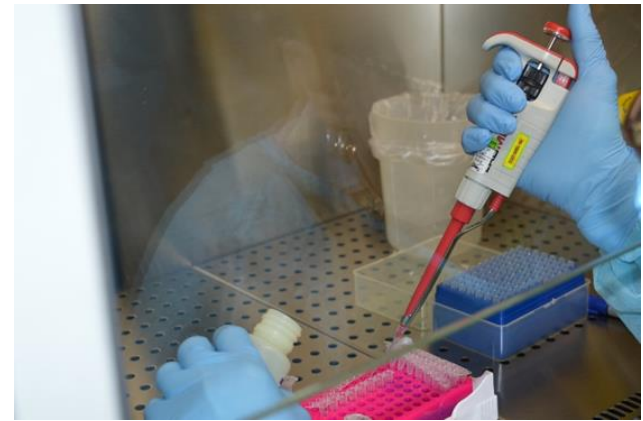
The Partner Institute

- Animal Disease Diagnosis and Reference Laboratory (ADDRL), Veterinary Laboratory Division- Bureau of Animal Industry (BAI)
- National and Reference Laboratory of the Department of Agriculture
- BSL 2 facility with some BSL 3 practices and features
- Technical lead of 15 Regional Laboratories



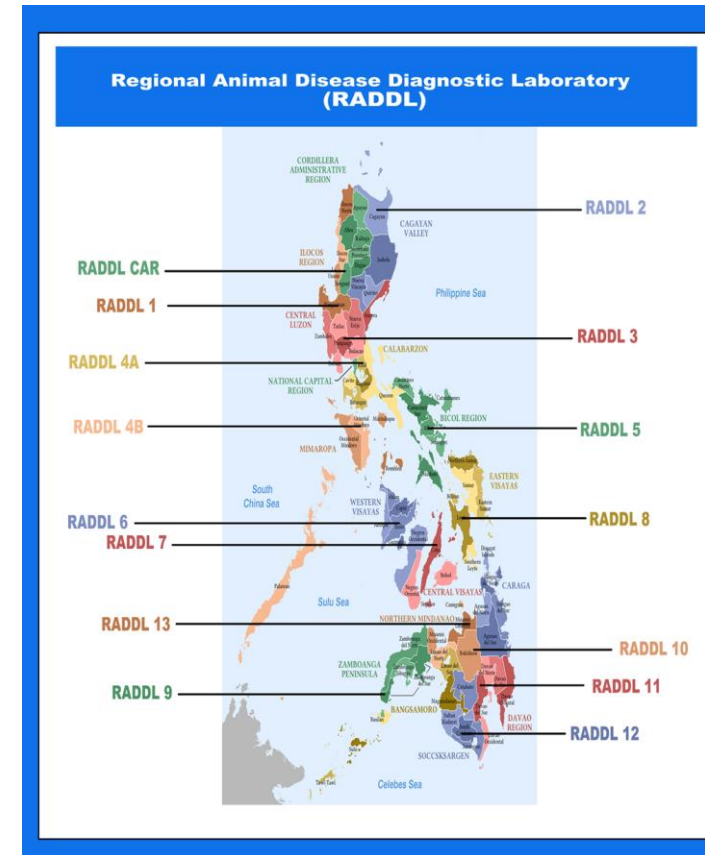
The Partner Institute

- Diagnostic services
- Laboratory trainings for DA veterinary diagnostic laboratory
- Technical assistance to regional and other government and private diagnostic laboratories
- Accreditation of government and Non-government veterinary diagnostic laboratories



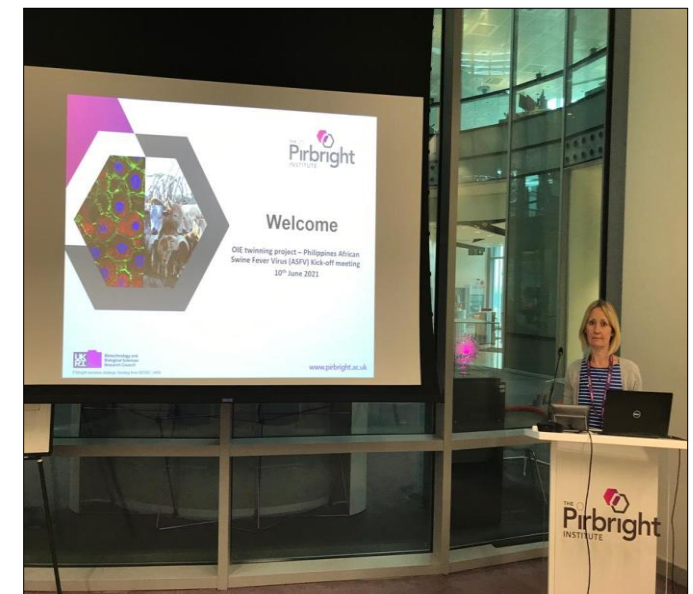
The Partner Institute

- Support in registration of diagnostic kits (kit validation)
- Research collaboration
- On the job trainings for veterinary students



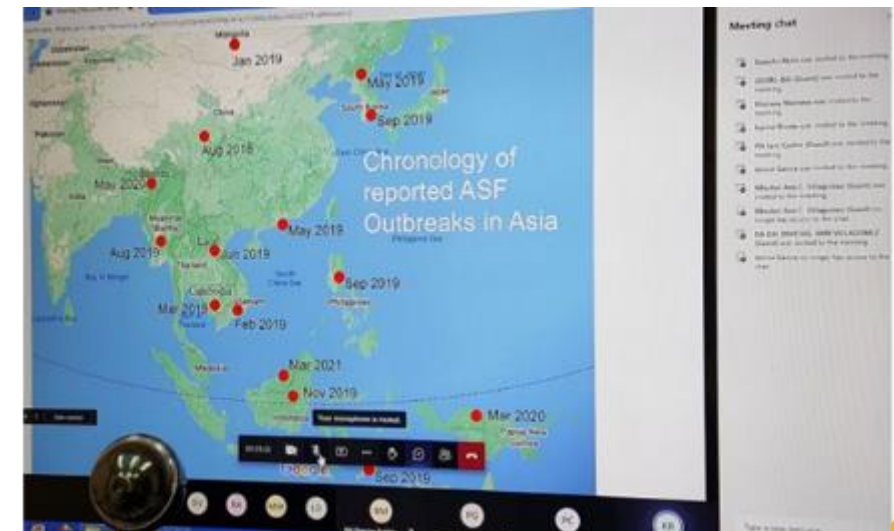
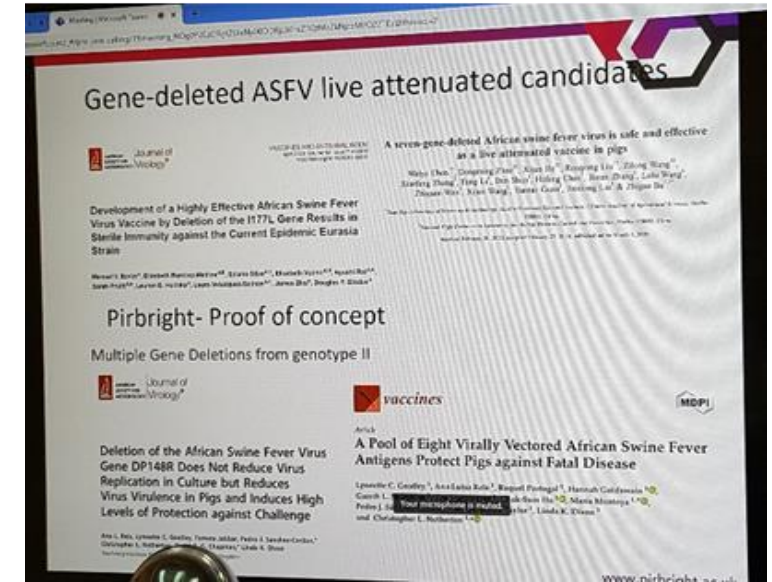
Project Activities CY 2021

- **Kick off virtual meeting - June 10, 2021**
 - Meeting was attended by video conference
 - Attended by WOAHA , The Pirbright Scientists and BAI Management Team



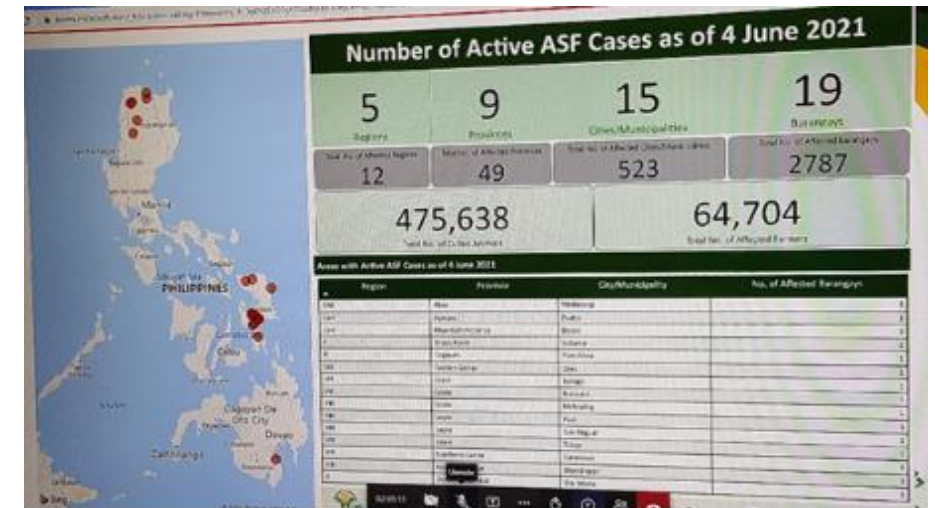
Project Activities CY 2021

- **Kick off virtual meeting - June 10, 2021**
 - Introduction of partner institutions- TPI and ADDRL
 - TPI shared current information on ASFV
 - WOAAH reported ASFV situation in the region



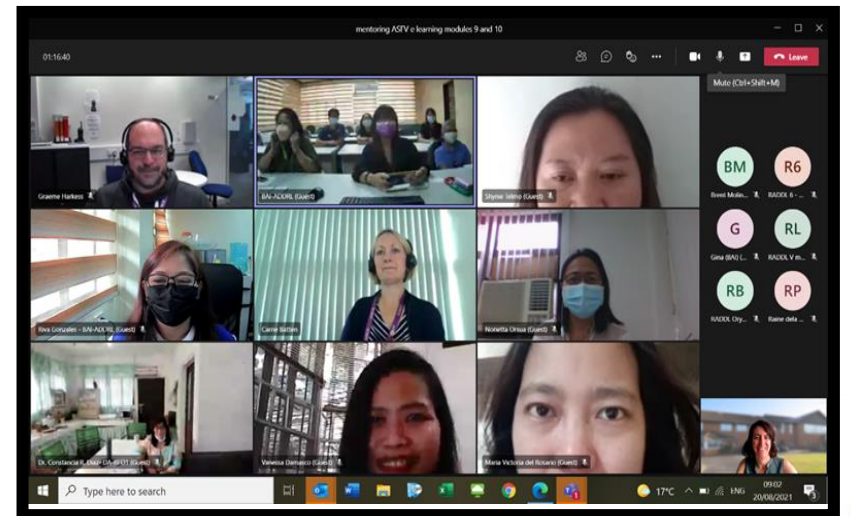
Project Activities CY 2021

- **Kick off virtual meeting - June 10, 2021**
 - BAI reported ASFV situation in the Philippines
 - Discussed the twinning project workplan and how to push through with the planned activities under the current COVID 19 constraints



Project Activities CY 2021

- **ASF E-Learning Course**
 - Duration : July 23-Aug 20, 2021
 - Mechanics: Consisted of 10 modules on ASFV, with mentoring sessions for every batch of module sets
 - Participants: 30 technical staff from BAI-ADDRL and the 15 RADDLs



Project Activities CY 2021

- **Testing for trade, surveillance , discussion, etc**
 - Date : October 21, 2021
 - Advice regarding appropriate strategies for surveillance & trade
 - Participants: Policy makers from BAI
- **Introduction to Biological Risk Assessment Training**
 - Date : November 12, 2021
 - Participants: 30 technical staff from BAI and the 15 RADDLs



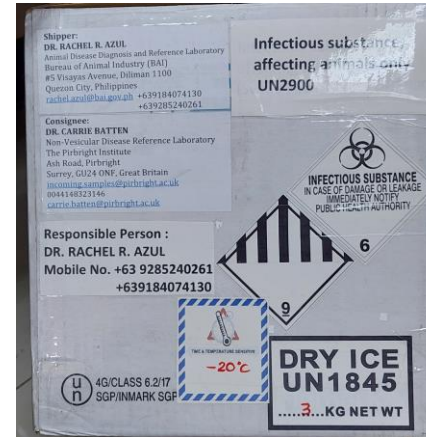
Project Activities CY 2021

- **Biobanking Training**
 - Date : December 22, 2021
 - Sessions consisted of presentations by experts followed by discussion
 - Participants: 39 technical staff from BAI-ADDRL and the 15 RADDLs



Project Activities CY 2022

- **Sent 25 ASFV samples for Sequencing**
 - Date : September 30, 2022
 - Courier :RAF Intl Forwarding Phils., Inc./DG Global Forwarding



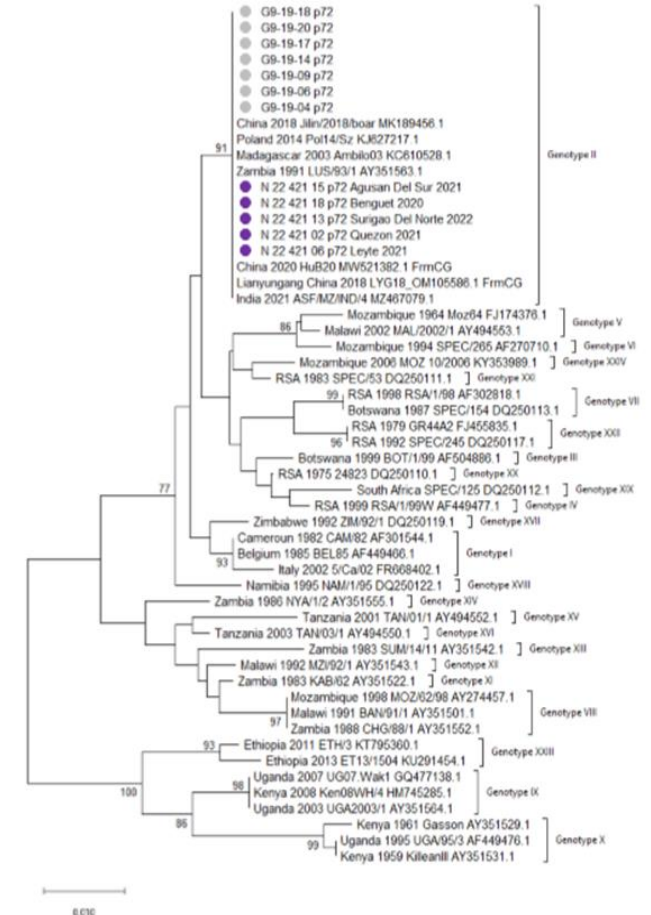
- **Training on ASFV Diagnostics & Gene Sequencing**
 - Date : October 3-14, 2022
 - Participants: 3 technical staff from ADDRL



Project Activities CY 2022

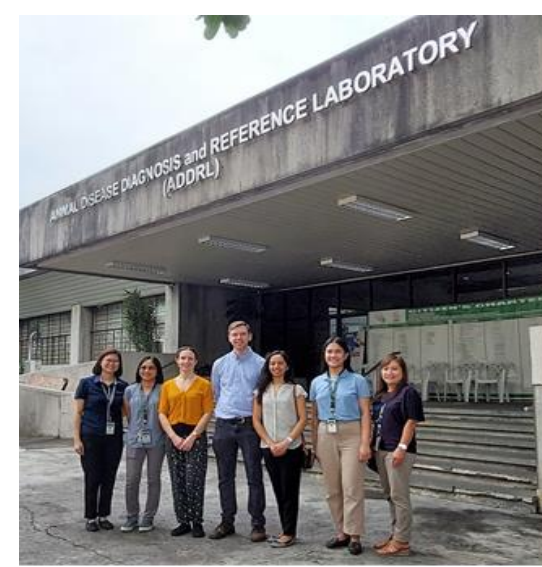
Gene Sequencing Results

- Summary: Amplification of part of the p72 (B646L) gene was performed following NVR-METH-61.. The sequences for N-22-421-02, 06, 13, 15 and 18 were 100% identical. **These sequences shared 100% nucleotide identity across 401bp with sequences from Zambia (AY351563.1), Madagascar (KC610528.1), Poland (KJ627217.1), China (MK189456.1), India (MZ467079.1) and also with the equivalent B646L sequence extracted from the complete genome sequence from China (MW521382.1 and OM105586.1). The five N-22-421 sequences also showed 100% identity to previously submitted samples G9-19-04, 06, 09, 14, 17, 18 and 20. N-22-421-02, 06, 13, 15 and 18 were classified as Genotype II with a bootstrap value of 91%.** (The Pirbright Institute, November 2022)



Project Activities CY 2023

- **Visit of 3 TPI Scientists at ADDRL**
 - Date : Feb. 20-24, 2023
- **Training on ASFV Diagnostics of selected RADDLs at ADDRL**
 - Date : February 22-23, 2023
 - Participants: 4 technical staff from RADDLs CAR, 1,4b and 6



Upcoming Project Activities CY 2023

- **Visit of 4 TPI Scientists at ADDRL**
 - **Date : May 15-17, 2023**
 - **Activities :**
 - **Risk assessment training**
 - **Gap analysis discussion**
 - **Visit to RADDL3 by one ASF expert**
 - **Discussion on Biosafety and Quality**
 - **Discussion on method validation**
 - **Discussion on monitoring health, safety and biosafety performance**
 - **Seminar on ASF Prevention for ASFPCP and ASF Regional Coordinator**



Measurable outputs

OBJECTIVE	MEASURABLE OUTPUTS
Enhance capacity for molecular and serological detection of ASFV	30 technical staff BAI-ADDRL and RADDLs completed E-learning course on ASFV 30 technical staff BAI-ADDRL and 15 RADDLs attended a training on the principles of risk assessment 4 Technical staff from the RADDLs (CAR,1,4b &6) attended Training on RT PCR and ELISA testing

Measurable outputs

OBJECTIVE	MEASURABLE OUTPUTS
<p>Develop capacity to perform virus isolation/haemadsorption (HAD) assay and other OIE recognized diagnostics methods for ASF</p>	<p>3 Technical staff BAI-ADDRL attended Training on ASFV Diagnostics at Pirbright (UK)</p>

Measurable outputs

OBJECTIVE	MEASURABLE OUTPUTS
Establish the ability to analyse appropriate ASFV sequence data	1 Technical staff BAI-ADDRL attended Training on Gene Sequencing at Pirbright (UK) Seminar on basic principles on Sanger and Illumina attended by ADDRL staff during TPI scientists visit Recommendations provided by Pirbright Scientist

Measurable outputs

OBJECTIVE	MEASURABLE OUTPUTS
Establish a sample bank	<p>39 Technical staff from BAI-ADDRL and 15 RADDLs attended Training on the principles of Biobanking</p> <p>The Pirbright Scientists provided a sample database for purpose of biobanking samples during their visit at ADDRL in February 2023</p>

Measurable outputs

OBJECTIVE	MEASURABLE OUTPUTS
<p>Establish and maintain a system of QA for ASFV and other diagnostic assays in line with ISO/IEC 17025 standards</p>	<p>Procedural changes in ELISA/PCR protocols recommended by Pirbright Scientists to BAI-ADDRL staff during February 2023 visit</p> <p>Procedural changes on Practice of Biosafety during conduct of tests were recommended during visit/audit in February 2023</p>

Problems encountered

PROBLEM	SOLUTION
<p>COVID 19 has had major impact on delivery of Project</p> <p>No opportunity for visits/trainings until late 2022</p> <p>Increased cost for shipment of ASF samples for confirmatory & gene sequencing</p>	<p>Adapted approach and held online meetings, trainings & mentoring sessions</p> <p>Applied for 1 year no cost extension of the Project</p> <p>Made adjustments in the allocated budget</p>

Problems encountered

PROBLEM	SOLUTION
During the TPI scientists visit in Feb (QA and Biosafety) All records maintained in paper	Use of electronic tracking sheets system provided by TPI while LIMS not yet available for quick and easy reference
Continous supply of ASF positive control	Procedural changes recommended by Pirbright
Calibration of equipment	Internal calibration to save money
Biosafety practices on serological testing	Procedural changes on serological testing

Overall Project Plan Description

- **Enhance lab capacity for diagnosis of ASFV through training of diagnostic methodologies based on OIE standards and guidelines and ISO/IEC 17025:2017 QMS**
- **Work towards implementation of the ISO/IEC 17025:2017 Quality Management Standard**



Overall Project Plan Description

- **Build and strengthen the diagnostic capacity for ASFV through the training of the National (BAI-ADDRLand the Regional Animal Disease Diagnostic Laboratories**





THANK YOU

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