

Training programme on FMD diagnosis for Mongolia

under the OIE/Japan Trust Fund Project for Strengthening Laboratory Capacity

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Laboratory diagnosis of FMD

Detection of FMDV antigen and gene

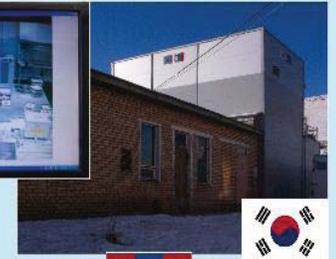
virus isolation

indirect sandwich ELISA

RT-PCR

real time RT-PCR

sequencing and analysis of the gene



Detection of antibody to FMDV

liquid phase blocking ELISA

neutralization test

NS ELISA (for distinction of the antibody
by infection and by vaccination)



Suitable diagnosis is combined from a generating situation.



Training subject

cell culture (IB-RS-2, BHK-21, ZZ-R 127)
culture solution preparation
freezing preservation
reconstruction
cell passage, etc.
virus culture (FMDV)
cell inoculation
infectious dose (PFU, TCID₅₀, etc.)
observation of CPE, etc.

Experimental infection of FMDV in cattle and goats
observation of symptoms
sample extraction
(saliva, swab, feces, sera, esophageal-pharyngeal fluid)

isolation by IB-RS-2 and ZZ-R 127 cells

neutralization test

RT-PCR and real time RT-PCR

VP1 sequencing
and analysis of the gene



Training schedule for 6 months



Training scenery



Training scenery



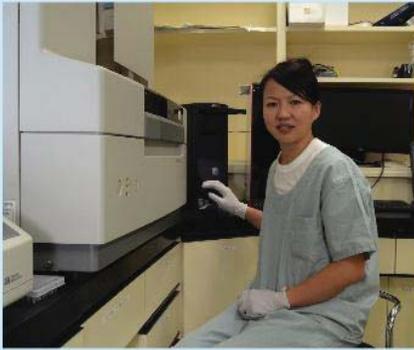
Training scenery



Training scenery



Training scenery



Training scenery



Outcome

All the training to the cell and virus culture technique, the virus isolation technique, the virus detection technique, the gene sequencing technique and interpretation of genetic analysis, which was being made into the purpose can be performed, and she is considered to have acquired.

Subject before long

It is necessary to evaluate whether the technique acquired at NIAH-Japan was demonstrated and has been transmitted at SCVL.

We also need to do follow-up according to a situation.



acknowledgement

Although such long-term training programme by OIE Asia-Pacific was the first, I think that it was very effective training in order to perform FMD diagnosis in East Asia and South East Asia

I am thankful to the persons concerned of OIE Asia-Pacific, Mongolian Government and Japanese Government for the ability of the training program to have been performed.





Thank you for your attention



Updates of SEACFMD Campaign

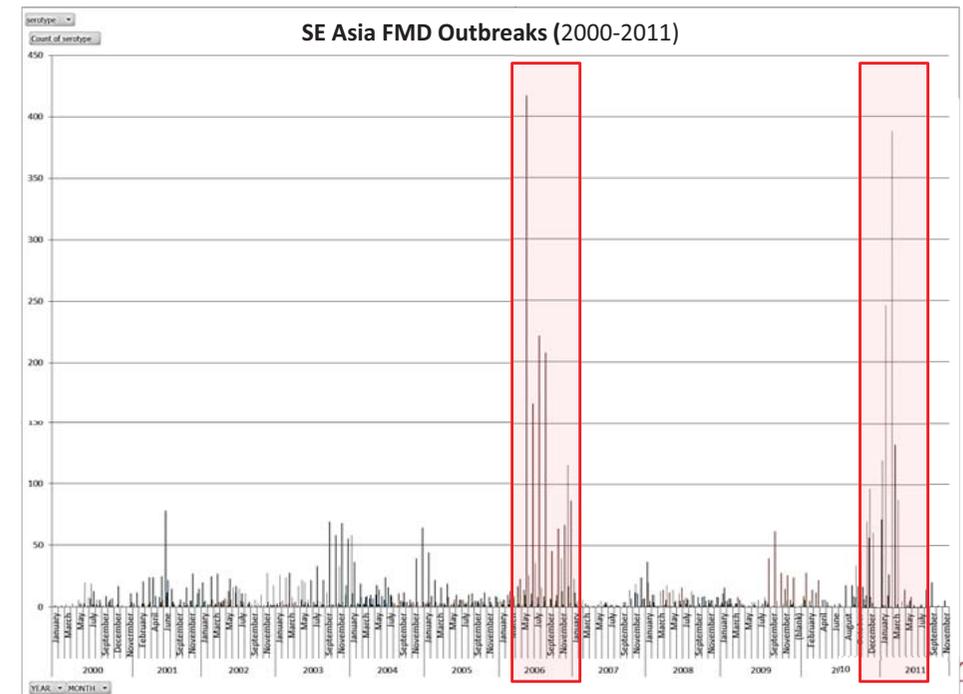
- FMD Status in South East Asia and China
- SEACFMD Campaign

Ronello C. Abila

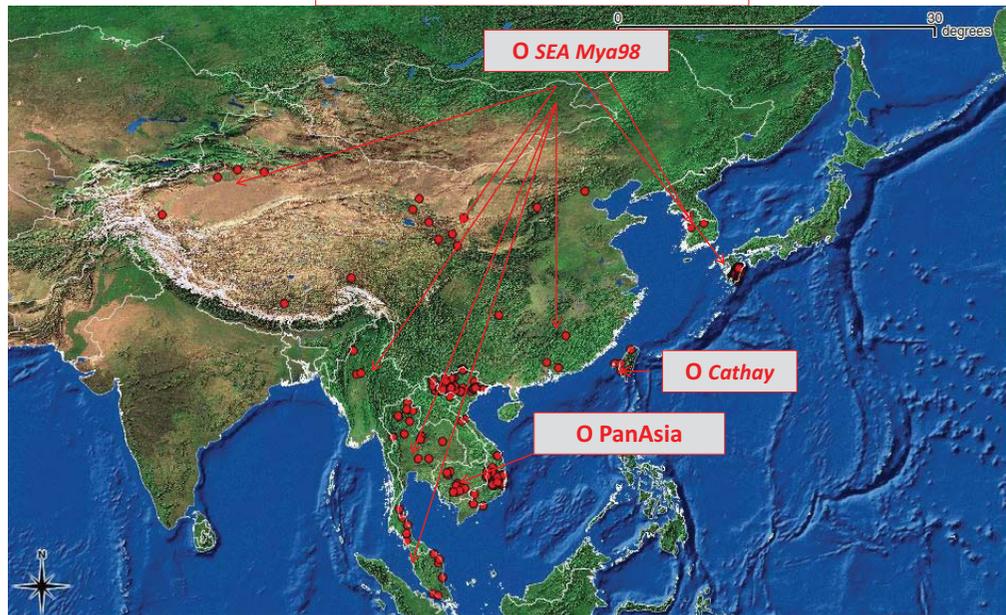
SEACFMD Regional Coordinator
OIE Sub-Regional Representative for SE Asia

FMD viruses in Pool 1

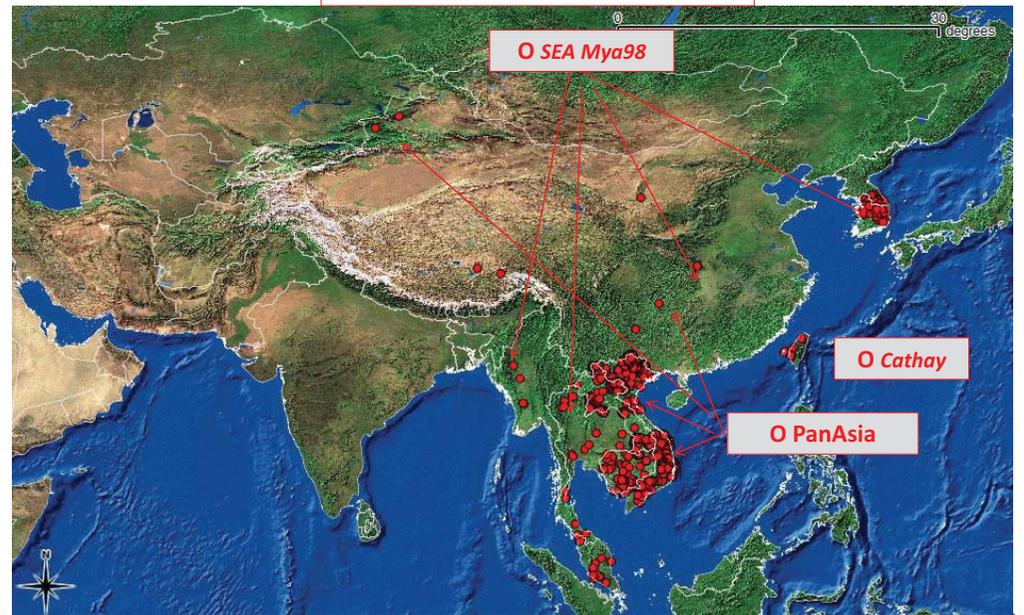
Serotype	Topotype	Remarks
O	South East Asia	Myanmar 98 and Cambodia 94; endemic in SE Asia; reported in China, Korea and Japan in 2010
	Pan Asia	detected SE Asia in late 1990s
	Cathay	1 st detected in Hong Kong in early 1990s
A	South East Asia	Indigenous in SE Asia; reported in China in 2009 and Korea in 2010
Asia 1	Asian	Last reported in Vietnam in 2007 and in China in 2009



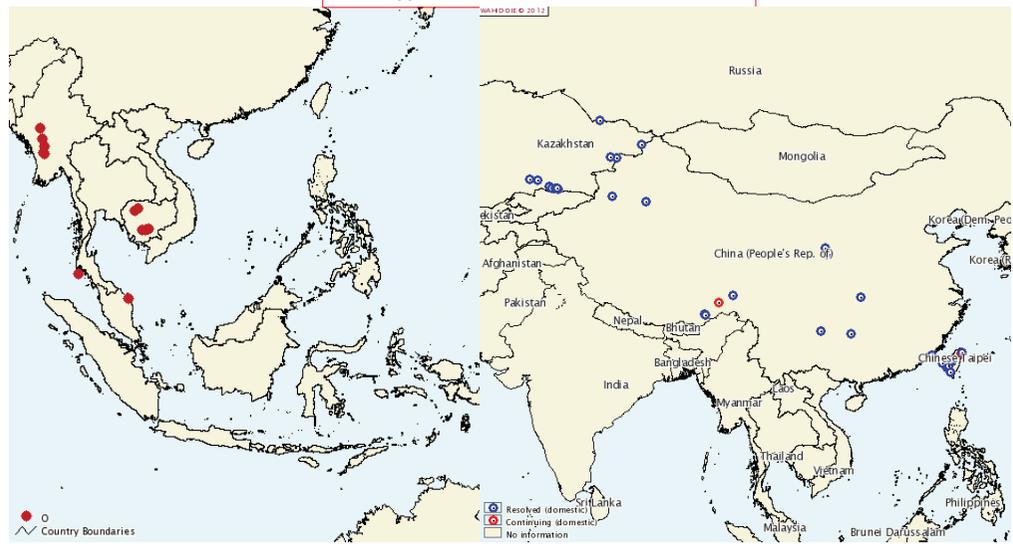
Serotype O outbreaks in 2010



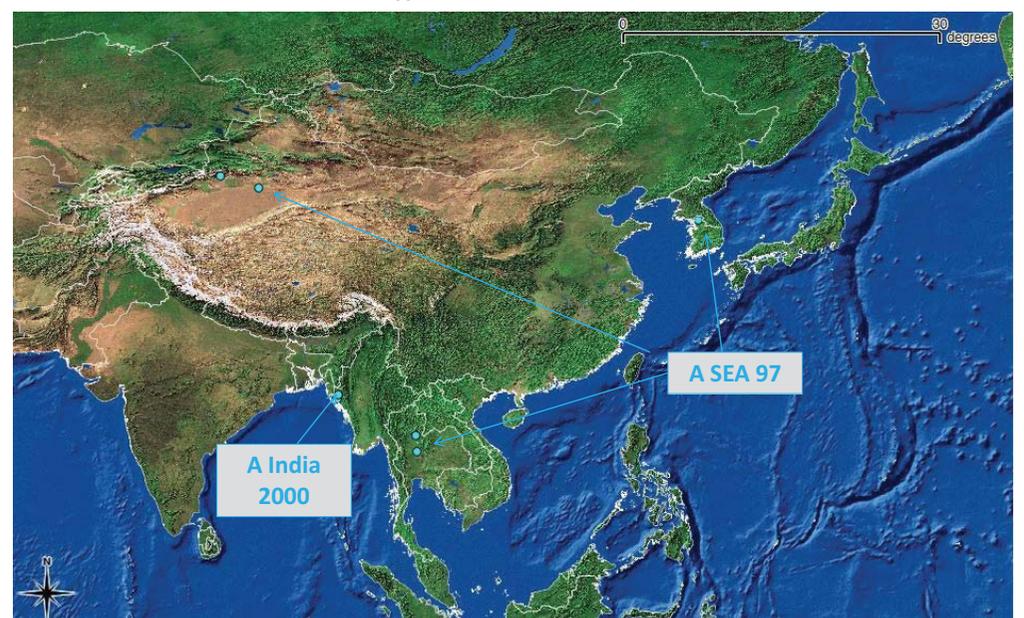
Serotype O outbreaks in 2011



Serotype O outbreaks in 2012



Serotype A outbreaks in 2010



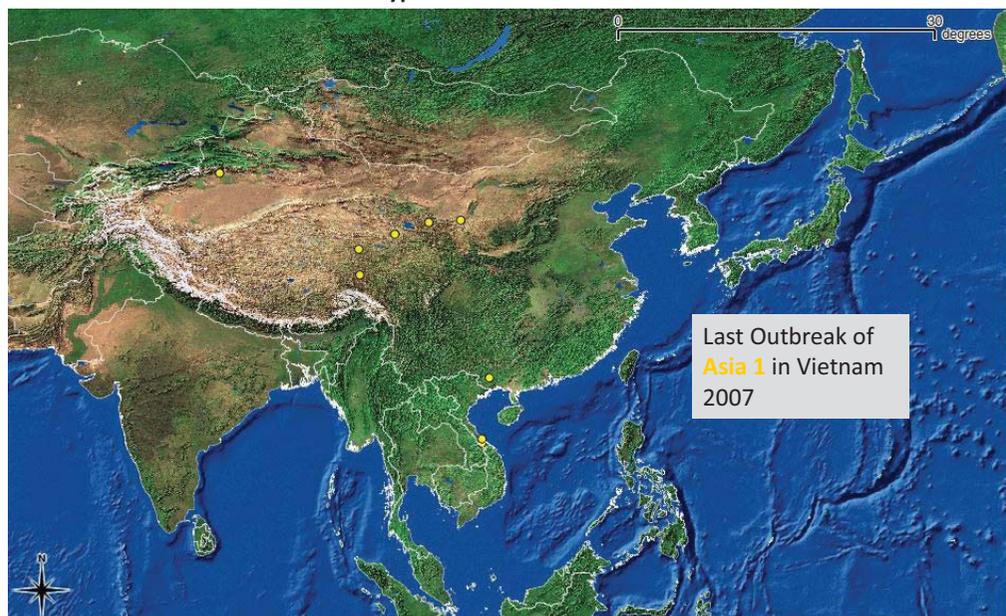
Serotype **A** outbreaks in 2011



Serotype **A** outbreaks in 2012



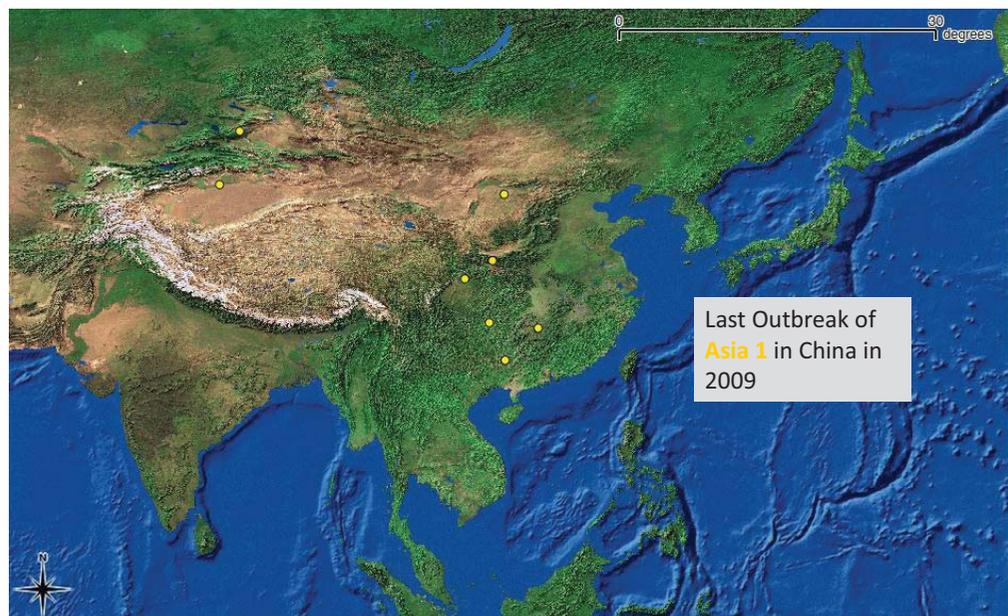
Serotype **Asia 1** outbreaks in 2007



Serotype **Asia 1** outbreaks in 2008



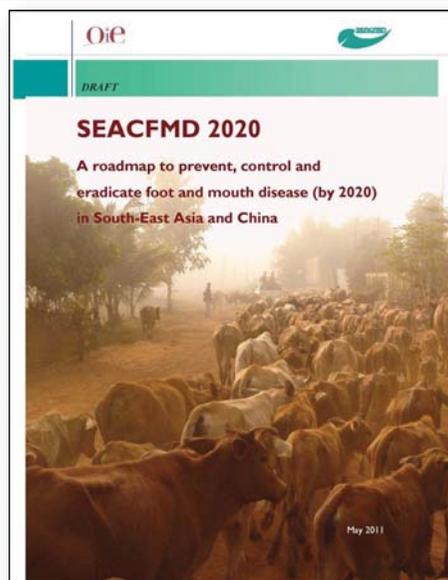
Serotype **Asia 1** outbreaks in 2009



SE-Asia and China FMD



SEACFMD 2020 Roadmap



Coordination

Advocacy

Technical



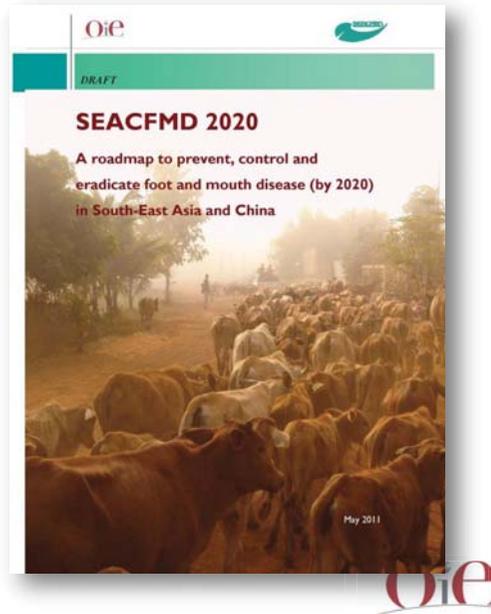
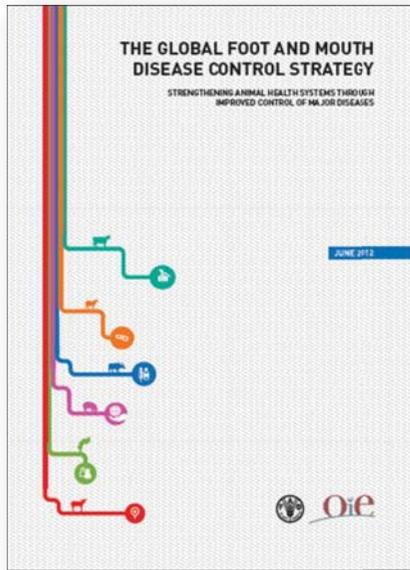
Coordination

- Consultative Meeting
 - Sub-Commission
 - National Coordinator
 - Working Groups
- Planning and Programme Management
 - Development of Regional and National Plans
- Resourcing
- Monitoring and Evaluation



Coordination

FMD Control Strategy



Coordination

FMD Global Strategy Components

1. Improving global FMD control
2. Strengthening Veterinary Services
3. Improving the prevention and control of other major diseases of livestock.

Coordination

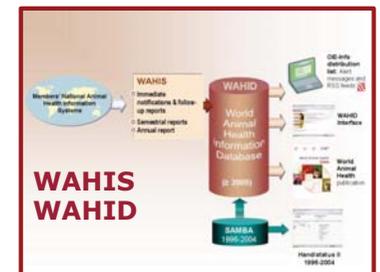
Tools to be used for implementing the Global FMD Control Strategy

- The FMD Progressive Control Pathway (PCP-FMD) and regional roadmaps
- OIE standards, recognition of disease status and endorsement of control programmes
- Diagnostic laboratories, reference laboratories/centres, regional and global networks
- Vaccines and vaccination
- National, regional and international surveillance; epidemiology skills and networks

Tools

OIE standards new article in the Terr. Code

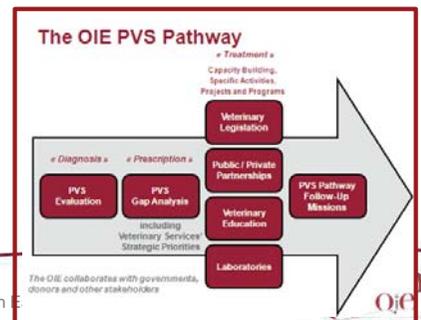
Surveillance systems



Laboratories



Vaccines



Coordination

PCP and SEACFMD 2020



3rd Strategy:
Maintenance and expansion of FMD free zones

2nd Strategy:
Progressive zoning

1st Strategy:
Reduction of FMD prevalence by targetting hotspots and critical points



Coordination

Revisions of National FMD Plans



Coordination

Resourcing



STANDZ – AusAID

- Stop Trans-boundary ANimal Diseases and Zoonoses
- Supports SEACFMD, STRIVES and One Health programmes



HPED – EU

- Highly Pathogenic and Emerging and re-emerging Diseases
- Vaccine bank, capacity building, vet governance



Japan TF FMD Project



HPED – EU

Korea FMD Project



Coordination

Small Grants facility



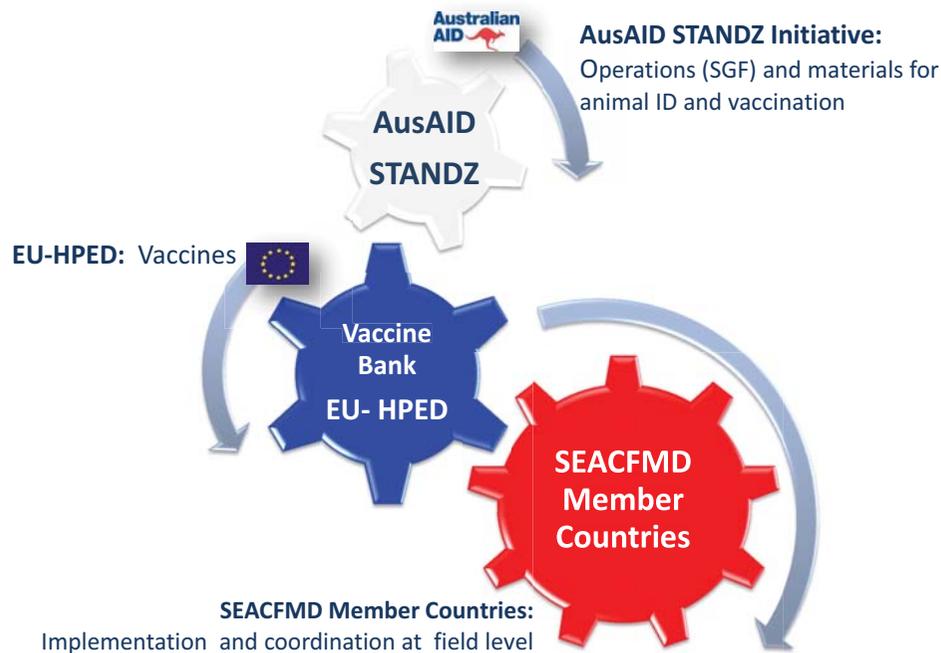
STANDZ/SGF/2011/01: “Safeguarding the Upper Mekong FMD Control Zone by means of targeted vaccination” (Lao PDR)

STANDZ/SGF/2012/01: “Epidemiological Studies of Foot-and-Mouth Disease in Hotspot Areas” (Vietnam)

STANDZ/SGF/2012/02: “Targeted FMD Vaccination Campaign in hotspots in Northern Lao PDR”

STANDZ/SGF/2012/03: “Targeted FMD Vaccination Campaign in Sagaing and Dawei Districts and Public Awareness Program in Muse Township” (Myanmar)





STANDZ – SGF: On-going Actions

FMD Vaccination

1. Lao PDR – Vaccination Campaign Upper Mekong > Dec 2011 – Aug 2012

- ID + double vaccination 10,000 Cattle/Buffalo
- > Budget : - operations: 34,000 USD (STANDZ-SGA)
- ear tag eqmt: 7,000 USD (STANDZ)
- vaccines: 20,000 USD (STANDZ)

61,000 USD



2. Lao PDR – Vaccination in Hotspots > Jun-Dec 2012

- ID + double vaccination 100,000 Cattle/Buffalo
- > Budget : - operations: 41,000 USD (STANDZ-SGA)
- ear tag eqmt: 90,000 USD (STANDZ)
- vaccines: 200,000 USD (HPED)

331,000 USD



3. Myanmar – Vaccination in Hotspots > May-Dec 2012

- ID + double vaccination 100,000 Cattle/Buffalo
- > Budget : - operations: 49,000 USD (STANDZ-SGA)
- ear tag eqmt: 100,000 USD (STANDZ)
- vaccines: 200,000 USD (HPED)

349,000 USD



Coordination Meetings /Workshops



Coordination Meetings /Workshops



- Proficiency Testing
- Vaccine monitoring and vaccine matching studies
- Research updates of members and partners
- Sample submission



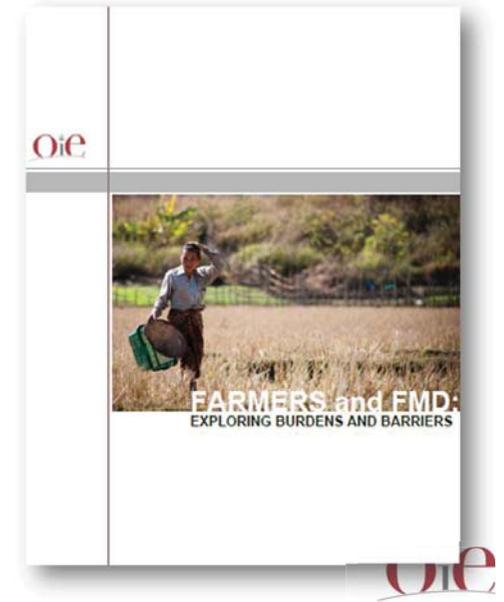
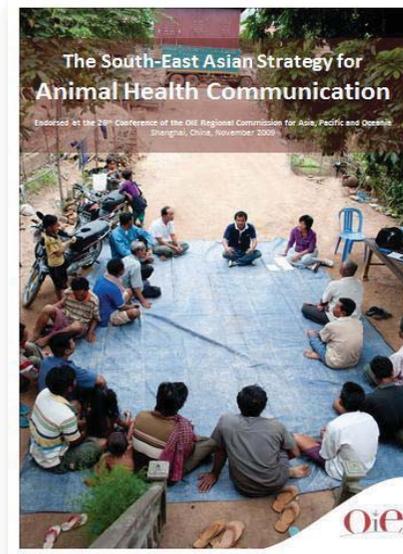
Advocacy

- Policy research
 - Socio-economic, KAP surveys, Gender
- Policy Influence
 - Policy briefs
 - Meeting with high level officials
- Communications and public awareness
- Stakeholder meetings
 - Farmers
 - Traders



Advocacy

Communication Strategy and Policy Papers



Advocacy

Public awareness



Advocacy

Farmer's meetings



Technical

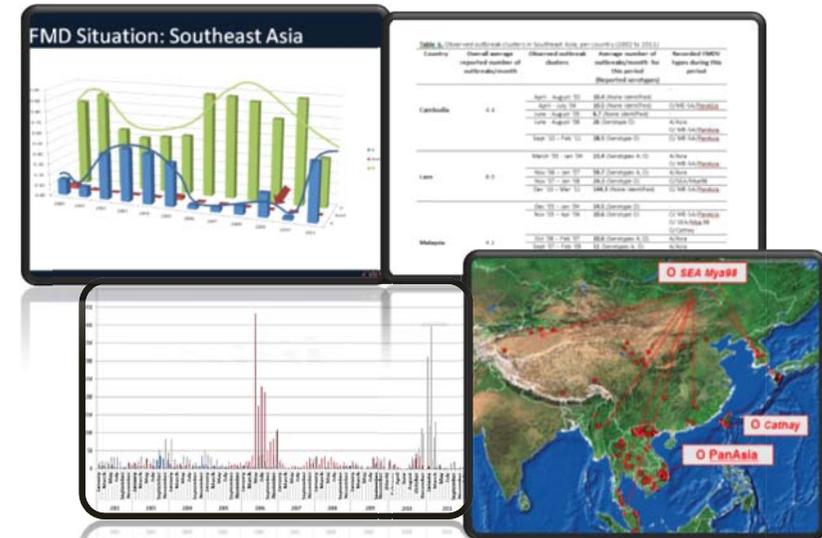
Finding hotspots

- EpiNet and LabNet support
- Surveillance
 - Monitoring of circulating serotypes
 - Finding hotspots (possible sources of infections)
- Animal Movement
 - Animal movement pathways
 - Finding critical points (amplification points of FMD viruses)
- Vaccination



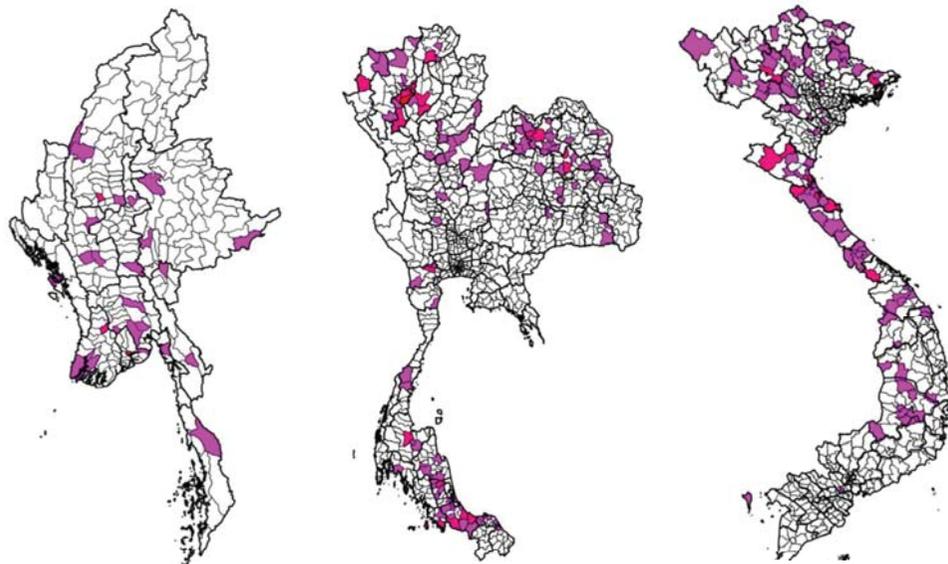
Technical

Analysis of Disease data



Technical

Finding hotspots

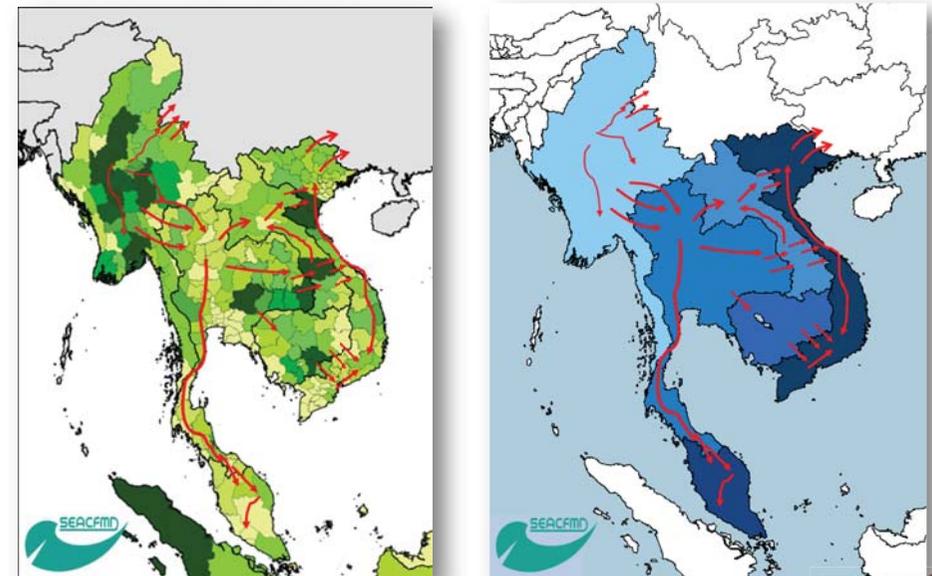


Districts with FMD outbreaks 2007-2009



Technical

Monitoring of livestock movement



Technical

Pilot FMD Control



Preparatory activities

Implementation

Monitoring and Evaluation



Technical

Pilot FMD Control



Refresher training



Planning meeting



Vaccination, animal identification and serum collection



Serological analysis



Public awareness



Monitoring and reporting



Technical

Papers and concept development

FMD in Southeast Asia: Current Situation and Control Strategies
 Rosalinda A. Abala, Nara Venkatesh, Sathya Narayanan, and Paul Van Duyn
 OIE Scientific Working Group on FMD in Southeast Asia (SWG-FMDSEA)

Summary
 FMD is a zoonotic disease caused by the FMD virus (FMDV), which is highly contagious and causes significant economic losses in livestock production. In Southeast Asia, FMD is endemic, with annual outbreaks causing significant economic losses. This paper reviews the current situation of FMD in Southeast Asia and discusses control strategies.

Introduction
 FMD is a zoonotic disease caused by the FMD virus (FMDV), which is highly contagious and causes significant economic losses in livestock production. In Southeast Asia, FMD is endemic, with annual outbreaks causing significant economic losses. This paper reviews the current situation of FMD in Southeast Asia and discusses control strategies.

Objectives
 The objectives of this paper are to: 1) Review the current situation of FMD in Southeast Asia. 2) Discuss control strategies for FMD in Southeast Asia. 3) Identify the challenges and opportunities for FMD control in Southeast Asia.

Activities
 The activities of this paper are: 1) Review the current situation of FMD in Southeast Asia. 2) Discuss control strategies for FMD in Southeast Asia. 3) Identify the challenges and opportunities for FMD control in Southeast Asia.

Results
 The results of this paper are: 1) FMD is a zoonotic disease caused by the FMD virus (FMDV), which is highly contagious and causes significant economic losses in livestock production. 2) FMD is endemic in Southeast Asia, with annual outbreaks causing significant economic losses. 3) Control strategies for FMD in Southeast Asia include vaccination, surveillance, and movement control.

Conclusion
 FMD is a zoonotic disease caused by the FMD virus (FMDV), which is highly contagious and causes significant economic losses in livestock production. In Southeast Asia, FMD is endemic, with annual outbreaks causing significant economic losses. This paper reviews the current situation of FMD in Southeast Asia and discusses control strategies.

Table 1: FMD in Southeast Asia: Current Situation and Control Strategies

Phase	Description	Objectives	Activities	Resources
Phase I	Preparatory activities	1. Review the current situation of FMD in Southeast Asia. 2. Discuss control strategies for FMD in Southeast Asia. 3. Identify the challenges and opportunities for FMD control in Southeast Asia.	1. Review the current situation of FMD in Southeast Asia. 2. Discuss control strategies for FMD in Southeast Asia. 3. Identify the challenges and opportunities for FMD control in Southeast Asia.	1. Technical expertise. 2. Financial resources. 3. Human resources. 4. Material resources.
Phase II	Implementation	1. Review the current situation of FMD in Southeast Asia. 2. Discuss control strategies for FMD in Southeast Asia. 3. Identify the challenges and opportunities for FMD control in Southeast Asia.	1. Review the current situation of FMD in Southeast Asia. 2. Discuss control strategies for FMD in Southeast Asia. 3. Identify the challenges and opportunities for FMD control in Southeast Asia.	1. Technical expertise. 2. Financial resources. 3. Human resources. 4. Material resources.
Phase III	Monitoring and Evaluation	1. Review the current situation of FMD in Southeast Asia. 2. Discuss control strategies for FMD in Southeast Asia. 3. Identify the challenges and opportunities for FMD control in Southeast Asia.	1. Review the current situation of FMD in Southeast Asia. 2. Discuss control strategies for FMD in Southeast Asia. 3. Identify the challenges and opportunities for FMD control in Southeast Asia.	1. Technical expertise. 2. Financial resources. 3. Human resources. 4. Material resources.



Technical

Pilot vaccination



Technical

Pilot vaccination



Summary / Conclusion

- Application of the Global Strategy and the SEACFMD 2020 roadmap in updating National Plans
- Focus in controlling FMD at the source
 - Epi-analysis in identifying hotspots
 - Network analysis to identify critical points
- Targeted Vaccination
- Socio-economic studies
- Stakeholder engagement



Thank You





FAO's Animal Health Activities in the Asia-Pacific Region

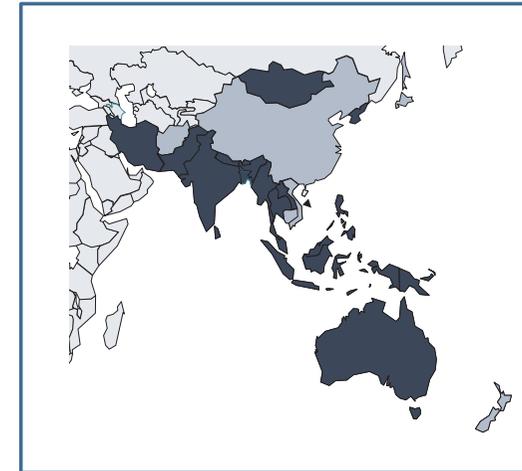
(FAO Regional Office for Asia and the Pacific (RAP))

"for a world without hunger"
www.fao.org

Countries under RAP's Operational Responsibility

RAP Countries, APHCA Members

- Australia
- Bangladesh
- Bhutan
- India
- Indonesia
- Iran
- DPR Korea
- Lao PDR
- Malaysia
- Mongolia
- Myanmar
- Nepal
- Pakistan
- Papua New Guinea
- Philippines
- Samoa
- Sri Lanka
- Thailand

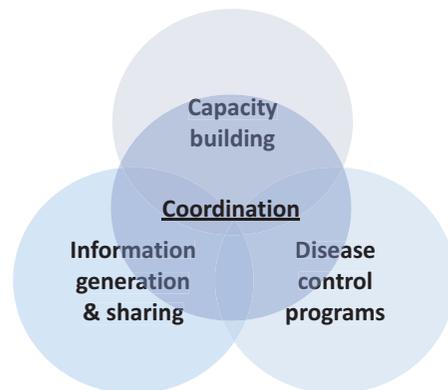


RAP countries, Non-APHCA

- Afghanistan
- Cambodia
- China
- Fiji
- Japan
- Rep. Korea
- Maldives
- Mauritius
- New Zealand
- Solomon Islands
- Timor-Leste
- Vietnam
- South Pacific Island countries (11)

Functional and Thematic Areas

Functions

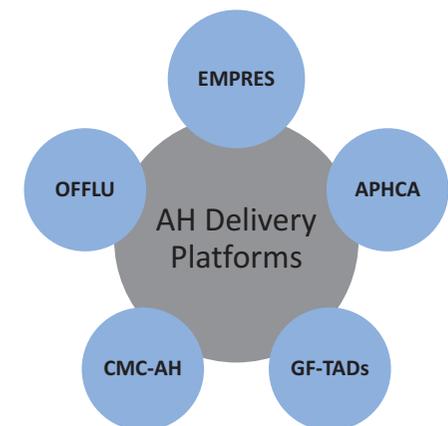


Themes

- Cross-cutting
 - Laboratory capacity
 - Field epidemiology
 - One Health
 - Etc.
- Disease-specific
 - FMD
 - HPAI
 - PRRS
 - Etc.

Coordination

- (Sub-) Regional GF-TADs mechanism
- Establishment of ASEAN and SAARC coordination mechanisms thru the EU-HPED project
- Regional One Health coordination
- Support to development of strategies for PRRS, CSF, FMD, Rabies control





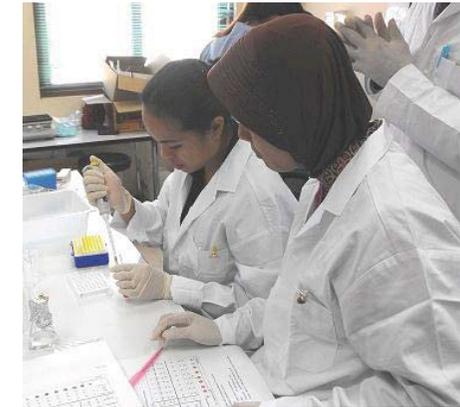
SAARC RSU Team



ASEAN RSU Team

Capacity Building

- FAO-OIE-WHO collaboration under Global and Regional Laboratory Networking Strategy
 - Laboratory capacity assessments
 - Proficiency testing
 - Training
 - Biosafety assessments



Development of capacity to diagnose swine diseases (field and laboratory surveillance)

Outbreak investigation and management studies



- Supported in-country outbreak investigation of AVET trainees (Lao PDR, Myanmar, Vietnam)

Development of capacity to diagnose swine diseases (field and laboratory surveillance)



- Regional laboratory training workshop for laboratory staff from the participating countries (Cambodia, Lao PDR, Malaysia, Myanmar, Thailand, Philippines, Vietnam)



Development of a network of laboratories on swine diseases

In-country trainings



Information Generation & Sharing

Surveillance / Monitoring

- Cost effective surveillance in swine on selected commercial farms in Cambodia and Lao PDR

Assessments / Research

- Economic impact of TADs and EIDs and control costs
- Livestock value chain and cross-border trade studies

Information Generation & Sharing

Information Exchange

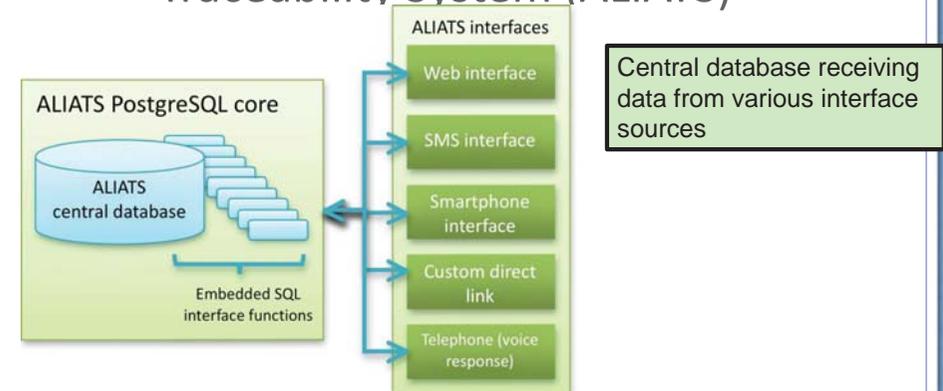
- Conference on Scientific & Technical Challenges in FMD control
- Disease information sharing among network of Epi-consortium

Dissemination & Advocacy

- Reference materials
 - Manuals & guides
 - Disease status updates
- Advocacy materials
 - Videos
 - Brochures

Field-Level Disease Control Support

Asian Livestock Identification and Traceability System (ALIATS)



Field-Level Disease Control Support

•GCP/RAS/244/ITA Sub-Regional Environmental Animal Health Management Initiative for enhanced smallholder production in South-East Asia

•Promotes a regional interdisciplinary, holistic approach to animal health management for enhanced, environmentally-friendly forms of livestock production



Cambodia, Laos, Myanmar, Philippines and Viet Nam

•Capacity building project: data management and analysis and doing something about it

Field-Level Disease Control Support

- Control of PRRS, CSF, FMD in the Mekong countries
 - PRRS control strategies in Lao PDR, Myanmar
 - Technical Assistance to Vietnam



FMD Control

- Development of a training module for FMD free countries or free zones within countries
 - Draft design already pre-tested
 - Modules: disease recognition, FMD maintenance, surveillance, outbreak investigation, sample submission, what to do if FMD is confirmed
 - Packaging: manual and CD
 - Teaching methodology: theory through conduct of trainings, simulation



GCP/RAS/283/ROK FMD Control in Southeast Asia through Application of the Progressive Control Pathway

Outcome

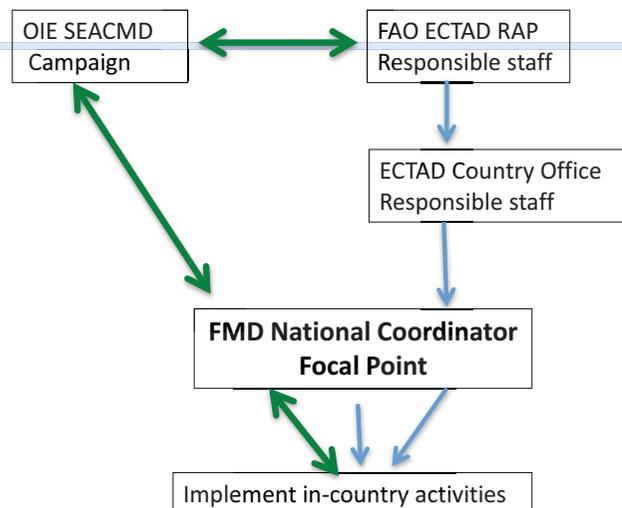
Participating countries have achieved the status of progressive control pathway (PCP) stage 2 for FMD

GCP/RAS/283/ROK FMD Control in Southeast Asia through Application of the Progressive Control Pathway

Outputs and Activities

- Output 1: Application of PCP-FMD in participating countries coordinated at national and regional levels
- Output 2: Improved understanding of animal movement patterns, production and market chains of FMD susceptible species as well as socio-economic impacts
- Output 3: Improved understanding of FMD epidemiology
- Output 4: Strengthened enabling environment for FMD control activities
- Output 5: Risk-based FMD control plan developed and implemented
- Output 6: Strengthened emergency preparedness for FMD and improved FMD outbreak containment

Implementation Arrangements



FMD National Consultation Workshops

- Lao PDR : 7-8 August 2012
- Vietnam: 20-21 August 2012
- Cambodia: 20-21 September 2012

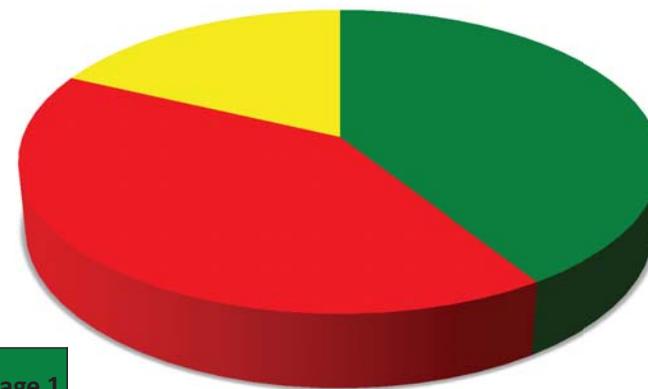
Next step:

- Meeting with OIE SRR to discuss work plans

LAO PDR FMD Consultation Workshop



Lao PDR PCP Assessment



Yes	41% Stage 1
No	41
NA	18

GAPS (in terms of plans and strategies)

- Mapping all past and existing FMD Control initiatives in Lao PDR
- Plan to Study Epidemiology and Socioeconomics
 - Coverage
 - Resources to undertake it
 - Analysis from surveillance data, movement, stakeholder analysis, trader practices
 - FMD advocacy
- National Plan for FMD Control

GAPS (socio-economics)

- Animal movement review
- Role of slaughterhouses in animal and animal products movement
- Critical pathway for disease spread
- Stakeholders role and responsibility, participation in control activities
- Description of production systems
- Documentation of direct losses due to FMD
- Government monitoring of activities

GAPS (technical)

- Surveillance
- Outbreak investigation and management
- Disease reporting
- Incidental farmer reporting
- Poor quality samples for testing
- Supply of reagents
- Government Counterpart funds for field work

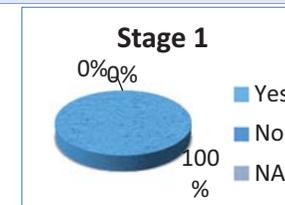
Goal and Activities for the next 12 months

- Goals:
 - Year 1: PCP Stage 1 assessment status reaches 60%
 - Year 2: PCP Stage 1 assessment status reaches 80%
 - Year 3: PCP Stage 1 assessment status reaches 100% and achieves partial Stage 2 status

Vietnam FMD Consultation Workshop

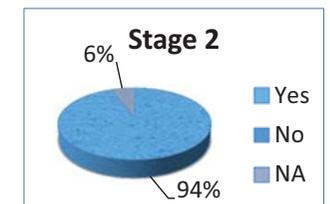


Vietnam PCP Stage Validation- Self Assessment



Stage 1:

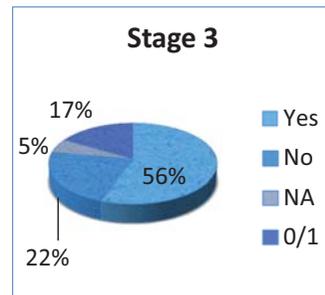
- VN meets all minimal requirements
- Need to have all supporting documents available



Stage 2:

- VN meets all minimal requirements
- “Risks” may be reviewed taking into consideration “supply chain of FMD susceptible species”
- Certain activities require to be “strengthened” to ensure effectiveness of FMD control

Vietnam PCP Stage Validation- Self Assessment



Stage 3:

- VN partially meets minimal requirements (X%)
- Gaps and needs were identified

Gaps and Needs

- Disease surveillance
- Outbreak investigation
- Disease information system
- Improve understanding of risks (supply chains)
- Review of impacts (disease, socio-economics)
- Review of control program
- Engagement of stakeholders
- Strengthening and implementation of legal framework

Cambodia PCP Assessment

- Stage 1
- Gaps and Needs:
 - FMD Control Strategy
 - Identification of hotspots
 - Outbreak investigation and analysis of information and data
 - Capacity to detect disease
 - Information sharing
 - Advocacy for stakeholders and policy makers
 - Economic impacts
 - Engagement of the private sector

TCP/RAS/3306 Cross border trade and TAD risk reduction (with a special focus on FMD)



Project Description

- **Collaborative Control of Foot-and-Mouth Disease between Mongolia, China and Russia**
- Aimed at establishing active and functional methods of collaboration between Mongolia, China and Russia with agreement on specific activities that were aligned with the principals of FAO's progressive control pathway for the control of FMD (PCP-FMD).
- It was acknowledged that any forum created would be distinct from other collaborative initiatives however, synergies would exist with other programs.

Objectives

1. Establishment of a working group for the control and prevention of TADs between China and Mongolia
2. Development of mechanisms for regular information sharing
3. Harmonize protocol for disease control with a particular focus on FMD
4. Regional and national capacity gaps regarding TAD control identified and strengthened

Activities

- Prevalence studies of FMD in livestock within bordering counties in Mongolia, China, and Russia
- FMD contingency plan review
- Simulation exercises on investigation and early response scenarios
- Market chain analysis within border counties in Mongolia, China, and Russia
- Set-up an observational network for cross border movements of gazelle
- Sampling of wildlife (gazelle) to determine if FMDV is present outside of outbreak periods
- Risk based surveillance (Epidemiological analysis)

Progress

- **Activity 1:** A mission to Mongolia was carried out to explore future cooperation opportunities.
- **Activity 2 & 3:** Two missions to Inner Mongolia, China: the first mission (12-15 August 2012) focused on coordination with local partners **to understand animal movement and assist them to implement surveillance at the border areas**; the second mission involved **surveillance training for county-level veterinarians** and carried out from 17-19 September 2012;
- **Activities 4:** Both China and Mongolia agreed that some key elements of the action plan will be implemented before the 3rd Meeting. MoFALI agreed to conduct Surveillance and Monitoring in Mongolia. Each country has now made good progress and is willing to share the results at the next meeting.

Collaboration Platform

- The Mongolian CVO has been providing leadership in progressing the collaboration between China, Mongolia and Russia.
- After a meeting of the three CVOs in Paris in May, the Russian CVO has offered to host the next meeting and that is now going to be held in Vladimir (laboratory near Moscow) in Russia.
- Obtained commitment and financial support from the Mongolian, Russian and Chinese Governments, as well as interested donors and other projects.

Objectives of the Third Meeting

- Update on progress since the 2nd Meeting in April 2012
- Report and share information from surveillance and value chain activities
- Update the action plan for the next year
- Share information about FMD and other TADs
- Develop a plan for an ongoing sub-regional collaboration that can be put to donors for funding this or an expanded initiative in the longer term.

Thank you very much..



On-Going JICA Activities on Animal Health

Technical Cooperation Project

1. **Indonesia**
Project for Capacity Development of Animal Health Laboratory, Disease Investigation Center (DIC) Subang, Indonesia
Project duration: Four years, from July 2011~July 2015
2. **Uganda**
Project for Technical Assistance to Improve the National Diagnostic Capacity for Animal Disease Control
Project duration: Three years, from June 2010 to June 2013
Cooperating Agencies:
College of Veterinary Medicine, Animal Resources and Biosecurity, Makerere University and National Animal Disease Diagnostic & Epidemiology Laboratory, MAAIF

Technical Cooperation Project of Science and Technology Research Partnership for Sustainable Development (SATREPS) Joint Program of JICA and JST (Japan Science Technology Agency)

1. **Establishment of Rapid Diagnostic Tools for Tuberculosis and Trypanosomiasis and Screening of Candidate Compounds for Trypanosomiasis 2008~2013**
 - Research Center for Zoonosis Control, Hokkaido University
 - University Teaching Hospital and School of Veterinary Medicine, University of Zambia
2. **Research on Zoonotic Virus Infection in Africa 2012~2017**
 - Research Center for Zoonosis Control, Hokkaido University
 - School of Veterinary Medicine, University of Zambia

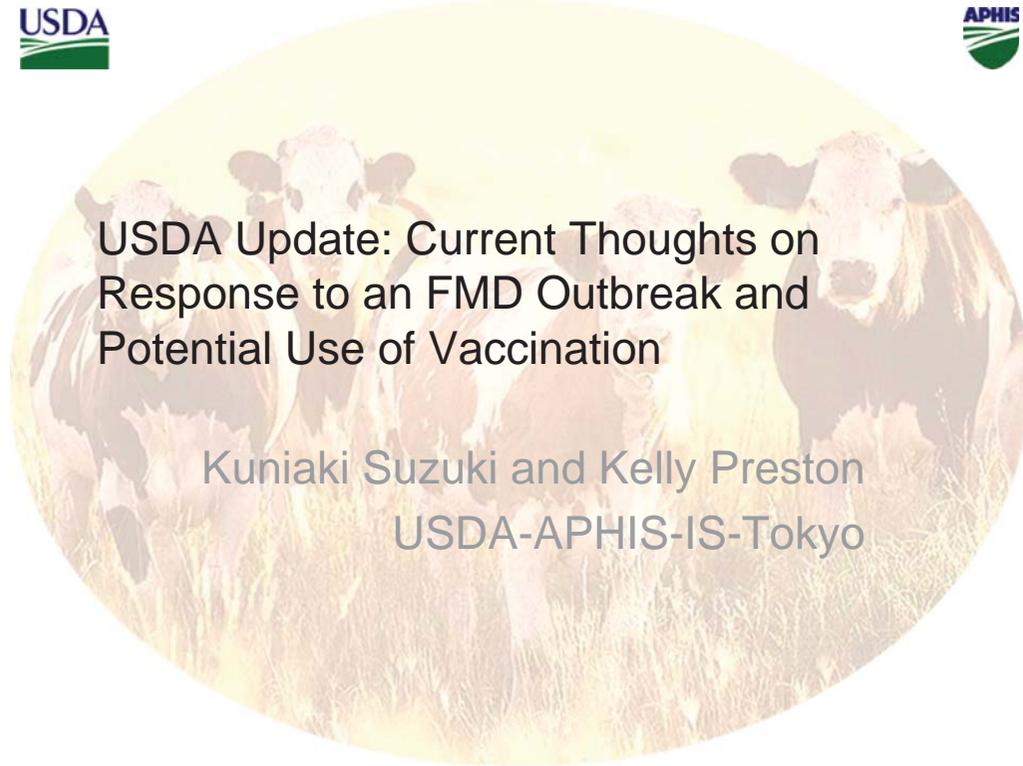
Group Training Course In Japan, 2012

1. **Zoonosis Control 2010~2012**
Implementation: Zoonosis Research Center, Hokkaido University
Course duration: One month
2. **Veterinary Technology for Farm Animals 2011~2013**
Implementation: Hokkaido Veterinary Medical Association
Course duration: Three Months
3. **Poultry Production, Management and Disease Prevention 2011~2013**
Implementation: National Livestock Breeding Center
Course duration: Three months
4. **Research on Veterinary Technology 2012~2014**
Implementation: National Institute for Animal Health
Course duration: Seven months
5. **Hygiene and Quality Management for Animal Source Foods 2012~2014**
Implementation: Obihiro University of Agriculture and Veterinary Medicine
Course duration: Three months
6. **Advanced Training course on Foot and Mouth Disease 2012~2014**
Implementation: University of Miyazaki
Course duration: One month, 3rd Sept. 2012~7th Oct. 2012
Participants from Cambodia, Myanmar, Thailand Uruguay and Vietnam in 2012

Planned new technical cooperation Project

1. **Project for animal production and health improvement through promotion of veterinary higher education and training in Mongolia (tentative title)**

Cooperating Agency (tentative) :
 - School of Veterinary Medicine and Biotechnology, Mongolian State University of Agriculture and
 - National Agricultural Extension Center, Ministry of Food Agriculture and light industry
2. **JICA short term adviser on animal health and livestock development for LBVD, Myanmar**



USDA Update: Current Thoughts on Response to an FMD Outbreak and Potential Use of Vaccination

Kuniaki Suzuki and Kelly Preston
USDA-APHIS-IS-Tokyo

Thoughts on Lessons Learned from Past Foreign Animal Disease Outbreaks

- Unified State-Federal-Tribal-industry planning and response needs to respect local knowledge
- Unified command needs to set clearly defined and obtainable goals
- Planning and response efforts need to employ science-based and risk-management approaches that protect public health and animal health and that stabilize animal agriculture, the food supply, and the economy

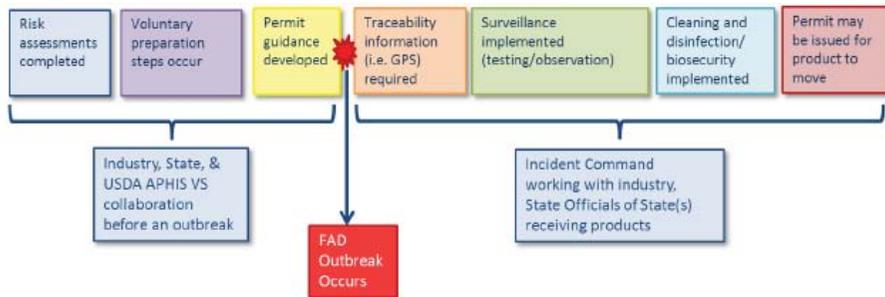
Thoughts on Recent USDA's FAD Preparedness and Response Plan Documents and Materials



Continuity of Business (COB)



How COB Works



Dairy Industry Manual

Purpose
 This industry manual provides a broad overview of U.S. dairy production methods and the procedures that may be established in the event of a cattle-susceptible, highly contagious foreign animal disease (FAD) outbreak. A highly contagious FAD outbreak could severely impact industries with susceptible livestock as well as allied industries and service providers. A quick, effective, and well-coordinated response can minimize harm to the dairy industry. Wide dissemination of this information is encouraged to establish open communication between regulators and producers with the goal of reducing the probability that animals or their caretakers become infected with a highly contagious FAD.

Intent
 Local, state, and national level officials involved in developing policy and/or managing a highly contagious FAD outbreak should read this manual to understand the normal business operations of the dairy industry and appreciate the inherent high risk disease transmission behaviors in order to effectively aid in disease containment or eradication. Veterinarians and animal health technicians who are members of the USDA-APHIS National Animal Health Emergency Response Corps (NAHERC) or their state or county veterinary response teams carrying out disease control efforts on dairy operations should familiarize themselves with this manual. Livestock producers and any support personnel interacting with dairy operations need to be aware of the procedures as described here that may be implemented in a highly contagious FAD event and the biosecurity procedures they would be expected to follow to reduce the chance of becoming infected.



Scope
 This manual is divided into two parts plus acronyms, glossary, and appendices:
 - Part I describes normal activities on U.S. dairy operations reviewing life stages and animal husbandry, facility types, and animal and product movement.
 - Part II describes the response to prevent or mitigate the spread of a highly contagious foreign animal disease, such as foot-and-mouth disease (FMD) or Rift Valley fever (RVF) including designated zones and areas, providing animal care and options for product handling.
 - Acronyms and glossary explain the terms used in the dairy industry and in emergency response.
 - Disease specific biosecurity measures are found in the appendices:
 Foot-and-mouth disease prevention practices, Rift Valley fever prevention practices

Learning Objectives
 Upon reviewing this manual, readers will be able to:
 1. Recognize the various types of housing used for dairy calves, growing heifers and adult cattle;
 2. Explain the animal care needs of dairy calves, heifers and adult cattle;
 3. Illustrate FAD response zones and areas used in quarantine and movement control efforts and explain classifications of premises in a response;
 4. Implement biosecurity measures and surveillance activities on a dairy farm to prevent highly contagious foreign animal disease entry and measure its presence/absence;
 5. Monitor the handling of milk product (treatment, disposal, transportation) during an animal health event;
 6. Communicate with supervisory personnel and/or the regulatory officials regarding dairy farm status (animal needs, biosecurity measures in place, test results, tracebacks/traceouts, product movement); and
 7. Determine biosecurity deficiencies that increase a premises' probability of becoming infected or transmitting the highly contagious FAD.

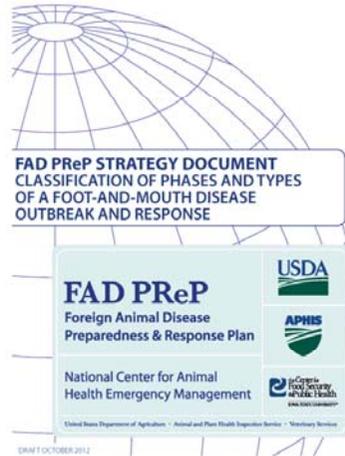
USDA Thoughts on Preparing for an FMD Outbreak

- Response activities are complex
- Requires significant planning and preparation
- Plans must be flexible and dynamic
- Requires multi-state and stakeholder coordination

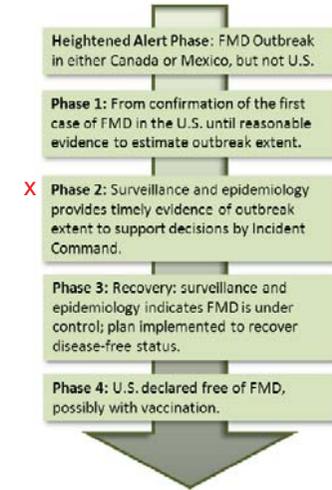
FMD Response Goals

- Detect, control, and contain FMD
- Eradicate FMD using strategies that stabilize animal agriculture, the food supply, the economy, and protect public health
- Provide science and risk-based approaches to facilitate COB for non-infected animals and non-contaminated animal products

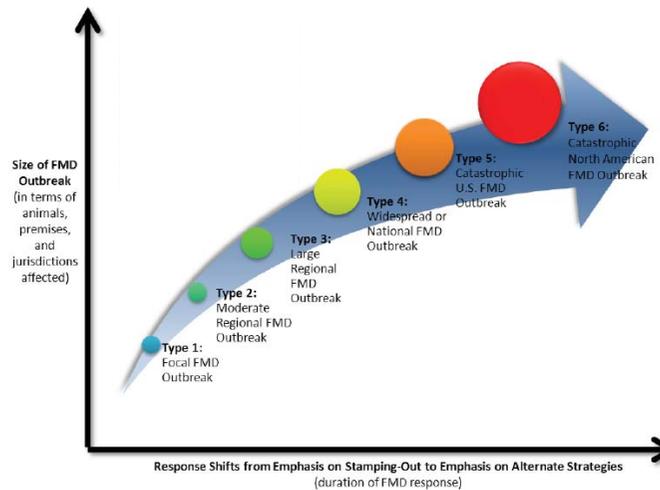
Most Recent Work on FMD PReP



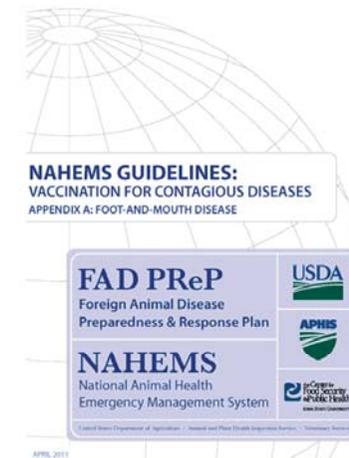
Phases of FMD Response



Types of FMD Outbreaks



Potential Use of FMD Vaccination



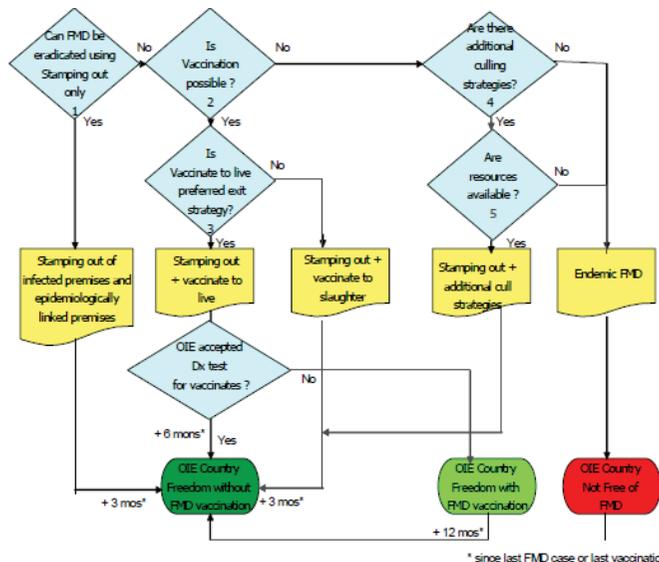
Complexity of Vaccination

6. FMD Vaccines	17. Modeling Studies and Vaccination
7. Vaccine Matching, Potency and Safety	18. Movement Restrictions and Vaccination
8. Vaccine Withdrawal Times in Milk and Meat	19. Species to Vaccinate
9. Vaccines and DIVA Tests Available in the U.S.	20. Vaccine Selection
10. Effects of Vaccination on Virus Transmission	21. Vaccine Administration
11. Onset of Protective Immunity	22. Maternal Antibodies
12. Interferon as a Potential Early Protective Mechanism	23. Limitations of Vaccination
13. Duration of Immunity	24. Identification of Vaccinated Animals
14. Limitations of Experimental Studies	25. Logistical and Economic Considerations in the Decision to Vaccinate
15. Field Experiences with FMD Vaccination	26. Vaccination in Zoos and Special Collections
16. Strategies for Vaccine Use	27. Public Acceptability of Vaccination as a Component of FMD Eradication

25. Logistical and Economic Considerations in the Decision to Vaccinate

- 25.1 Technical Feasibility of Vaccination
- 25.2 Epidemiological Considerations
- 25.3 Economic Viability of Vaccination
- 25.4 Vaccination of Genetically Irreplaceable Stock, Endangered Species or Other Unusually Valuable Animals
- 25.5 Effect of Vaccination on Regaining OIE FMD-Free Status

North American Guidelines for FMD Vaccine Use



USDA FMD Vaccine Research

- Overall FMD research in 4 areas
 - Genomics, epidemiology and rapid diagnosis pathogenesis
 - Molecular mechanisms of viral replication
 - Virus-host interaction and immune response
 - Vaccine and antiviral development

New USDA FMD Vaccine Licensed in 2012

- GenVec's FMD vaccine for use in cattle
 - Single FMD adenovirus-vectored strain
 - Discovered by USDA Ag Res Service
 - Will be added to North American FMD Vaccine Bank
- Advantages:
 - produced from empty viral capsids that does not require strict biosecurity
 - a “marker” vaccine for DIVA strategy

FMD Response Strategies: Moving Forward

- Options other than stamping-out alone must be considered
- FMD vaccination is a tool that can be used:
 - to augment eradication
 - as a long-term control strategy
- 3 appropriate strategies with OIE recognition including use of vaccine:
 - Vaccinate-to-kill
 - Vaccinate-to-slaughter
 - Vaccinate-to-live

Possible Strategies

	Stamping-out	Vaccinate -to-kill	Vaccinate -to-slaughter	Vaccinate -to-live	Continue vaccination after the last case
Type 1- Focal FMD outbreak	X				
Type 2- Moderate regional FMD outbreak	X	X	X		No
Type 3- Large regional FMD outbreak			X	X	No
Type 4- Widespread or national FMD outbreak			X	X	Yes
Type 5- Catastrophic FMD outbreak				X	Yes
Type 6- North American FMD outbreak				X	Yes

FAD PReP Website

- To gain access to the site, do a Google search with **fadprep**, OR
- Enter the URL <https://fadprep.lmi.org/>



Proposed process of Roadmap development and outline of the Roadmap, confirmation of PCP stage of each member

Dr Tomoko Ishibashi
Senior Deputy Regional Representative

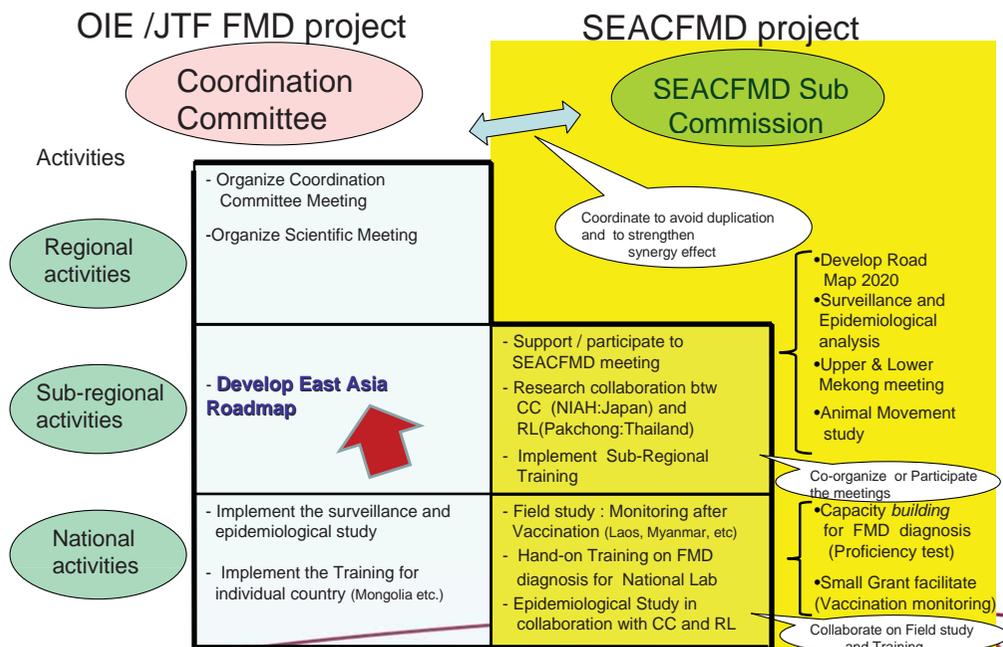


Content

1. Development of the Roadmap for East Asia
2. Proposed Contents of the Roadmap
3. Confirmation of PCP stage of each member



OIE/JTF FMD activities in coordination with SEACFMD project



1. Development of Roadmap for East Asia

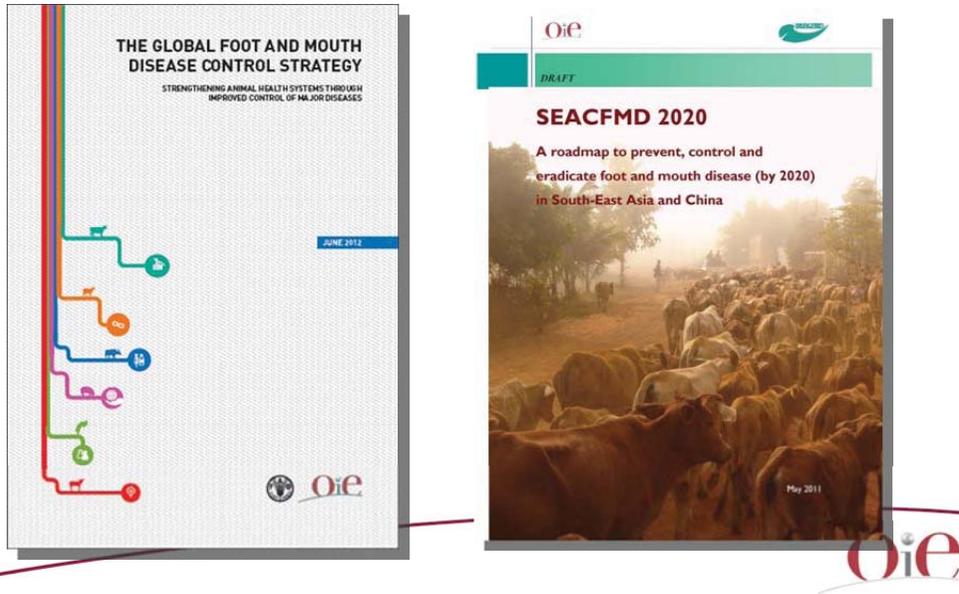
Purpose:

1. To progressively achieve FMD freedom
2. To assess national and regional progress towards regional FMD freedom



1. Development of Roadmap for East Asia

Reference materials- need strong consistency



1. Development of Roadmap for East Asia

Request to the countries by NCP meeting, Aug 2012:

- 1.To develop “National Strategic Plan for FMD Control”**
Definition of National Strategic Plan, Scope, Contents and official approval process of National Strategic Plan depend on the country (Tailor-made to the country context)
 - 2.To set goals and timeline in consistent with the National Strategic Plan**
 - The Goals depend on country framework
 - Recommend to propose the targets up to 5 years
- To use PCP as a tool to develop and assess the progress of National Strategic Plan

1. Development of Roadmap for East Asia

Process to develop the Roadmap and get endorsed

- NCP workshop agreed on outline and content of the Roadmap as well as process to get endorsement
- OIE-AP prepares the first draft by the content provided by NCPs, the draft will be electronically circulated to CVOs and NCPs for comments. The comments will also be shared to find common view among members.

1. Development of Roadmap for East Asia

Process to develop the Roadmap and get endorsed

- First Coordination Committee Meeting (CC Meeting) (November, 2012):
- The (revised) first draft will be presented
 - The draft Roadmap will be revised again based on the feedback from CC Meeting
 - Main content of the Roadmap is expected to be approved by CC in 2013
 - Country information and PCP stage, in the annexes, can be updated each year

1. Development of Roadmap for East Asia

Process to develop the Roadmap and get endorsed

The final version of the Roadmap should be endorsed by August, 2016, before the completion of the OIE/JTF project on FMD Control in Asia.



2. Proposed Contents of the Roadmap

Preface

Executive Summary

1. Background
2. Regional context
3. Roadmap Strategies
4. Tools and Key Activities
5. Roadmap Progress
6. Appendices



2. Proposed Contents of the Roadmap

1. Background

- Importance
- Adoption of the Global FMD Control Strategy
- Purposes of drawing the regional Roadmap

2. Regional context

- Geographic information
- animal population
- FMD disease history in the region etc.



2. Proposed Contents of the Roadmap

3. Roadmap Strategies

- Encourage members to develop National Strategies
- Improve information sharing for better understanding of the disease and rapid response in case of outbreaks/epidemiological changes in the region
- Provide technical or possibly financial support for needed Members among the region



2. Proposed Contents of the Roadmap

4. Tools and Key Activities

Component 1: FMD control

- The FMD Progressive Control Pathway (PCP-FMD) and regional roadmaps
- OIE standards, recognition of disease status and endorsement of control programmes
- Diagnostic techniques and laboratories
- Vaccines and vaccination
- Surveillance and epidemiological analysis
- Animal quarantine and animal movement management
- Other tools



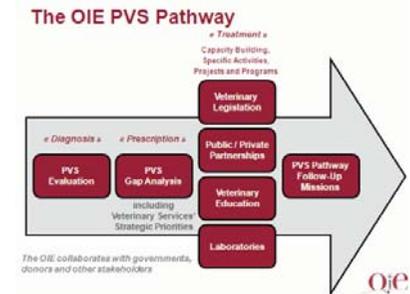
2. Proposed Contents of the Roadmap

4. Tools and Key Activities

Component 2: Strengthening of Veterinary Services

- OIE Standards on the quality of Veterinary Services
- OIE PVS tool

*Members should be encouraged to use PVS concept in the region. Create some opportunities on understanding PVS tools especially related to PCP.



2. Proposed Contents of the Roadmap

4. Tools and Key Activities

Component 3: Regional Cooperation

- Information sharing scheme
 - Epidemiology Network
 - Laboratory Network
- Emergency vaccine sharing
- Possible financial support
- Joint research
- Surveillance



2. Proposed Contents of the Roadmap

4. Tools and Key Activities

Component 4: Funding and Resource Managements

- Resource mobilization within the region to support FMD control in some strategic areas
- National funding is most important to control FMD in this region
- Regional and international support



5. Roadmap Progress



2. Proposed Contents of the Roadmap

Appendices

- Appendix 1: Country Profiles (of 6 members)
- Appendix 2: National Strategic Plans (of 6 members)
- Appendix 3: Roadmap timetable

(Example) Provisional PCP Stage (as of 14 Aug 2012)

	2012	2013	2014	2015	2016
China	3				
Taipei	3			4	4/5
Hong Kong	1	1/2	2	2/3	3
Japan	6	6	6	6	6
Korea	3	4	4	4/5	5
Mongolia	3	3	4	4	4

Discussion Time!



<http://goatbreeds.org>



<http://www.personal.psu.edu>

OIE/JTF Project on FMD Control in Asia: Activity Plan for 2012-2013

Chantanee Buranathai
OIE Asia-Pacific

Project time-table

Component	1 AUG 11-JUL12	2 AUG 12-JUL13	3 AUG 12-JUL13	4 AUG 13-JUL14	5 AUG 15-JUL15
1. Information Sharing	•Inception mtg	•1st CC Mtg •Scientific Mtg	•2nd CC Mtg	•3rd CC Mtg •Scientific Mtg	•4th CC Mtg
2. Regional Road Map and Cooperation	•NCP identified •NCP Mtg for Roadmap	•NCP Mtg for Roadmap	•NCP Mtg for Roadmap		
3. Improvement of Control Measures	•Feasibility study	•Field implementation	•Feasibility study	•Field implementation	•Field implementation
4. Improvement diagnosis	•Training for Mongolia	•In-country training	•Training in JP	•In-country training	•In-country training

Activity Plan in 2012-2013

- Third round of sample collection in Xieng Khouang, Laos, December 2012
- Hand-on training for laboratory staffs in Vientiane, January 2013
- Laboratory analysis in Vientiane
- Laboratory analysis in Japan

Activity Plan in 2012-2013

- National Contact Point Meeting, Roadmap drafting and communication workshop (August, 2013)
- Second Coordination Committee Meeting (November 2013)
- Scientific Meeting in 2013 (back to back with CC meeting)
- Training in Japan (Proposal from Thailand)
- Field implementation in Myanmar in 2013

THANK YOU FOR YOUR ATTENTION

Scientific Meeting of FMD 2013

Purpose and Goal:

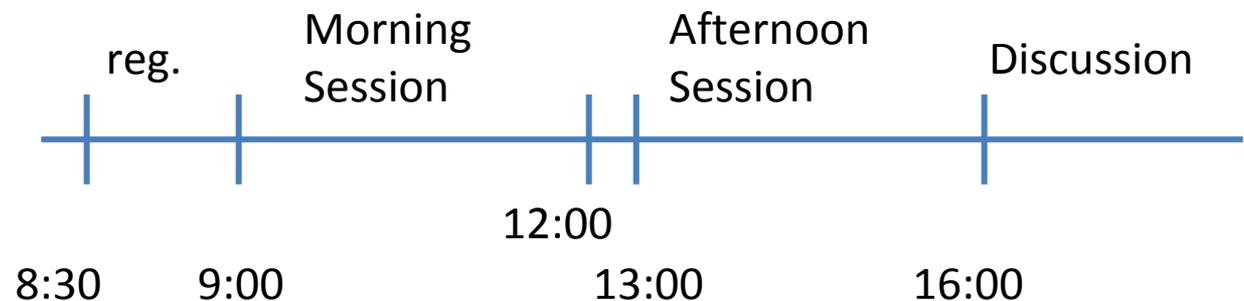
Sharing the information of FMD research works by the Laboratories in the members and to develop future research collaborations between the laboratories

Design of the Meeting:

- (1) Oral (20-30 min) presentation on any resent or on-going FMD research works
- (2) At least two topics from each member
- (3) One hour for each country or region
- (4) One day meeting (Starting 8:30 - Finishing 18:00)
- (5) By young researchers
- (6) Chaired by Senior researchers of own country or region

Time and Place:

- (1) Early July 2013
- (2) Hong Kong ?
- (3) Laboratory Conference room



Budget: ? USD by OIE /JTF

Time Course