

SEACFMD Campaign Progress Report (2017/2018)

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OIE Sub-Regional Representative for SE ASia



WORLD ORGANISATION FOR ANIMAL HEALTH

Protecting animals, preserving our future

Outline



- Status of recommendations from 23rd SEACFMD Sub-Commission Meeting
- Status of Key activities 2017/18
- FMD Projects manage by SRR SE Asia
- Key Issues for Discussions



2017 SEACFMD SUB-COMMISSION MEETING 9-10 MARCH 2017, SIEM REAP, CAMBODIA



Revision of the TOR of SEACFMD Sub-Commission



Election of the Sub-Commission **President and Vice-Presidents:**

- The President and two Vice-Presidents shall be elected, by the OIE Delegates, among the **OIE Delegates of Member Countries** for a period of **one year**. Their mandate may be renewed if re-elected.
 - The President shall represent the Host Country.
 - The 1st Vice President shall represent the likely Host for the following year.
 - The 2nd Vice President shall ensure a geographical distribution of representation.
- The Sub-Commission may vary these arrangements depending on circumstances.



Revision of the TOR of SEACFMD Sub-Commission



SEACFMD **National Coordinators:**

- Each member country of the SEACFMD Sub-commission shall designate a SEACFMD National Coordinator to provide technical support to the OIE Delegates..
- A meeting of the National Coordinators shall be held during August of each year and, if necessary, at other times of the year between Sub-Commission Meetings..
- National Coordinators will be invited to attend the Sub-Commission meeting to support the OIE Delegates but cannot be nominated or vote in the election of the Sub-Commission.



Revision of the TOR of SEACFMD Sub-Commission

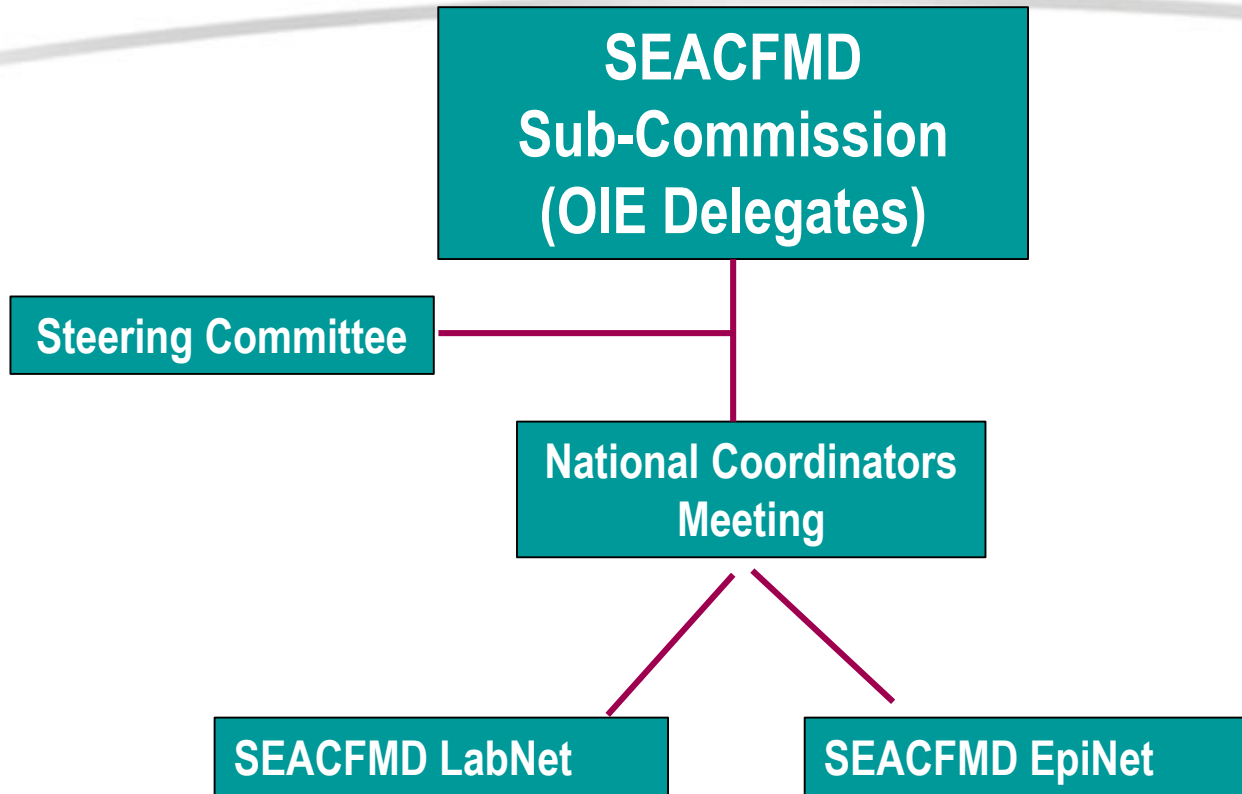


SEACFMD Epidemiology Network ([EpiNet](#)) and Laboratory Network ([LabNet](#)):

- The SEACFMD EpiNet shall provide technical inputs on disease surveillance, prevention and control to the National Coordinators, and the SEACFMD LabNet shall provide technical inputs on disease diagnosis and other laboratory support on the prevention and control FMD in the region. Each member country shall designate EpiNet and LabNet focal persons to support the SEACFMD National Coordinators .
- The SEACFMD EpiNet and LabNet shall hold a joint meeting once a year.



SEACFMD Sub-Commission



Revisions endorsed at the OIE Regional Commission for Asia, Far East and Oceania, Nov 2017



- Proposed every 2 years, alternating with the Regional Commission Conference
- Next meeting – in November 2018, Vietnam



Major Recommendations



- RECOMMENDS to invite neighboring countries from South Asia and East Asia to attend the next SEACFMD Sub-Commission meeting to present their FMD situation, share their experiences in FMD control, and identify risks of animal movements into SEA; **DONE, three countries attended in this meeting**
- AGREE to learn from the successful experience of South America in the FMD eradication through continued engagement with our South American colleagues. **Communication is ongoing after the participation of Argentina veterinarian at 23rd SubComm**



Major Recommendations



- NOTES the recent changes in the global and regional FMD status and AGREES to assess the risk of incursions of exotic FMDV strains considering the recent incursions of FMDV O/ME-SA/India2001d and the potential greater threat posed by A/ASIA/G-VII given the current unavailability of suitable vaccines. **Ongoing**
- AGREES to continue to improve early detection, timely reporting and outbreak investigations of FMD outbreaks, collection of both quantified and qualified field samples and submission to OIE/FAO Reference Laboratories on a regular basis. **Ongoing**
- RECOMMENDS that countries carry out the post vaccination monitoring. **Ongoing**



Major Recommendations



- RECOMMENDS that countries in PCP Stage 1 assess more accurately the FMD situation at national level, including considering the added-value of serological surveys to identify the risk hotspots and by assessing the impact of FMD in the different production systems and zones. **Ongoing**
- RECOMMENDS that countries completing PCP Stage 1 to consolidate their national plans and to base the control measures on the risks identified in Stage 1. **Risk-Based Strategic Plans in Cambodia, Laos and Myanmar at its final stage of development**
- RECOMMENDS FMD free countries to continue to actively monitor and maintain their FMD free status, including updating and testing the contingency plans periodically. **Ongoing**



Major Recommendations



- NOTES the results of the PCP Evaluation and ENDORSES the recommendations of the PCP Evaluation Committee; **Follow-up Assessment was done yesterday**
- RECOMMENDS that SEACFMD Member Countries explore ways to ensure the sustainability of their FMD national plan. **Increase funding in some countries**
- RECOMMENDS that SEACFMD Member Countries use the findings and recommendations from PVS Pathway missions to strengthen their Veterinary Services including for the effective implementation of their FMD national plan. **Included in the RBSP**



SEACFMD Indicative PCP stages

Country	2015	2016	2017	2018	2019	2020
Cambodia	Orange	Orange	Orange	Yellow	Yellow	Light Green
China	Light Green	Light Green	Green	Green	Green	Dark Green
Thailand	Light Green	Light Green	Green	Green	Green	Green
Malaysia	Light Green	Light Green	Light Green	Green	Green	Dark Green
Mongolia	Light Green	Light Green	Green	Green	Green	Dark Green
Myanmar	Orange	Orange	Orange	Yellow	Yellow	Light Green
Lao PDR	Orange	Orange	Orange	Yellow	Yellow	Light Green
Vietnam	Yellow	Light Green	Light Green	Light Green	Light Green	Light Green

Annual assessment against the Roadmap & PCP-FMD



SEACFMD ROADMAP COMPONENT ACTIVITIES 2017/18

Technical



- Support accurate and prompt reporting of FMD outbreaks by Member Countries
 - FMD outbreaks in northern Laos and Rakhine , Myanmar
- Facilitating transport for proficiency testing round
- Facilitating transport of samples from SEA to WRLFMD
- Complete post vaccination monitoring in STANDZ-funded campaign areas
- Produce regular bulletins on genotypic analysis of SEACFMD isolates
- Continue to implement the key activities in NZ-funded Projects in Laos and Myanmar particularly baseline surveys, vaccination, training
- Engaging with contingency planning activities in FMD-free countries
 - Indonesia socio-economic study on maintaining FMD Freedom



Communication and Advocacy

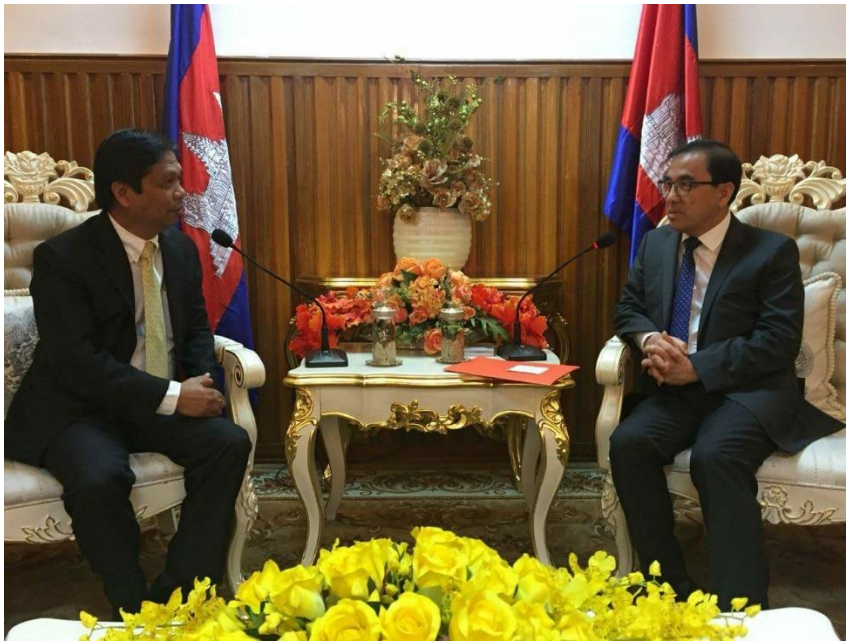


- Engagement with high level officials, Ministers, and with ASEAN, including updating the ASEAN/OIE MoU
 - Meet Minister of Cambodia AND Vice Minister of Vietnam
- Assist members to conduct FMD awareness campaigns and educational drives for promoting FMD control and prevention
- Advocacy for improved regulation of livestock movements in the region
 - Myanmar new legislation
- Promote country commitments and achievements with regards to FMD control



Meeting with Ministers

Cambodia



Vietnam



Coordination and Programme Management



- Organize Meetings of the 24th SEACFMD Sub-Commission, 20th National Coordinators, and Epidemiology and Laboratory Network.
 - Sub-Comm in November 2018
- Assist to advocate funding and implementation of the National FMD Plans in Cambodia, Lao PDR and Myanmar.
- Finalize and publish Manuals that complement the 3rd Edition of the SEACFMD Roadmap 2016-2020.
- Finalise and publish SEACFMD Research Direction Guidelines for 2016-2020.



Coordination and Programme Management



- Support the alignment of National FMD Plans of CLMV with SEACFMD Roadmap 2016-2020 and Global FMD Strategy
 - Risk-based Strategic Plans in Cambodia, Laos and Myanmar
- Support national self-assessment to review member's PCP level. Incorporate priority activities identified in the PCP assessment with the FMD National Plan
- Continue to promote and coordinate existing and potential resources from other partner agencies .
- Engage high-level policy-makers to support FMD control



SEACFMD Coordination Meetings



23rd SEACFMD Subcommission Meeting
March 2017, Siem Reap, Cambodia



21st SEACFMD National Coordinators Meeting
Penang, Malaysia 17-19 July 2018



2017 SEACFMD LabNet Meeting
September 2017, Lanzhou, China



2018 SEACFMD EpiNet Meeting
April 2018, Yogyakarta, Indonesia



Regional Trainings



Regional Training on Spatial Risk Analysis
9-12 October 2017, Saraburi

STANDZ Outcomes



Enhancing Multi-Country Cooperation through the South East Asia and China Foot and Mouth Disease Campaign



Foot and Mouth Disease (FMD) is a highly contagious transboundary animal disease of the ASEAN region. The South East Asia and China FMD (SEACFMD) Campaign, coordinated by the OIE through its Sub-Regional Representation in Singapore, aims to improve the performance of veterinary services in the region. The campaign is supported by the Australian Government Department of Foreign Affairs and Trade (DFAT) and funded by the Australian Government Department of Foreign Affairs and Trade (DFAT). Australia has been the region's major supporter of SEACFMD since its establishment in 1997 owing to the devastating trade, economic, and development impacts of FMD to affected countries.

Support to the South East Asia and China Foot and Mouth Disease (SEACFMD) Campaign was the most critical component of the Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative implemented by the OIE from 2011 to 2017 and funded by the Australian Government Department of Foreign Affairs and Trade (DFAT). Australia has been the region's major supporter of SEACFMD since its establishment in 1997 owing to the devastating trade, economic, and development impacts of FMD to affected countries.

FMD is a highly contagious transboundary animal disease affecting cattle, buffalo, pigs, sheep, and goats. FMD is endemic in almost all developing countries and has been eradicated in only four out of the ten ASEAN countries. FMD is a highly contagious transboundary animal disease affecting cattle, buffalo, pigs, sheep, and goats. FMD is endemic in almost all developing countries and has been eradicated in only four out of the ten ASEAN countries. FMD is a highly contagious transboundary animal disease affecting cattle, buffalo, pigs, sheep, and goats. FMD is endemic in almost all developing countries and has been eradicated in only four out of the ten ASEAN countries.

FMD is a scourge to livestock in these countries, contributing substantially to economic growth and livelihoods. Livestock is a major sector. According to FAO, the average value of production in these countries is 10 times higher than in developed countries. FMD carries high economic consequences for the frequency of outbreaks of the disease. A 2013 study by WHO and FAO estimated that production losses can reach a total of \$1 billion in Asia (excluding costs already incurred).

The Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative is a programme implemented by the OIE through its Sub-Regional Representation in Singapore from 2011 to 2017. STANDZ aims to improve the performance of veterinary services in the region through the prevention, control and eradication of emerging infectious diseases and transboundary animal diseases, including Foot and Mouth Disease (FMD).



Socio-Economic Impact of the Foot and Mouth Disease (FMD) Control Project in Northern and Central Lao PDR



November 2017

The Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative supported comprehensive in-country Foot and Mouth Disease (FMD) control and vaccination campaigns in line with the South East Asia and China FMD (SEACFMD) 2020 Roadmap. The STANDZ Northern Lao PDR FMD Project was successful in reducing FMD incidence with no FMD outbreaks reported across the 10 participating provinces from 2014 to June 2017. The project provided positive benefits to men and women farmers and their families through increasing household income from livestock production and trade.

In September 2011, the World Organisation for Animal Health (OIE) and the Australian Government Department of Foreign Affairs and Trade (DFAT) launched the Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative, a AUD 12.74 million regional flagship programme to improve the performance of veterinary services in South East Asia in the prevention, control and eradication of emerging infectious diseases and transboundary animal diseases, including Foot and Mouth Disease (FMD).

The STANDZ Initiative supported comprehensive in-country FMD control and vaccination campaigns in line with the South East Asia and China FMD (SEACFMD) 2020 Roadmap.

FMD is a highly contagious transboundary animal disease endemic in Lao PDR and in most developing countries in South East Asia. In 2011, Lao PDR reported 414 FMD outbreaks. When FMD outbreaks have occurred in Lao PDR, they have caused severe losses to the national economy and threatened rural food security and livelihoods of smallholder farmers and their families, who depend on livestock for their income and savings.

Controlling FMD has been a major challenge for Lao PDR as the country is a major thoroughfare for transboundary animal movement in the Greater Mekong Sub-region where FMD remains endemic. Unregulated animal movement is a major factor for the spread of FMD.

FMD prevents smallholder farmers in Lao PDR from benefiting from growing opportunities in livestock trade. FMD-infected animals are not productive and farmers lose income from not being able to sell livestock owing to disease control measures or from selling livestock at a loss. A range between 32% to 92% is the estimated reduction in sales value of livestock following FMD infection based on case studies conducted in Northern Lao PDR and Southern Cambodia. In 2011, the estimated financial losses in Lao PDR due to FMD outbreaks were calculated as:

- USD 30,881: losses per village affected by FMD;
- USD 13.5 million in losses at the national level based on the number of villages affected and the cost of disease control measures; and
- USD 102.1 million in losses at the national level considering the likelihood of FMD under-reporting.

Opportunities

Increasing demand for meat in Lao PDR and its neighbouring markets is being enhanced by the development of a regional road network throughout the Greater Mekong Sub-region.

The growth in domestic and international livestock trade provides Lao PDR farmers with an opportunity to increase their income from the sale of livestock and, correspondingly, contribute to alleviating rural poverty and improving rural food security.

The Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative is a AUD 12.74 million regional programme implemented by the OIE through its Sub-Regional Representation in Singapore from 2011 to 2017. STANDZ aims to improve the performance of veterinary services in South East Asia in the prevention, control and eradication of emerging infectious diseases and transboundary animal diseases, including Foot and Mouth Disease.



Socio-Economic Impact of Foot and Mouth Disease in Cambodia and Myanmar

December 2017



The Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative supported comprehensive in-country Foot and Mouth Disease (FMD) control and vaccination campaigns in line with the South East Asia and China FMD (SEACFMD) 2020 Roadmap.

In 2014, STANDZ commissioned socio-economic impact studies in Cambodia and Myanmar to contribute to the development of more effective national FMD control programmes and to provide policy makers and beneficiary farmers with data and a clear economic rationale for FMD control. The studies detailed local practices that Veterinary Services should consider when implementing evidence-based and context-specific activities to eradicate FMD in these countries.

Number of reported FMD outbreaks from 2011 to 2016
389 in Cambodia
63 in Myanmar

Socio-economic study findings were used in the 2015 STANDZ Central Myanmar FMD Project, which was

successful in reducing FMD incidence across 1,127 participating villages. By preventing FMD, the project provided positive benefits to men and women farmers and their families through increasing household income from better agricultural productivity, including enhancing livestock production and trade.

FMD is a highly infectious transboundary animal disease endemic in most developing countries in Southeast Asia, including in Cambodia and Myanmar.

Cambodia and Myanmar are 2 of the 7 original founding members of the South East Asia FMD Campaign in 1997, now renamed as the South East Asia and China FMD (SEACFMD) Campaign encompassing China and all ten ASEAN Member States, namely: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

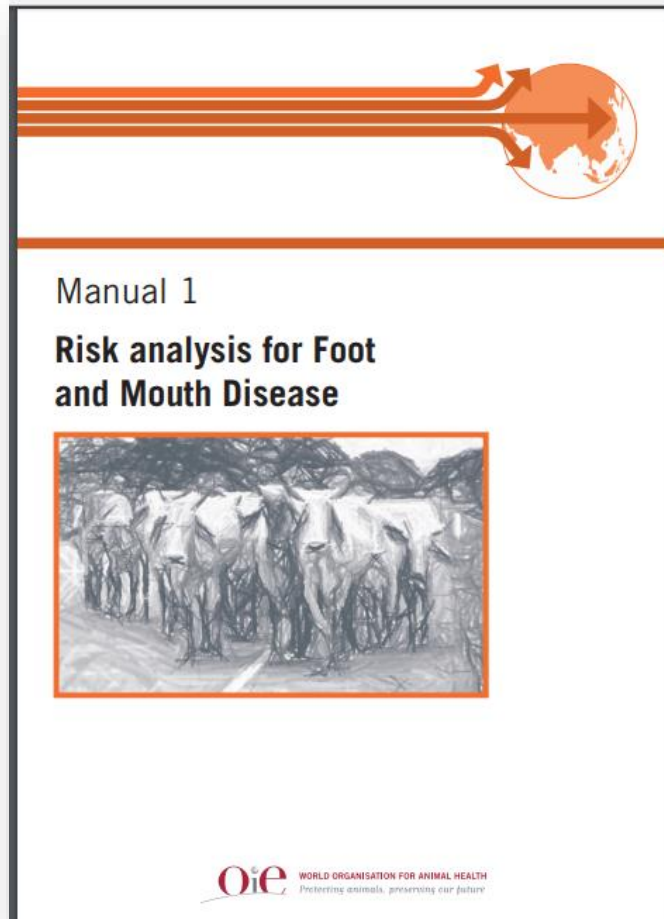
Study Coverage

With the aim to better assess the FMD situation in the selected areas, the study focused on samples adapted to the context of each country.

The Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative is a AUD 12.74 million regional programme implemented by the OIE through its Sub-Regional Representation in Singapore from 2011 to 2017 with funding from the Australian Government Department of Foreign Affairs and Trade (DFAT). STANDZ aims to improve the performance of veterinary services in South East Asia in the prevention, control and eradication of emerging infectious diseases and transboundary animal diseases, including Foot and Mouth Disease.



SEACFMD Manuals



http://www.rr-asia.oie.int/fileadmin/SRR_Activities/STANDZ/SEACFMD_Manual/SEACFMD_Manual_1.pdf



Risk based control strategy

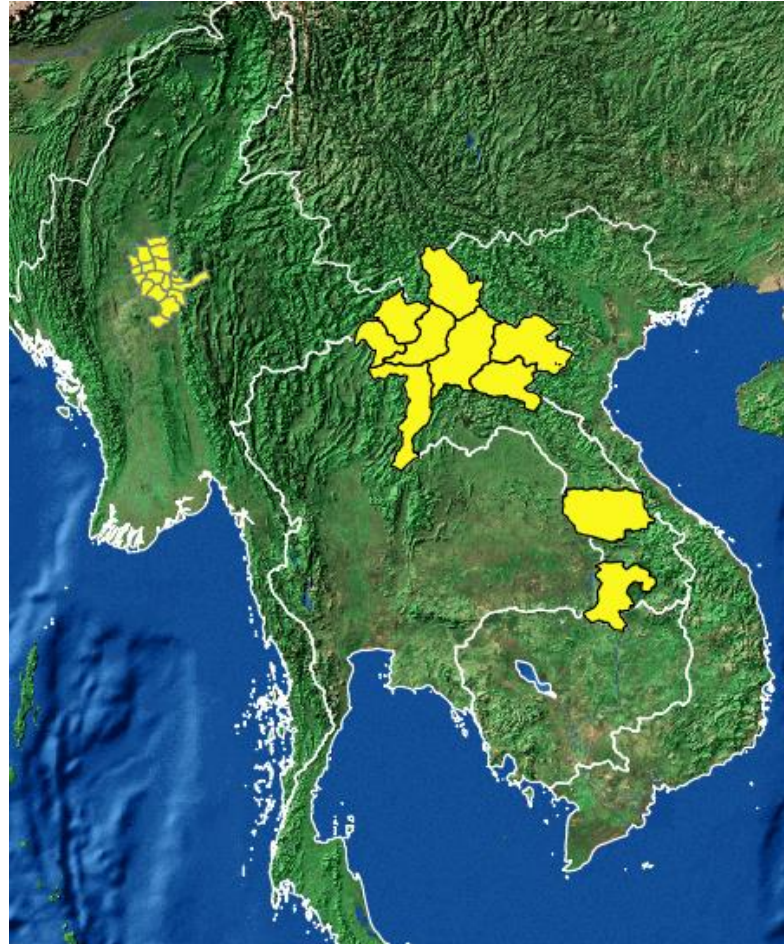


Control hotspots identification

- Substantial cattle population
- Critical points for cattle movements
- Intensive FMD outbreaks in the history
- Significant socio-economic impact

FMD control pilot projects

Central Myanmar
(24 Townships)



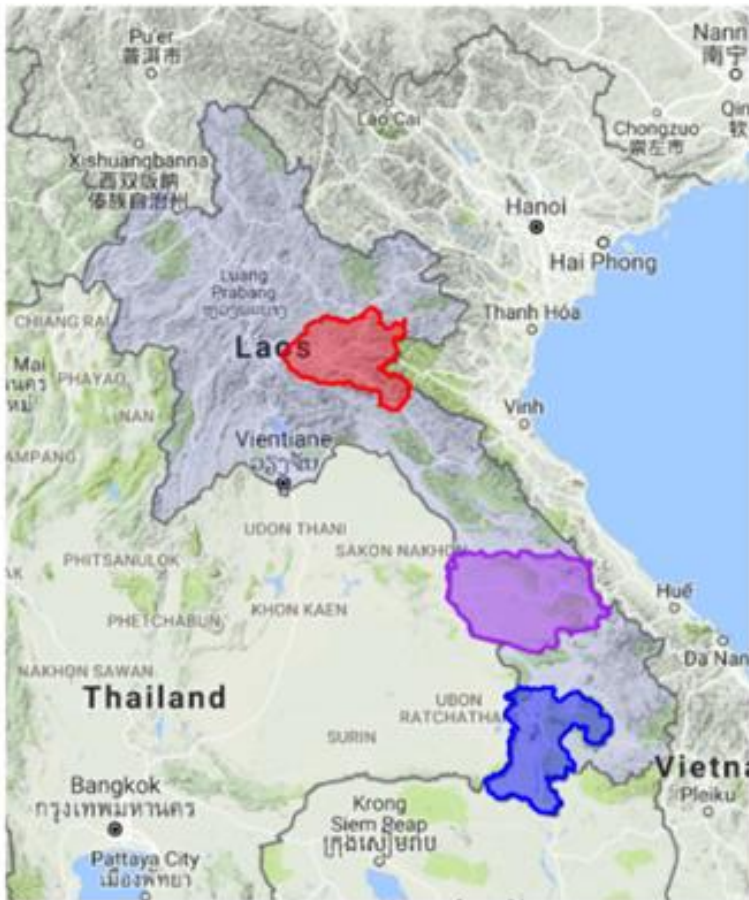
Northern Lao PDR
(10 provinces)




Southern Lao PDR
(2 provinces)

OIE DLF LAO PDR FMD CONTROL PROJECT

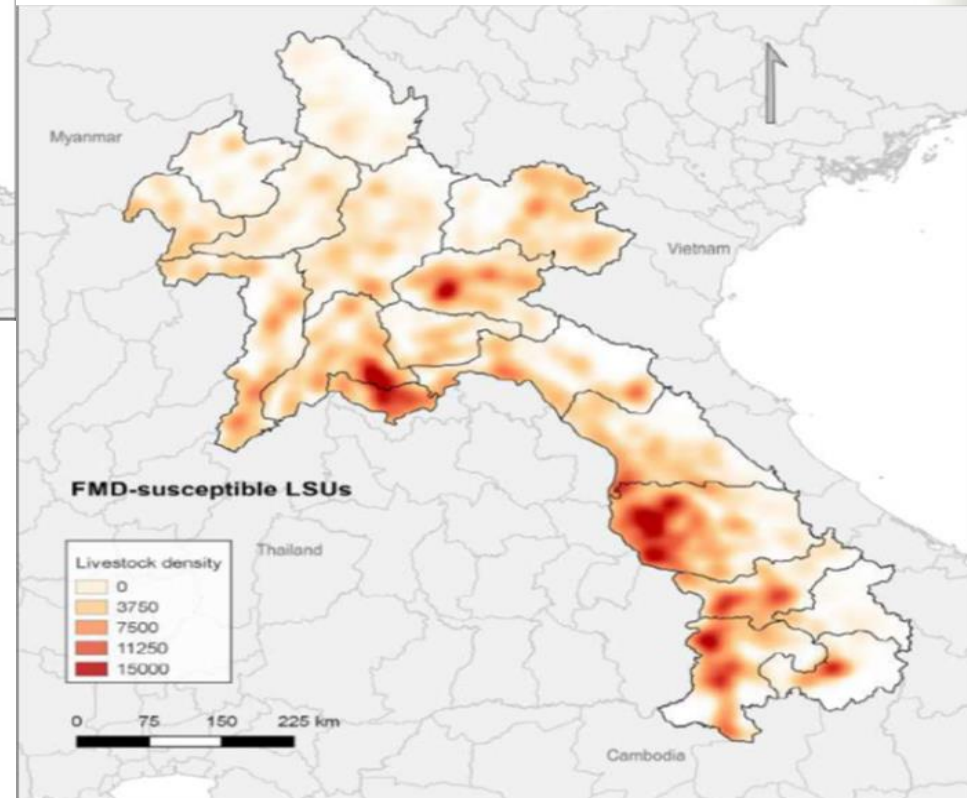
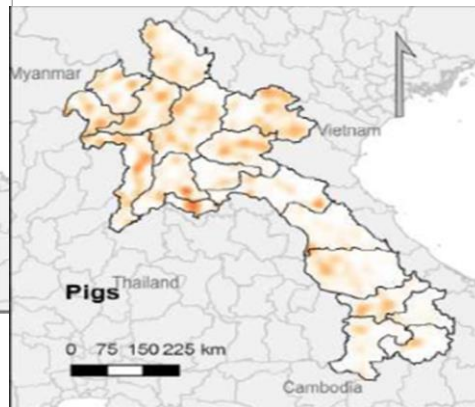
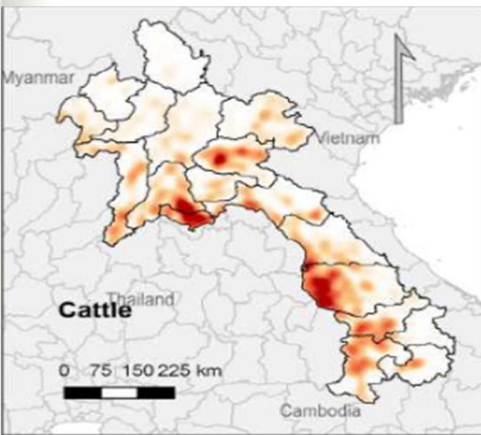
- Supported by New Zealand , MFAT
- Implemented by DLF with the support OIE SRR SEA
- Duration of the project 2016-2020





-  Xiengkhouang
-  Savannakhat
-  Champasak

Spatial Risk Assessment



National Spatial Risk Assessment (Dan Vink et al)

Baseline survey



	Laos Nth	Laos Sth
Date	Jul 2017	Oct 2016
Province	1	2
District	6	19
Village	56	98
Households	356	456
Animals	1063	1803



Field survey outcomes



CLINICAL FMD

- In Southern Laos : 2012-16 cumulative clinical FMD incidence **>50% HH.**
- In Xieng Khouang : 2012-16 cumulative incidence **<10% HH.**

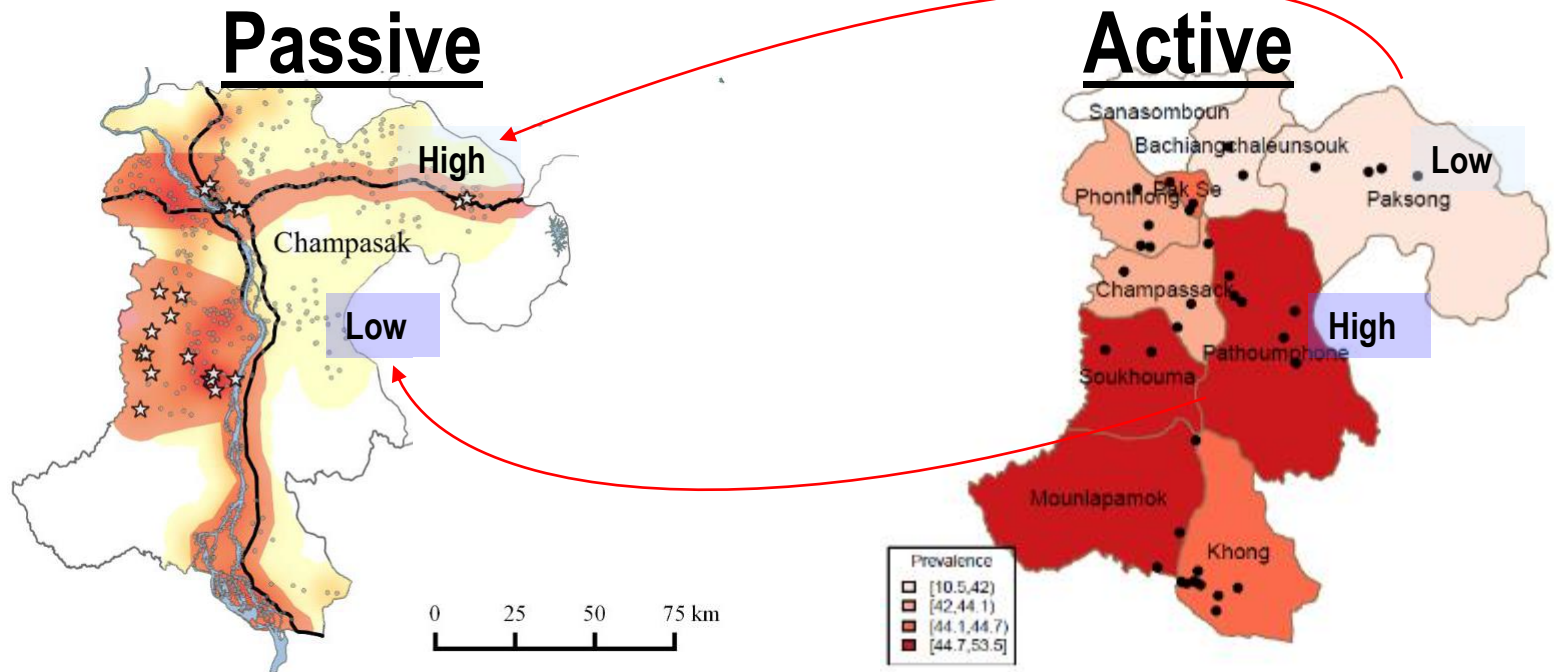
ECONOMIC IMPACT

- In Southern Laos, **lower calving rate (-30%)** and a **higher death rate (+125%)** of cattle or buffaloes in 2016.
- **20% income reduction** with an increasing proportion of buffaloes affected by FMD, when FMD was seen in Southern Laos during 2015.
- In Northern Laos baseline(2017), The **case households** spent **USD 11 – 15 for treating animals with FMD.**

(Masako etal)



ACTIVE VS PASSIVE RISK MAPS



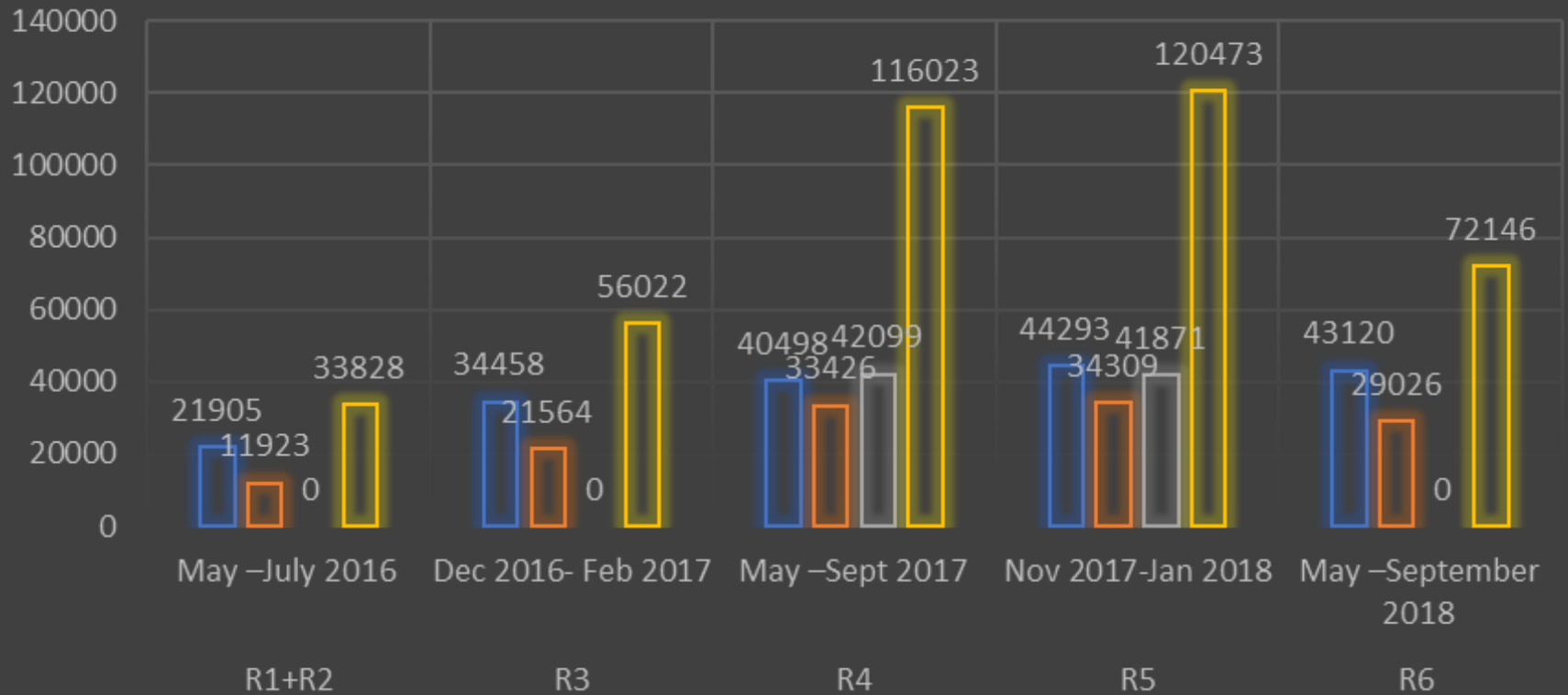
(Epicentre ,Massey University)

FMD Vaccination



FMD VACCINATIONS IN LAOS

SVK CSK XKG TOTAL



Stakeholder Awareness

- **518 VVW and 67 DAFO staff from 23 DISTRICTS** have participated in FMD awareness meetings and basic training in FMD recognition animal handling, biosecurity and increase uptake for vaccination.
- Over 2000 **FMD awareness posters have** been distributed in the project area.
- **46 Billboards** with FMD recognition, animal movement control and vaccination benefits were installed in 23 targeted districts.

(Source DLF data)



Training



- **Laos National Training Team been trained in August TOT 2017.**
- 49 participants and 14 districts of Savannakhet District Officers and National Training team participated in the FMD Control Training Programme 3-4 Oct 2017.
- 26 VVW's attended pilot training at Songkhone district 5 Oct 2017.
- **Training Module using QIPS approach** has been developed in Laos.
- **30 District Livestock Officers** from Champasak province attended 1st formal training programme **28-30 May 2018.**



Emergency Response



OIE LBVD MYANMAR FMD CONTROL PROJECT



- Supported by New Zealand , MFAT
- Implemented by LBVD with the support OIE SRR SEA
- Setting up office in October 2016



FMD risk assessment in targeted areas

Animal Movement Survey

Design proposal:

- Conducted August and September, 2018
- 2 Questionnaires (Village Headmen & Trader)
- Data Entry and Cleaning completed
- Submitted 8 November
- Result Feb 2018

# Township	# VH and CAHW	# Trader, Middle men & License	Total
Mandala	17	12	408
Sagaing	13	12	312
Total	30	12	720

Risk based Strategic Plan, FMD Myanmar



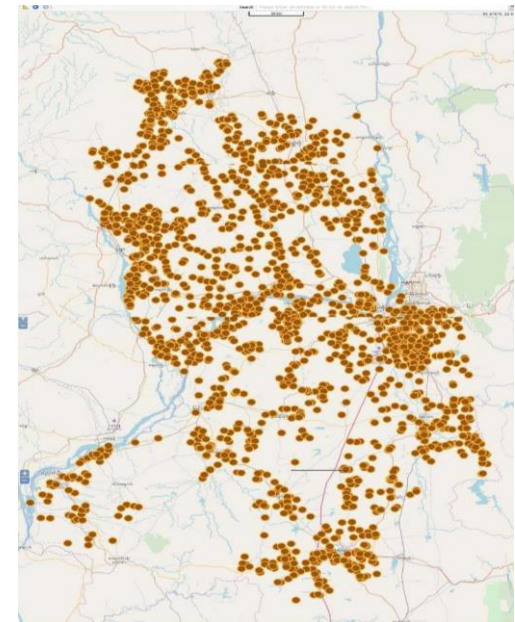
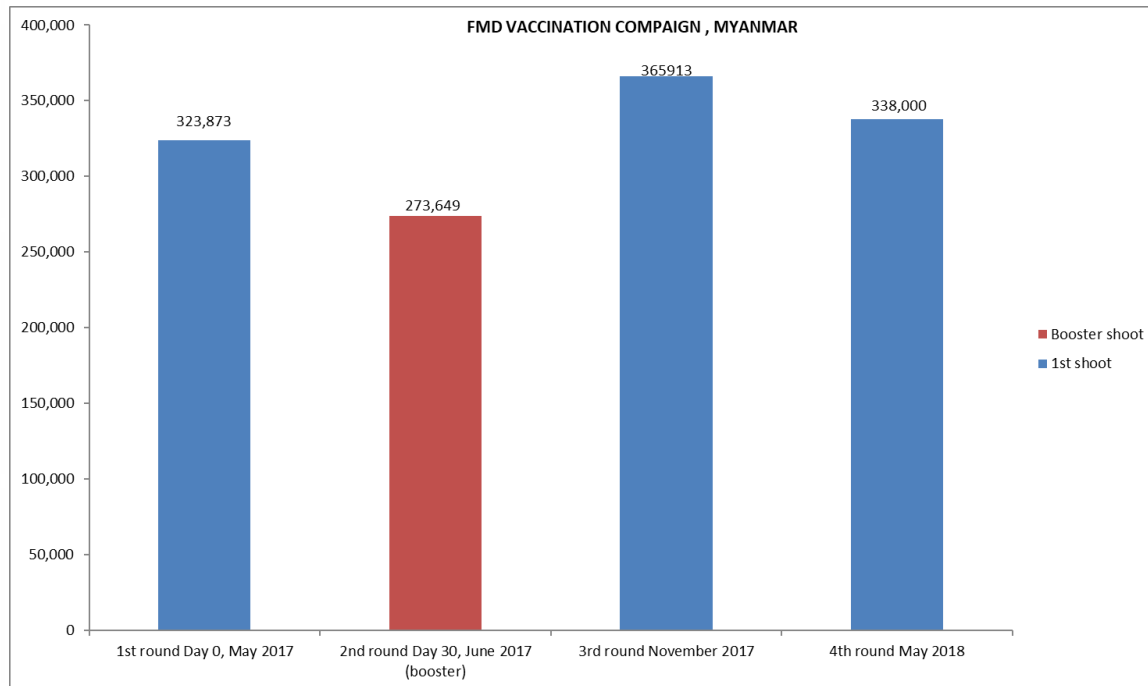
- Regional Workshop in 2017 and 2018
 - SEACFMD National Coordinator and LBVD staffs
- Chapter FMD Situation analysis in Myanmar, completed
- RBSP Objectives, strategies are drafted- Chapter 3, 4 and 6
- Expected to finalize Dec 2018

National Strategy Framework on Foot-and-Mouth Disease Control Myanmar



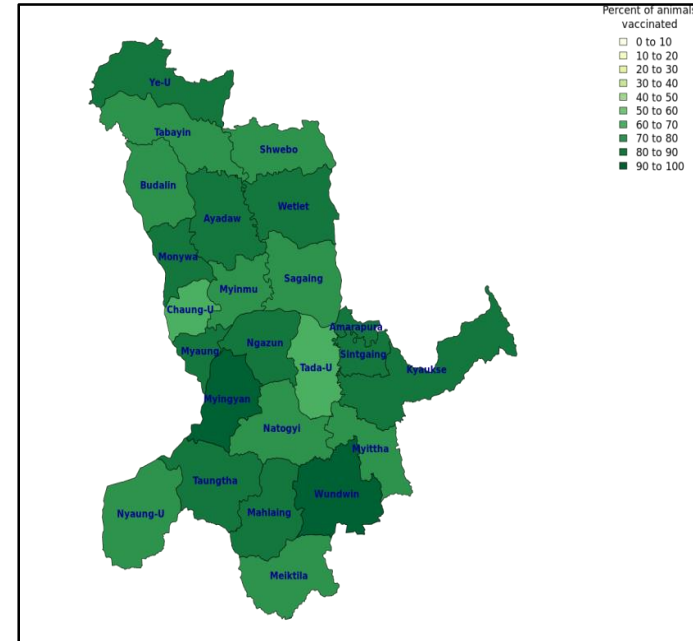
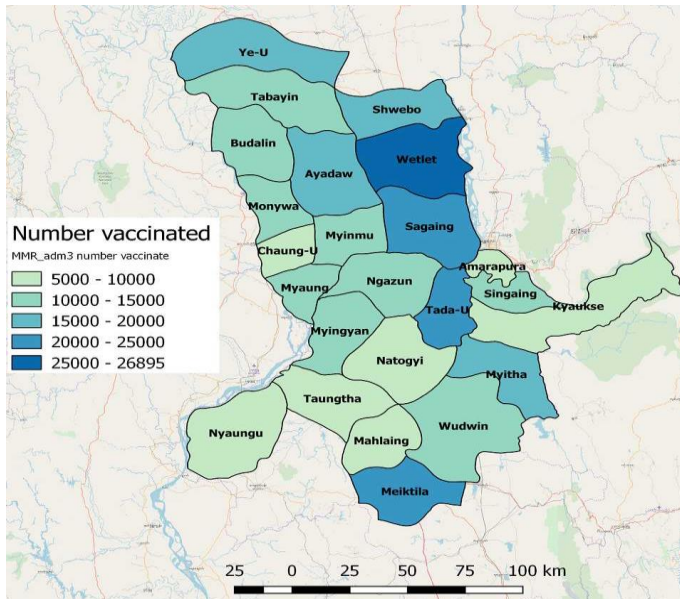
FMD Vaccination Campaign

5th Vaccination – 1 December-15 December



Vaccinated villages (n=1968), referenced LBVD staff, trained at Massey University, IRIS, 2018

4th round FMD Vaccination Campaign coverage 84.5 %



The vaccinated animals by township level, referenced LBVD staff, trained at Massey University, 2018

Vaccine Coverage by township (n=24), referenced LBVD staff, trained at Massey University, IRIS, 2018



Vaccination campaign - Meetings

- Before Vaccination –Workshop 24 township LBVD staffs and teams



- Village awareness meeting
 - Selected villages
 - 6000 farmers



Experience sharing WS 3-7 October 2018

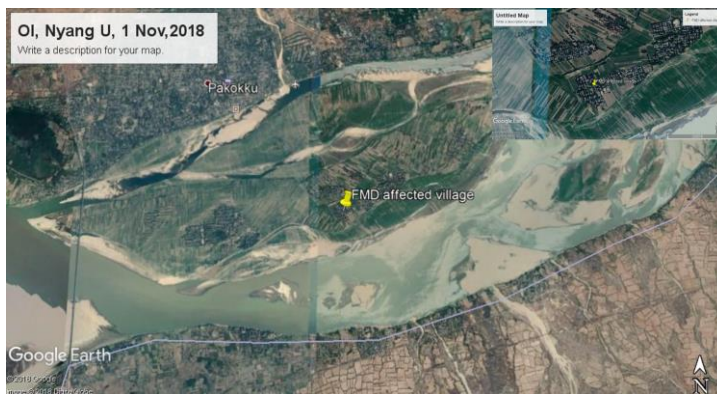
- About 393 LBVD staffs- throughout Myanmar, 13 states (Regions)
- A day Workshop
- Emphasized and committing on Reporting





FMD Outbreak Investigations 2018

- Phyi OO Lwin – September 2018
- (5 farmer)
- Nyaung UU – November 2018
 - (8 farmer)
- Ye Uu - 25 November (15 farmers)
- Awareness meeting with village head and farmers



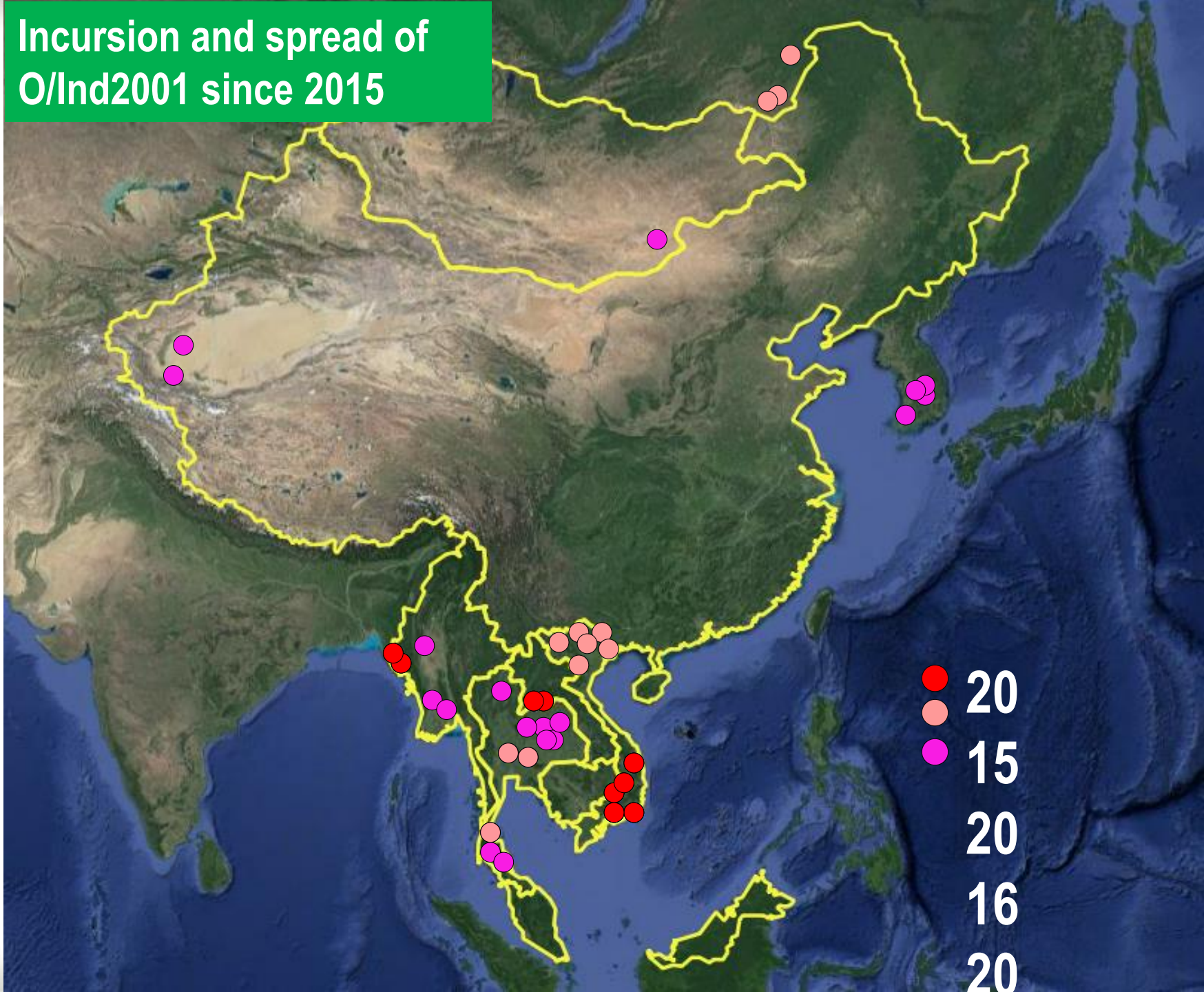
FMD Activities Supported by China

Outline



Surveillance and Outbreak Investigation

Incursion and spread of O/Ind2001 since 2015



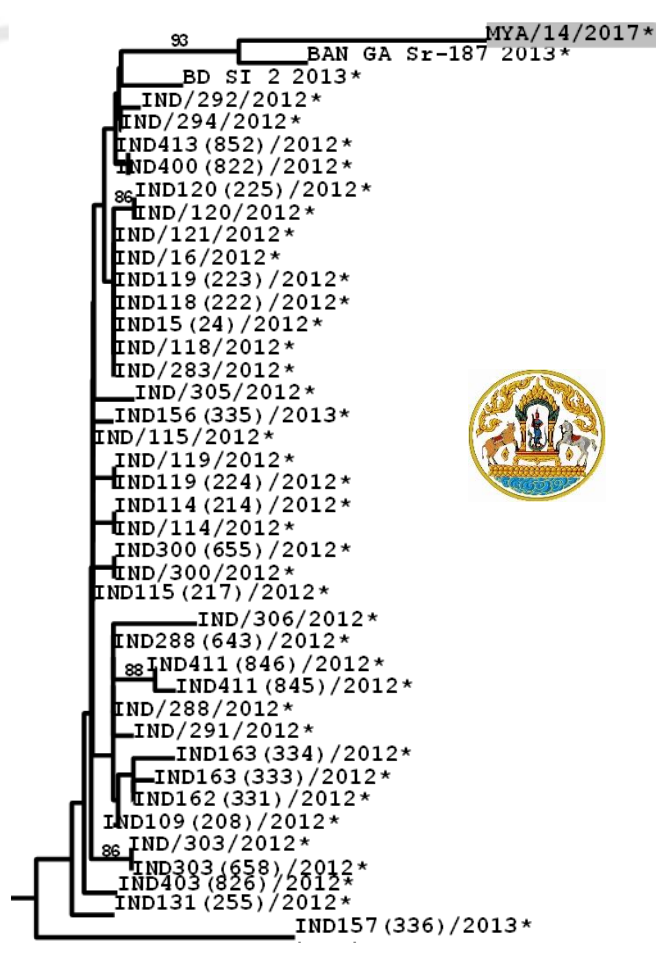
Emergence of an exotic strain of serotype O foot-and-mouth disease virus O/ME-SA/Ind-2001d in South-East Asia in 2015

Y. Qiu¹ | R. Abila¹ | P. Rodtian² | D. P. King³ | N. J. Knowles³ | L. T. Ngo⁴ | V. T. Le⁴ | S. Khounsy⁵ | P. Bounma⁵ | S. Lwin⁶ | B. C. Verin¹ | P. Widders¹

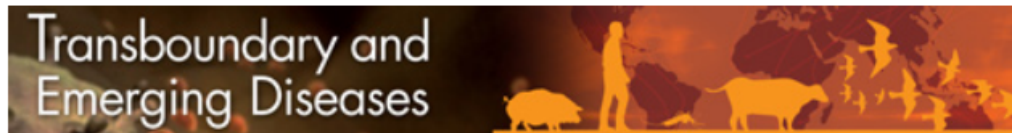


How to cite this article: Qiu Y, Abila R, Rodtian P, et al. Emergence of an exotic strain of serotype O foot-and-mouth disease virus O/ME-SA/Ind-2001d in South-East Asia in 2015. *Transbound Emerg Dis.* 2017;00:1–9. <https://doi.org/10.1111/tbed.12687>

Serotype Asia 1 in Myanmar in January 2017



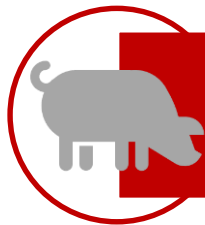
No further Asia 1 outbreaks reported so far



Foot-and-mouth disease outbreaks due to an exotic serotype Asia 1 virus in Myanmar in 2017

Journal:	<i>Transboundary and Emerging Diseases</i>
Manuscript ID	TBED-SC-281-18.R2
Manuscript Type:	Short Communication
Date Submitted by the Author:	n/a
Complete List of Authors:	Bo, Lin Lin Lwin, Khin Sander Ungvanijban, Sahawatchara Knowles, Nick; The Pirbright Institute, Molecular Characterisation & Diagnostics Group Wadsworth, Jemma; Pirbright Institute, Ash Road, Pirbright, Woking, King, Donald; Pirbright Institute, Abila, Ronel; OIE, SRR South East Asia Qiu, Yu; Organisation Mondiale de la Sante Animale, Sub-Regional Representation for South-East Asia
Subject Area:	Veterinary epidemiology, Virus, Transmission

Outline



Movement Study and Risk Assessment



Regional Animal Movement Study, 2015



Approximately 1 million large ruminants are moving through SE Asia into China and Vietnam annually

Cattle/Buffalo Movements into China



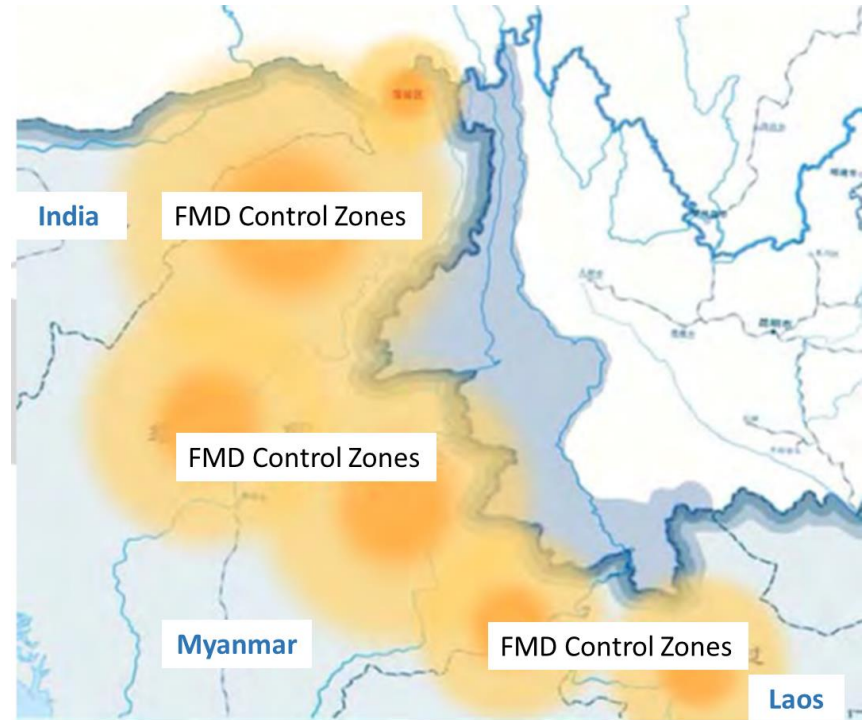
Almost 1,000,000 head of large ruminants entering China from GMS each year

Risk assessment of transboundary spread of FMD

Proposed Trade Zones



From 2017-

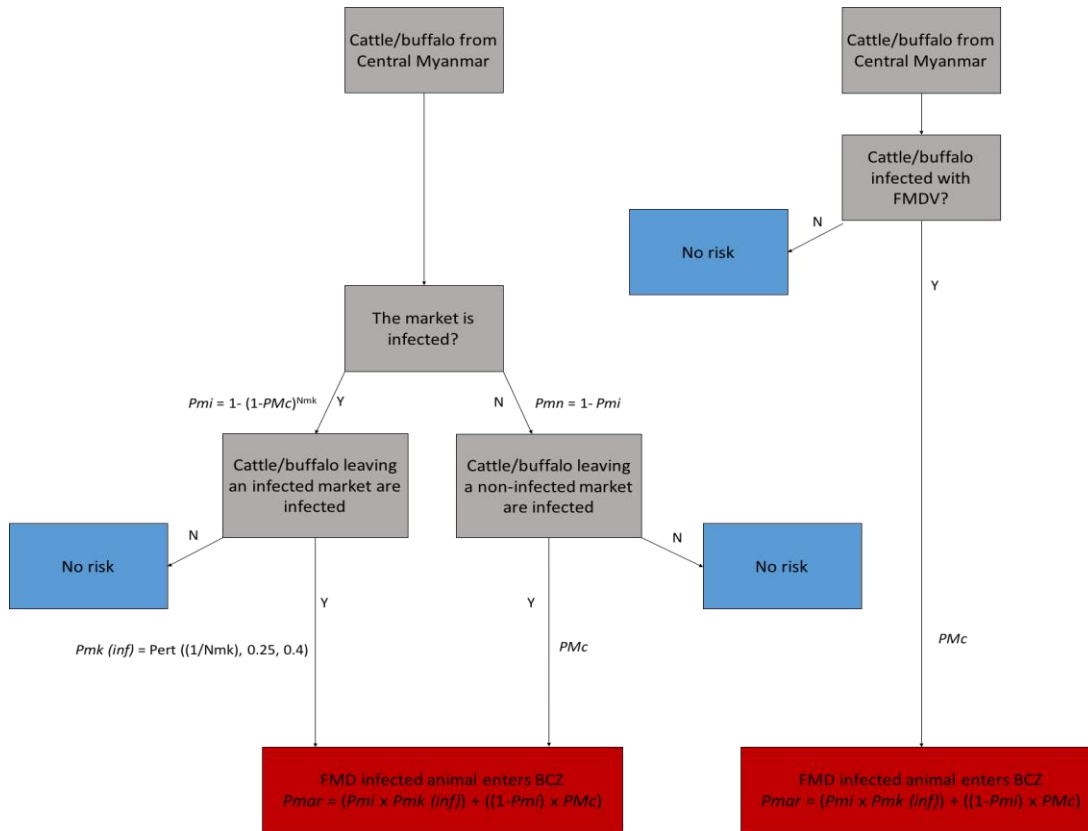


Future

Quantitative Risk Model



Risk Scenario Trees



Scenario 1: Livestock passing through a market/collection area en-route to BCZ

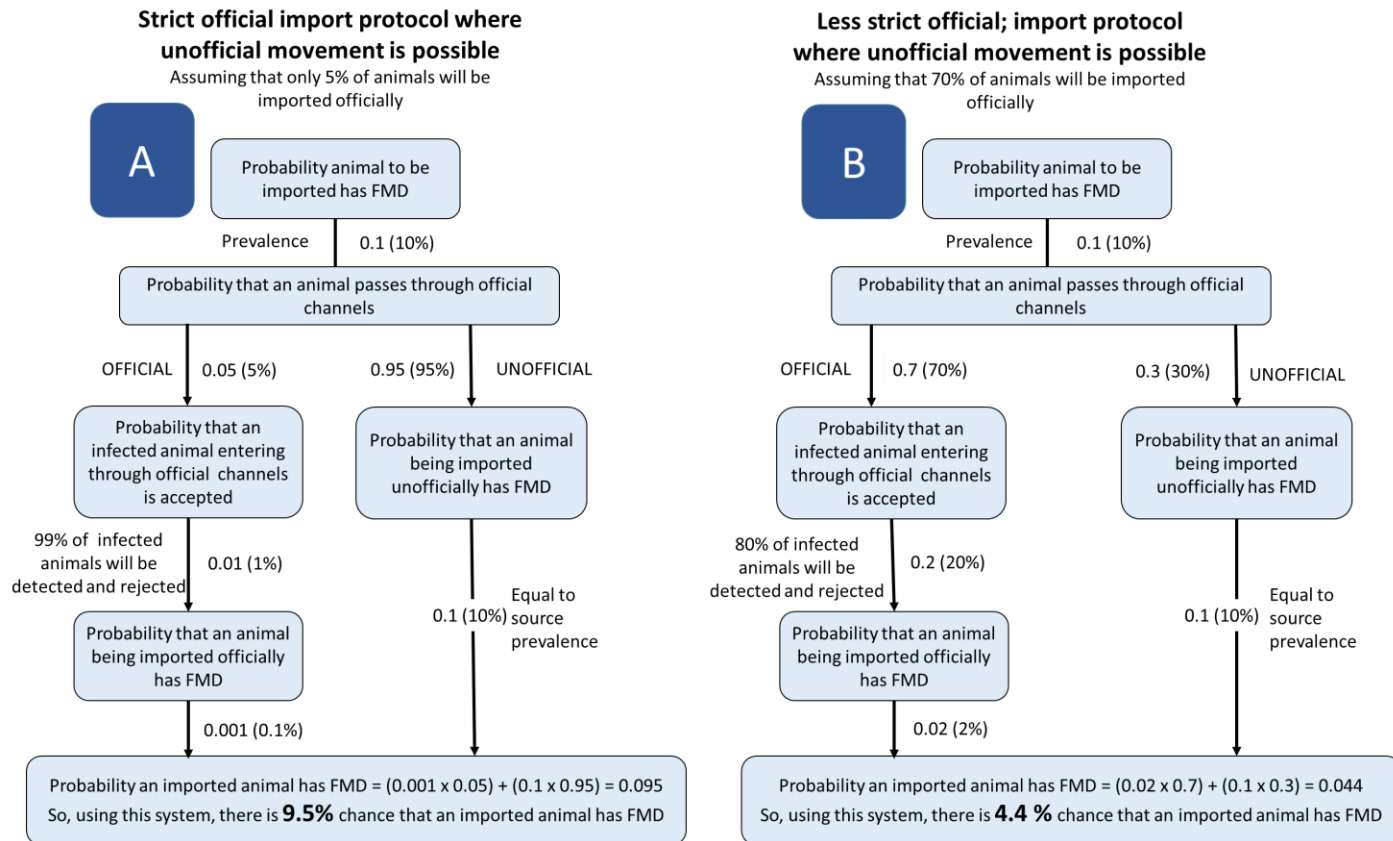
Scenario 2: Livestock passing directly from source to the BCZ without mixing with other livestock



Quantitative Risk Model



Sensitivity analysis



In this example: under the strict protocol (A), there is over twice the risk that an animal imported through process A would be infected, compared to process B, even though the risk of importing an infected animal through the official system is greater for process B, there is less unregulated movement. This demonstrates the importance of taking unofficial movements and unofficial movements into account when applying risk analysis to deciding on import protocols.



Quantitative Risk Model



Sensitivity analysis

Pathway	Species	Baseline risk that animals entering BCZ are infected with FMD	Baseline number of FMD infected livestock entering BCZ each year	Risk that animals entering BCZ are infected with FMD for scenario C	Number of FMD infected animals entering BCZ each year for scenario C
CM1 (Muse)	Cattle/buffalo	0.0004 (2.00 x 10 ⁻⁵ , 0.0002)	52 (2, 232)	5.4 x 10 ⁻⁶ (1.77 x 10 ⁻¹⁰ , 4.96 x 10 ⁻⁵)	1 (0, 7)
SM1 (Muse)	Goats	0.0003 (3.2 x 10 ⁻⁵ , 0.0013)	27 (2, 111)	6.35 x 10 ⁻⁵ (3.99 x 10 ⁻¹⁰ , 0.00034)	5 (4, 30)
PM1 (muse)	Pigs	4.91 x 10 ⁻⁵ (1.28 x 10 ⁻⁶ , 0.0002)	2 (0, 9)	3.11 x 10 ⁻⁷ (0, 1.77 x 10 ⁻⁶)	0.01 (0, 0.08)





Cattle/Buffalo Movements into China

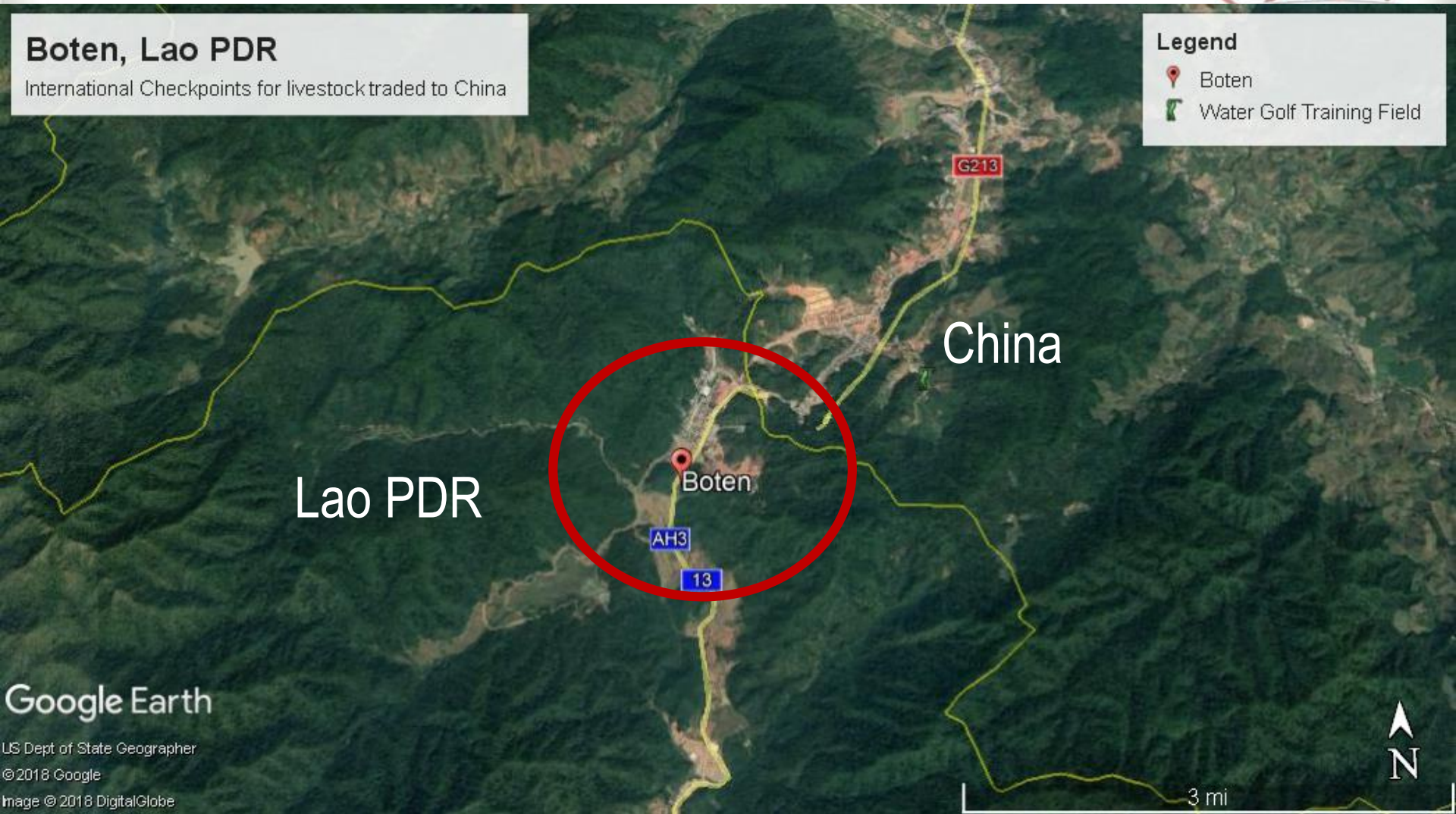


Boten, Lao PDR

International Checkpoints for livestock traded to China

Legend

-  Boten
-  Water Golf Training Field



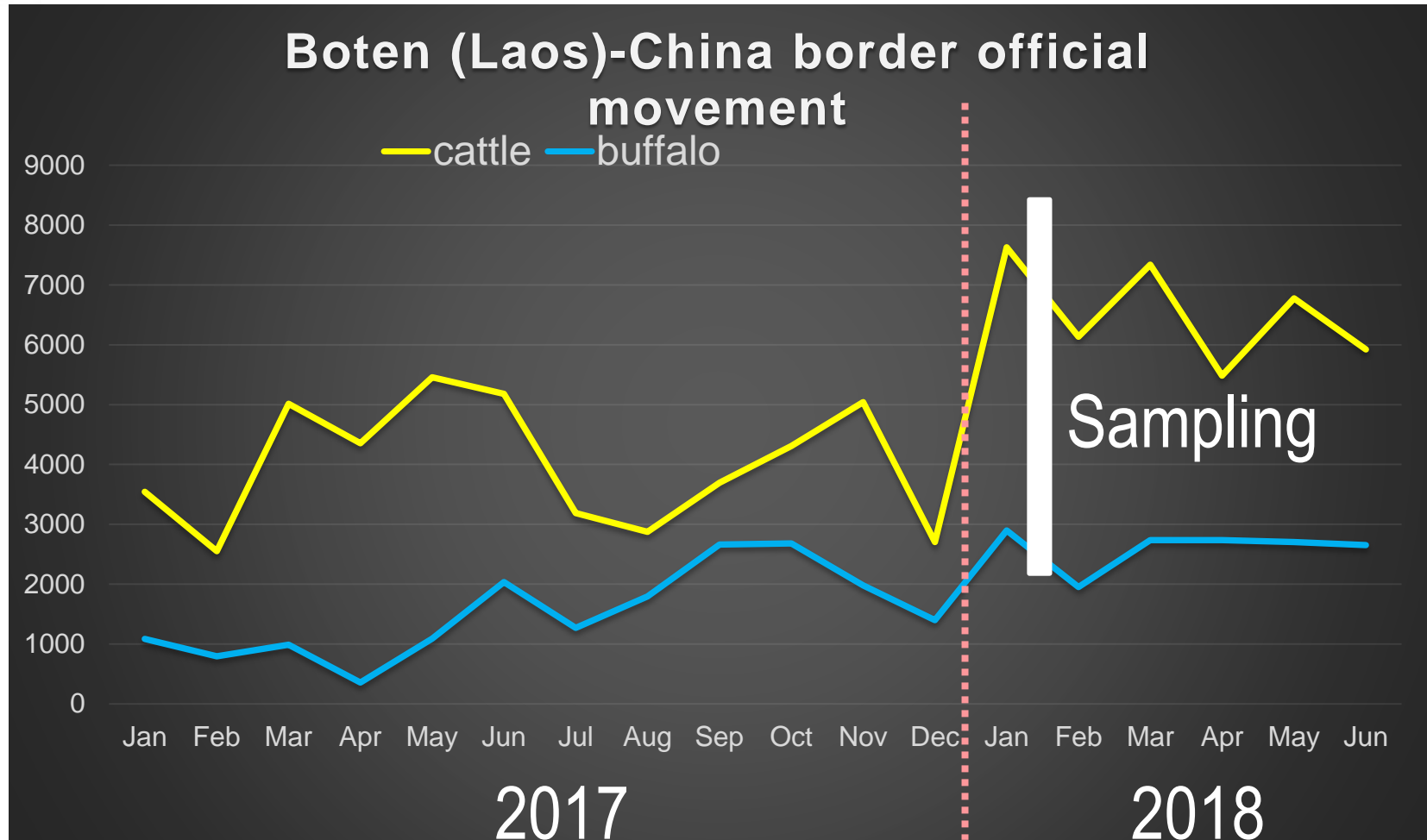
Google Earth

US Dept of State Geographer
©2018 Google
Image © 2018 DigitalGlobe



Cattle/Buffalo Movements into China

Boten surveillance study



Increased movements since Jan 2018



Outline



Training and Capacity Building

First part: Field training

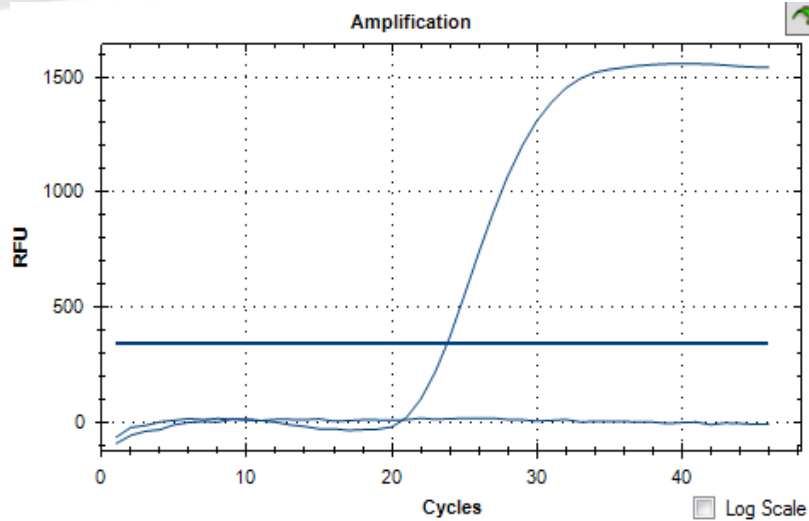




Second part: Laboratory training



Real-Time PCR



No wells designated as Sample Type standard.

FAM

Step Number: 4

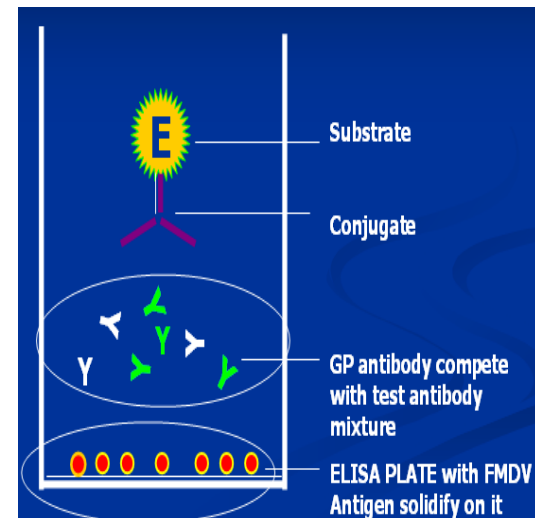
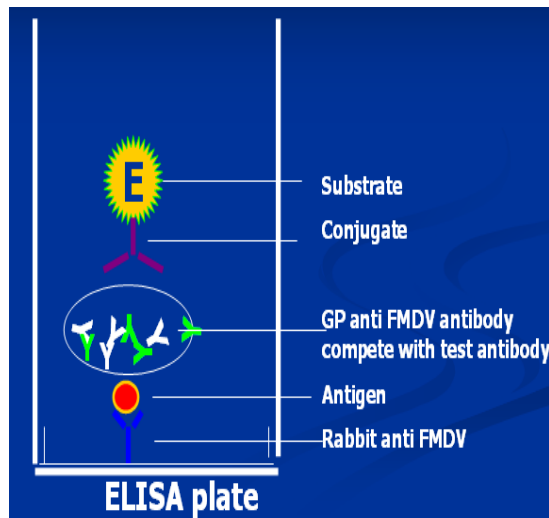
	1	2	3	4	5	6	7	8	9	10	11	12
A	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk
B	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk
C	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk
D	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk
E	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk
F	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk
G	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Neg
H	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Unk	Pos

Well	Fluor	Target	Content	Sample	Cq
G12	FAM		Neg Ctrl		N/A
H12	FAM		Pos Ctrl		23.83



Antibody detection using C-ELISA

- LPB is more sensitive than C-ELISA.
- C-ELISA is more easy to perform than LPB and can process large amounts of samples in a short time
- C-ELISA has similar accuracy as SPC ELISA.



SEACFMD ISSUES

Vaccination and PVM

- Availability and accessibility to quality vaccines
 - Vaccine potency
- Vaccination coverage to achieve herd immunity
- Challenges in implementation FAO/OIE guidelines on FMD PVM
- How to measure vaccination success in the field

Animal Movement and other Risks



- Actions to reduce the risks of cross-border FMDv spread
- Actions to implement the 'Joint Statement on Animal Movement Management in the Greater Mekong Sub-Region'?
- How to improve the capacity of the members to apply Risk Analysis in the prevention, control and eradication of FMD ?
- Prevent incursion of FMDv in OIE recognized FMD-free countries and zones



Surveillance and Diagnosis



- How to improve early detection, investigation, and response to FMD outbreaks?
- Actions to comply with OIE standards on disease surveillance
- Improve sample submission and diagnosis
- New techniques/technologies to improve early detection and diagnosis?
- Type of surveillance systems for FMD-free countries/zones to support risk mitigation measures



Coordination, Policy , Advocay



- How to engage governments of SEACFMD members to provide more logistics and financial support for FMD control ?
- Are existing policies and legislations enough to prevent, control and eradicate FMD ?
- How to utilize PVS missions/reports to engage governments to support FMD and other priority TADs control programmes ?



Thank you for your attention!



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Protecting animals, preserving our future