1st Coordination committee meeting of the
OIE/JTF Project on FMD control in Asia
Tokyo, Japan, 13 – 14 November 2012

Capture of the 2nd Global Conference on FMD Control and the way forward

Gideon Brückner

President: OIE Scientific Commission for Animal Diseases

Why the Global FMD Control Program?

- OIE/FMD Global Conference in Paraguay – 2009
- FMD acknowledged as the most important threat to global food security and international trade
- Adoption of Resolution at OIE General Session – 2010 – Global FMD Control and OIE endorsement of National FMD Control Programs
- Successful global eradication of rinderpest – global freedom 2011
- OIE/FAO mandated to launch Global program for FMD as next global strategy
- Adoption of Global FMD Program at OIE General Session – 2011
- Global FAO/OIE Conference in Bangkok – 2012
- Adoption of Global strategy for FMD control

Bangkok and post-Bangkok

Over 100 countries, regional organizations, development partners and stakeholders supported the launch of the FAO/OIE Global FMD Control Strategy

Headlines of the joint FAO/OIE Global FMD Control Strategy

FMD control is not an utopia:

- We can do much better with existing means
- FMD-endemic countries should be better aware of the damage caused by FMD and the opportunities lost *[clear need for more socio-economic studies]*
- Only regional approaches will be successful as history has shown (Europe, South America, SE Asia)
- Regional approaches should take into account regional differences (for instance wildlife issue in Southern Africa)

Headlines of the joint FAO/OIE Global FMD Control Strategy

- Focus should be on FMD-endemic countries using a progressive, risk-based approach, based on the Progressive Control Pathway where indicated
- Maintain FMD-free status and countries are requested to support the Global FMD Control Strategy, for reasons of solidarity as well as well-understood own interest (control at source)
- Progressive FMD control in developing countries will go hand in hand with improvement of Veterinary Services (VS)
- Improvement of VS will create better possibilities to control other major diseases of livestock

FAO/OIE GLOBAL CONFERENCE ON FOOT AND MOUTH DISEASE CONTROL
BANGKOK, THAILAND 27-29 JUNE 2012

Roll out of the Global Strategy after Bangkok

1. Countries where FMD is still endemic will be encouraged and stimulated to step up their control efforts using the Progressive Control Pathway
2. Countries where FMD has been controlled, as well as development partners, will be requested to increase their support for FMD control at source (usually in developing countries)

FAO/OIE GLOBAL CONFERENCE ON FOOT AND MOUTH DISEASE CONTROL
BANGKOK, THAILAND 27-29 JUNE 2012

3. Specific attention will be paid to countries in the FMD virus pool regions 3, 4, 5 and 6, the need of which was indicated by the port folio review of the Global Strategy
4. Socio-economic studies will be stimulated to provide further evidence of the damage caused by FMD at the country, sector and household levels

FAO/OIE GLOBAL CONFERENCE ON FOOT AND MOUTH DISEASE CONTROL
BANGKOK, THAILAND 27-29 JUNE 2012

5. In regions where incentives for FMD control appear to be lacking, studies and workshops will be initiated to develop multi-disease approaches tailor-made for the (sub)region
6. Specific support will be requested from development partners to fund the studies and regional and global activities foreseen under the Global Strategy

In the FMD Global Control Strategy

Strengthening the vital disease control support functions:

- **Laboratories:**
  national and regional, global, networks
- **Epidemiology:**
  national, regional, collaborative centers, networks
- **Vaccines:**
  availability, QC ; vaccine centers, vaccine matching, post -vaccination surveillance

Tools at our disposal

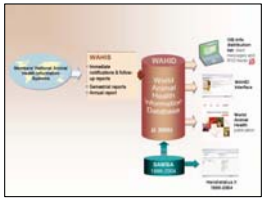
OIE Code & Manual: Review of chapter 8.5, endorsement of FMD Control programs

Laboratories and their Regional and International Networks

Epidemiology Centers and their Regional and International Networks

Regional support programs: JTF; SEACFMD

PCP-FMD



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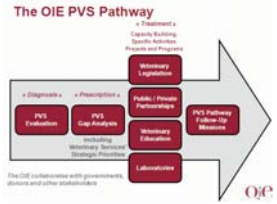
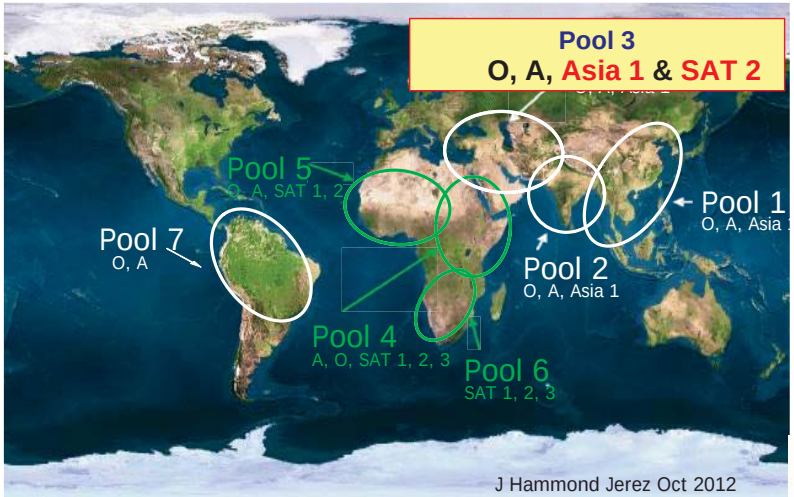


Vaccines

Role of Laboratories and their Regional and International Networks

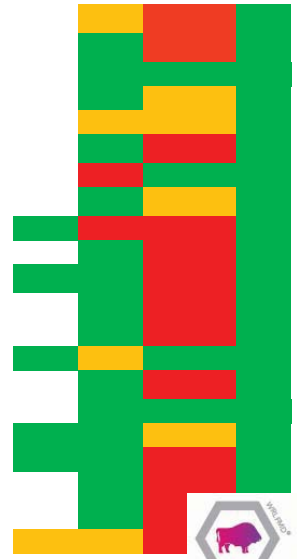
Regional Analysis 2012
Asia 1 and SAT 2 on the move



Role of Reference Laboratories and their Networks

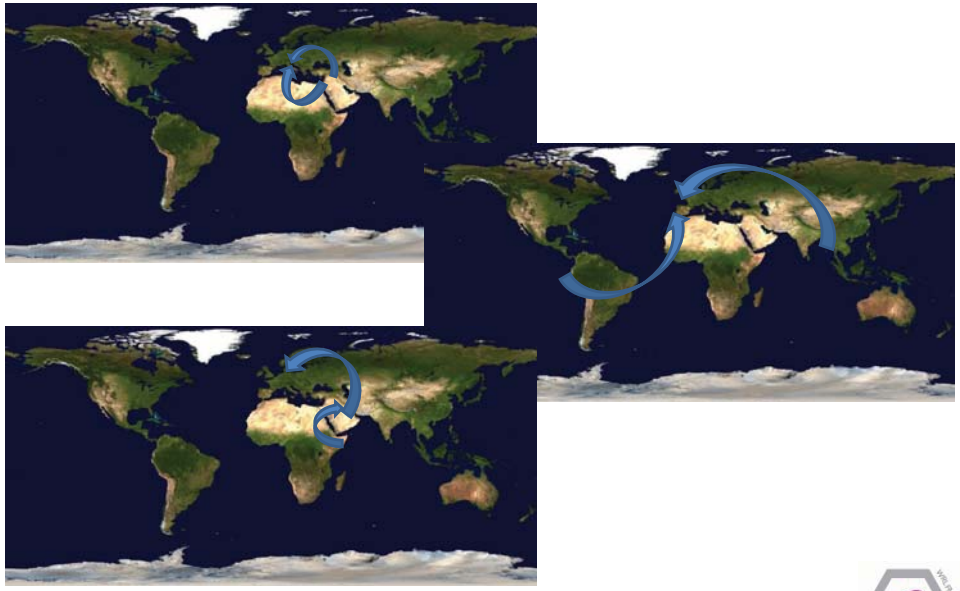
Serotype O vaccine matching: Current FMD threat analysis: 2012

Country of Origin	Serotype	Topotype	Lineage/ strain	Sub Lineage
Afghanistan	O	ME-SA	PanAsia-2	ANT-10
Bahrain	O	ME-SA	PanAsia-2	ANT-10
Congo	O	ME-SA	PanAsia	-
Egypt	O	ME-SA	PanAsia-2	-
Ethiopia	O	EA-3	-	-
Iran	O	ME-SA	PanAsia-2	ANT-10
	O	ME-SA	PanAsia-2	FAR-09
Israel	O	ME-SA	PanAsia-2	ANT-10
Japan	O	SEA	Mya 98	-
Kenya	O	EA-2	-	-
Kuwait	O	ME-SA	PanAsia-2	ANT-10
Libya	O	ME-SA	PanAsia-2	ANT-10
	O	EA-3	-	-
Malaysia	O	SEA	Mya-98	-
Kingdom Saudi Arabia	O	ME-SA	PanAsia-2	ANT-10
Sudan	O	EA-3	-	-
Thailand	O	SEA	M98	-
	O	ME-SA	PanAsia	-
Turkey	O	ME-SA	PanAsia-2	ANT-10
UAE	O	ME-SA	PanAsia-2	ANT-10
Vietnam	O	ME-SA	PanAsia	-



J Hammond Jerez Oct 2012

Role of Laboratories and Epidemiology Centers and their Regional and International Networks



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Action plan – post Bangkok

Action plan was worked out in the form of typical activities

- At country level – for each of the PCP stages and for each of the strategy components
- At regional level (for stages 1 - 5)
- At global level (for stages 1 – 5)

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From concept to practice

- Typical activities indicated in the Strategy per PCP stage and for the different levels (country, regional, global) need to be embedded in concrete programmes/projects that can be used for fund raising.
- This implies new or intensified FMD control programmes at the national level, but in a regional context, in particular in virus pool regions 3, 4, 5 and 6

To convince countries to step up their FMD control activities

Regional meetings

•In some regions or sub-regions: to develop program proposals with cost-effective combinations of activities, for instance with other regional priority TAD and other regional funding/disease control programs

•The Global GF-TADs SC may call upon the Regional SC's and through them on the relevant regional technical and economical organisations

•OIE and FAO may call upon their experts in their Regional and Sub Regional Offices, ECTAD units and RAHCs

FAO/OIE GF-TADs Working Group:

Convergence of available tools

•Linking the PCP-FMD stages to the OIE PVS levels of Critical Competencies (CCs)

- To finalise the PCP assessment tool in collaboration with EUFMD as a companion tool to the PCP-FMD joint FAO-EuFMD-OIE Guide

PVS-PCP

FAO/OIE GF-TADs FMD Working Group

- To support regions and countries
- To prepare an annual global report
- To set developments at the national level in motion
- To implement activities foreseen at the regional and global level
- To evaluate, to oversee and to report, a strong and sustainable backbone structure is needed.
- The joint FAO/OIE FMD Working Group and its Secretariat is critical for this purpose, to push and to pull.
- Continuity endangered
- Priority for funding: 11 M for 5 years

Activities at regional and global levels

- The regional level: include the provision of regional epidemiologists, laboratory experts, communication expertise, establishing regional leading laboratories and epi-centers, a global coordinating lab and epi-center and regional vaccine banks and regional vaccine quality control centers

- The global level: the coordinating, evaluating and backstopping expertise functions are foreseen

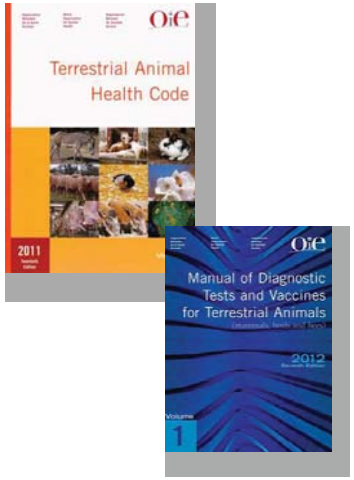
- For all of these activities a budget has been included in the Global Strategy and specific implementation projects can be worked out per item *(to improve the chances of obtaining funding)*

Cost of the FMD Global Control Strategy in USD as calculated by the World Bank for the first 5 years: total 820 M USD

- Cost of national FMD programmes 68 M
  (to support 79 initial PCP 0-2 Stage countries)
- Vaccination cost 694 M
  (to support 45 initial PCP 1-3 Stage countries, (excl. India and China)
- Regional level 47 M
  (reference labs/epidemiology support and networks
- Global level 11 M
  (coordination, evaluation)

OIE

- Scientific Commission for Animal Diseases:
  - *Endorsement of national FMD control plans*
  - *Country FMD status evaluation*
- Standard setting
- Publications
- Conferences and Workshops

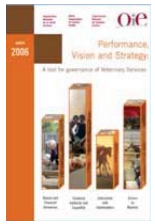


OIE

- PVS Pathway: Evaluations and follow up, gap analysis
- Legislation, twinning for laboratories,
- Veterinary Education Establishments, Vet Statutory Bodies, PVS One-Health ...
- Capacity building programs for Delegates and focal points: meetings organised by the OIE and its regional and sub-regional offices

Linking the OIE PVS and FMD-PCP Tools

- The basic principle is that a country embarking on the PCP-FMD should acquire the appropriate capacity and capability of the VS to conduct activities aimed at the control or elimination of FMD (and other TADs). This is referred to as the 'enabling environment' in the PCP.
- A correspondence table has been worked out between the PCP Stages and the compliance level required for each of the PVS Critical competencies (CCs) relevant to FMD control.



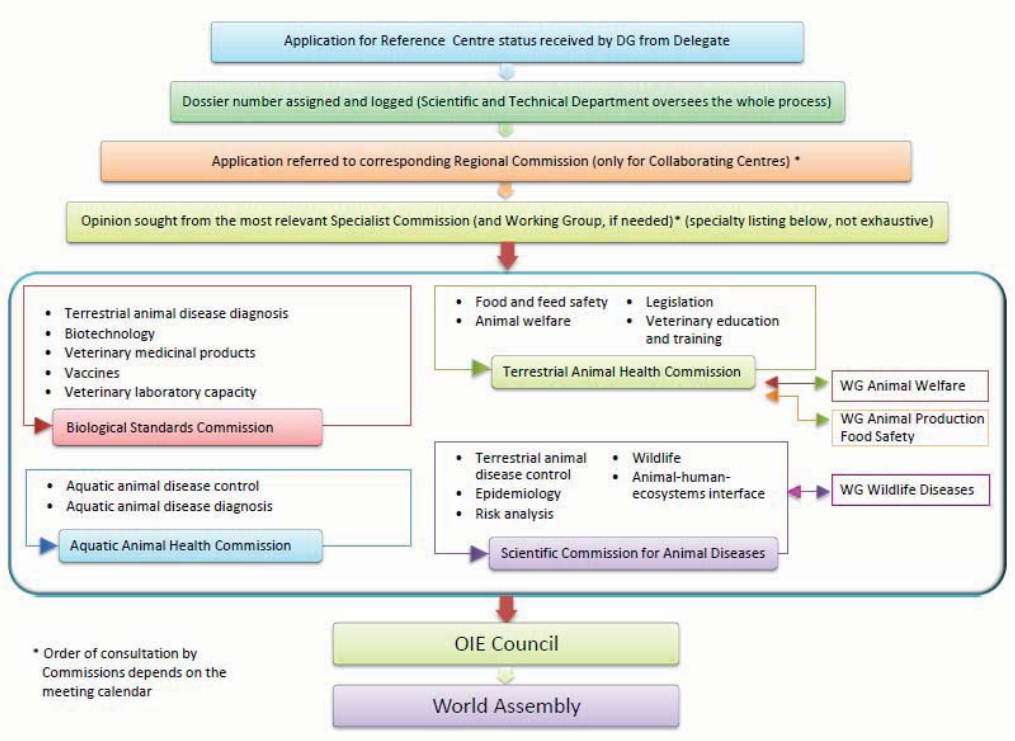
Relationship: PVS and PCP-fMD

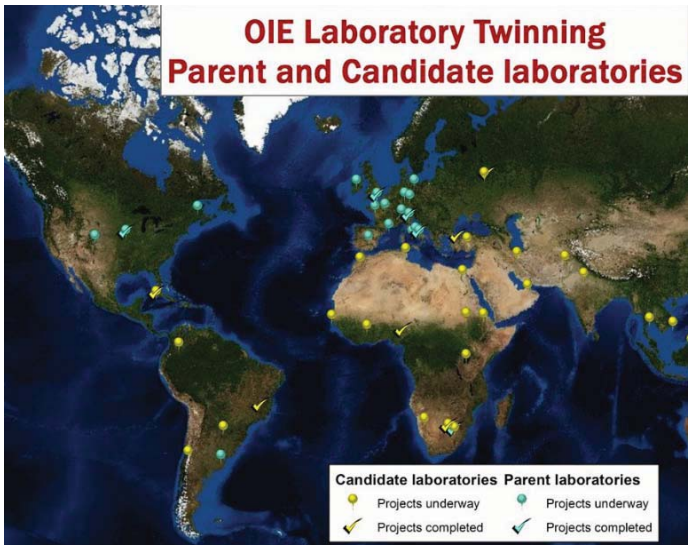
- 33 OIE PVS Critical Competencies (CCs) among 46 are of particular relevance to the prevention and control of FMD:
  - Animal Health (4 / 5)
  - Veterinary Public Health (1 / 4)
  - Laboratory (2 / 2)
  - Trade (4 / 8)
  - General Management (17 / 31)
  - Resources (5 / 6)
- Countries reaching PCP Stage 3 must ideally at least have reached compliancy level 3 (i.e. general agreement with OIE standards) for the 33 FMD-relevant CCs

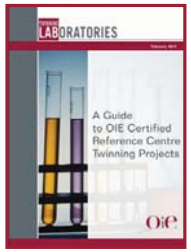
OIE Reference Centers Laboratories

To continue to develop their geographical distribution

OIE Reference Laboratories and Collaborating Centres May 2012			
	Reference Laboratories	Collaborating Centres	Total
Number	236	41	277
Countries	37	22	42
Diseases/Topics	112	38	150
Experts	176	–	–





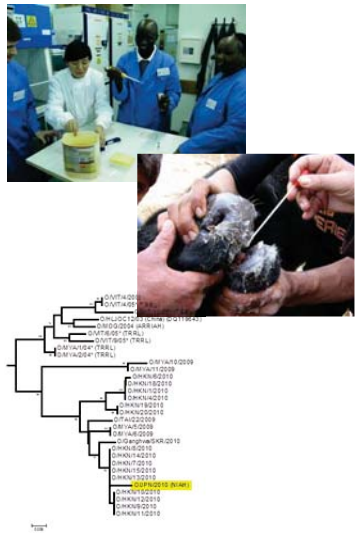


FMD Reference Laboratories/Centers and the OIE-FAO Network

OIE:
- Buenos Aires, ARGENTINA
- Gaborone, BOTSWANA
- PANAFTOSA, Rio de Janeiro, BRASIL
- Vladimir, RUSSIA
- Onderstepoort, SOUTH AFRICA

OIE and FAO:
- Plum Island, USA
- Pirbright , UK
- Pakchong, THAILAND
- Lanzhou, PEOPLE'S REP. Of CHINA

FAO:
- ICAR, Mukteswar, INDIA
- Brescia, ITALY
- CODA-CERVA, Brussels, BELGIUM



Some of the responsibilities/contributions of the different role players in a Global FMD Control Strategy

OIE:
- Standard setting
- Trade facilitation
- Evaluation of Veterinary services
- Recognition of disease free zones and national control plans

Farmers/Livestock owners:
- Surveillance
- Disease notification
- Apply legislative requirements

Producer Organisations:
- Surveillance
- Market access
- Marketing
- Trade negotiations

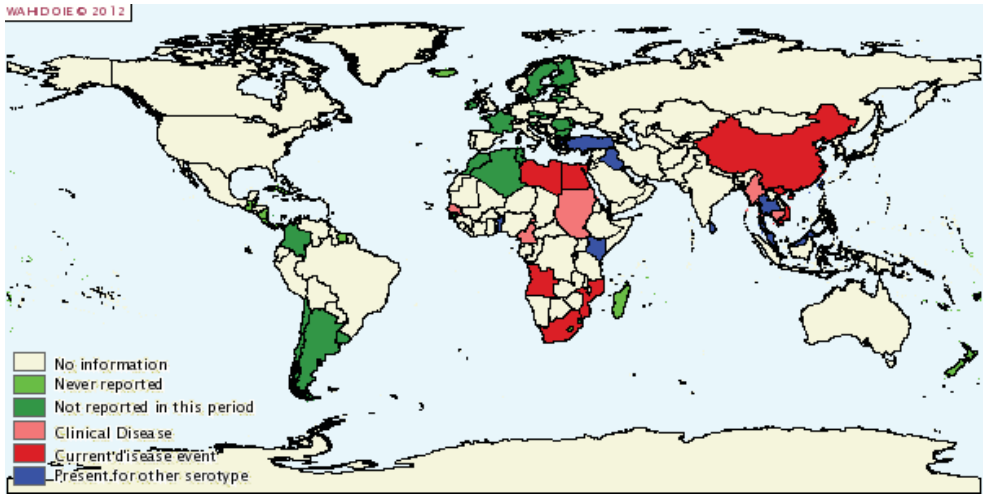
Veterinary Services:
- Surveillance
- Legislative support and enforcement
- Trade negotiation
- Disease awareness
- Standard setting

Private veterinarians:
- Surveillance
- Disease notification
- Risk mitigation through farm practices
- Education

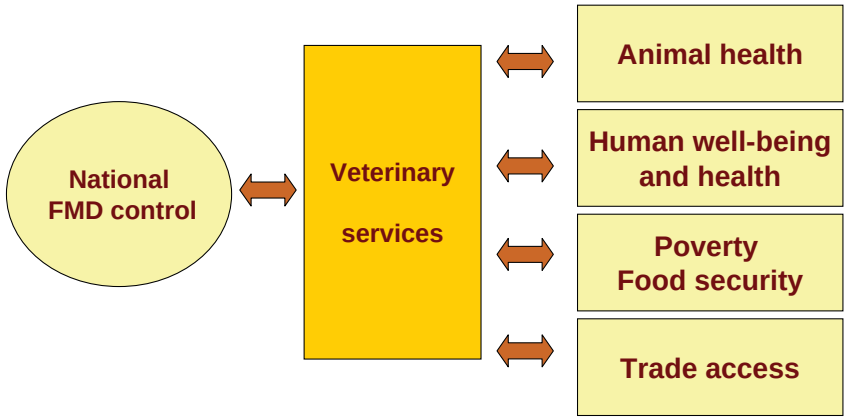
Regional Organisations:
- Regional harmonisation
- Regional contingency plans
- Facilitate regional marketing needs

OIE/FAO GFTADS:
- Global harmonisation
- Donor support
- Encourage and drive Regional cooperation
- Support progress in PCP-FMD pathway

FMD – Global picture of reporting to OIE November - 2012



Veterinary services – the essential buffer mechanism and guarantee for the success of national FMD control



Critical aspects related to maintenance of disease status

- Main focus is on quality of the veterinary services; disease control measures, diagnostic services, disease surveillance
- Obtaining disease freedom recognition – not so difficult
- **Main challenge is maintaining the recognized disease status**
- Vaccination: Must be purified, sufficient potency and effective against ruling field strain(s)
- Where status was lost – main reasons were breakdown in disease surveillance system

In summary – the responsibility of role players in ensuring the maintenance of animal health status

- **Accept the change in the global epidemiology of animal disease threats**
- **Accept the challenges and need for a new approach to contribute to global food security**
- **Accept the need for supportive good veterinary governance and strong supportive public/private partnerships**
- **Accept to always expect the unexpected and to remain vigilant with <u>surveillance policy</u>**
  - ***Not only to detect + NSP but also the causative viral strain – virus isolation!***
  - ***Not looking is NOT knowing what is going on!***
- **Accept the new threats for disease introduction**
- **Accept the expectations of the international veterinary community**

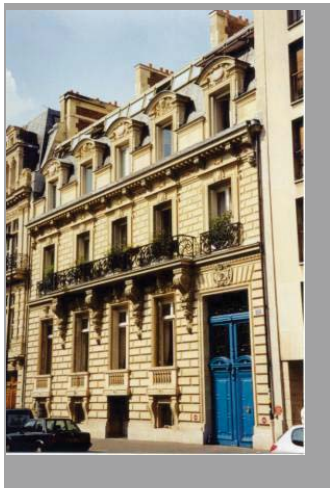
Challenges for applying and progressing with the Global FMD control strategy

- Regional approaches and commitment not on the same level in all regions
- Will have to compete for funding relative to other priorities
- Global threat of disease spread an increasing risk factor
- Regional programs dependent on commitment and cooperation of national veterinary services in a region
- Need the buy-in of countries to apply OIE standards for control – especially vaccination

Acknowledgemts

Drs Joseph Domenech (OIE) and Peter De Leeuw (FAO)

Thank you for your attention!



Current development on national FMD control

YANG, WEN-YUAN

2012.11.13

Chinese Taipei

Outline

- National FMD control measures
- Current development on national FMD control

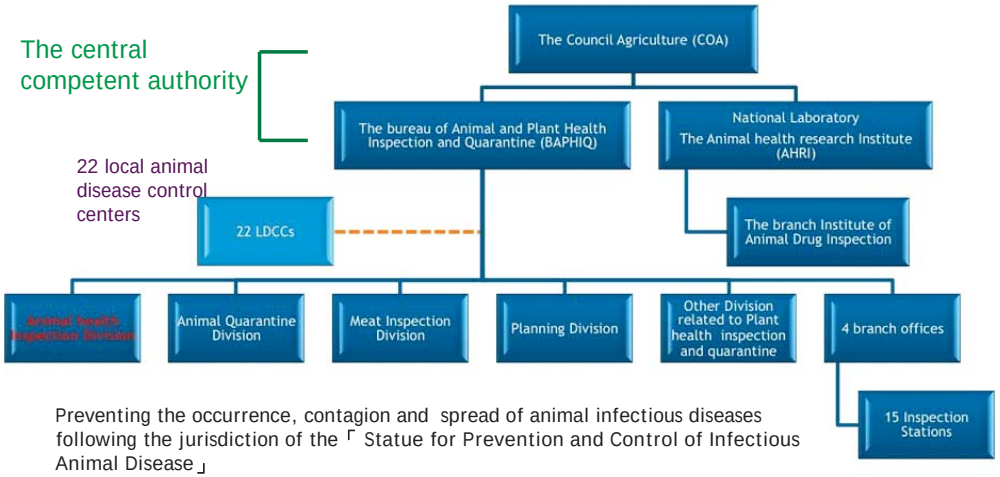
National FMD control measures

- Enforced in accordance with the law and regulation:
  - ***Statute for Prevention and Control of Infectious Animal Disease*** (for disease reporting and control).
  - ***Regulations on Management of Vaccine Types for HC and FMD Elimination*** (for vaccination).
- The goal:
  - 1st stage: FMD free country with vaccination.
  - 2nd stage: FMD free country without vaccination.

National FMD control measures

- **Content:**
  - Disease reporting.
  - Blanket vaccination.
  - Surveillance.
  - Emergency response and case control measures.
  - Stockpile for emergency use.

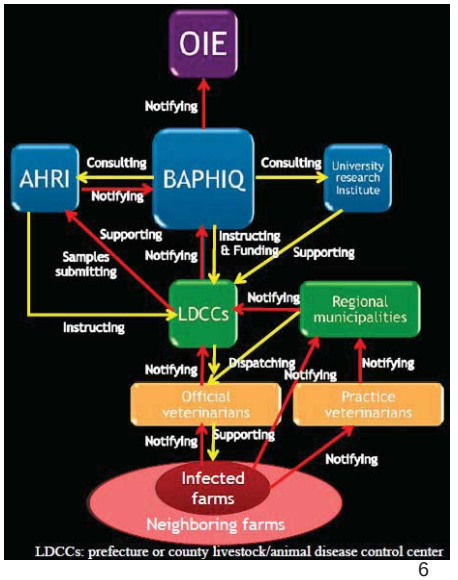
Framework of VS system



Preventing the occurrence, contagion and spread of animal infectious diseases following the jurisdiction of the 「Statue for Prevention and Control of Infectious Animal Disease」

Disease Reporting

- **Compulsory notification**:
- Time:
  - Animals suffering from or suspected of notifiable animal diseases.
- Target:
  - Owners and keepers of animals.
  - Veterinarians (vet).
  - Official vet of local animal disease control center.



Blanket Vaccination

- **Compulsory mass vaccination**
  - Empowered by *Statute for Prevention and Control of Infectious Animal Disease* and *Regulations on Management of Vaccine Types for HC and FMD Elimination*.
  - All cloven-hoofed animals shall be vaccinated with FMD vaccine.
  - O Taiwan and O manisa strain vaccines (at least 6 PD_{50}) are used (IM route).
  - The owner or keeper will be fined NTD 10,000-50,000 for violation of the law.

(USD:NTD=1:29)

Blanket Vaccination

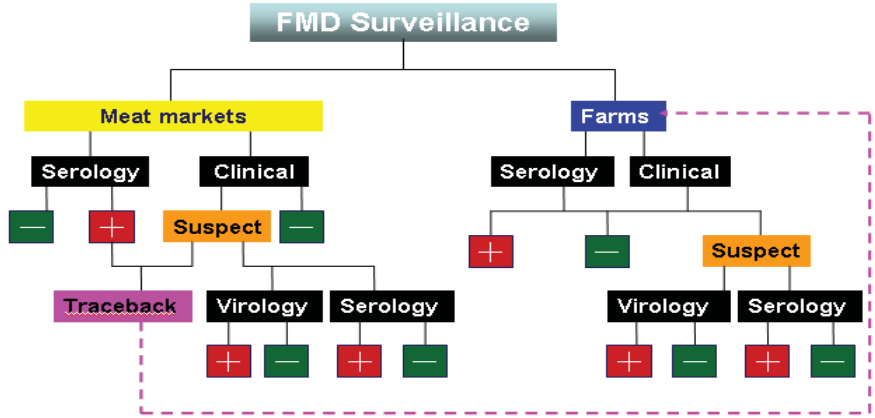
- **Vaccination programme**
  - Pigs:
    - One dose is given at 12-14 wks age and another one is vaccinated once half a year.
  - Ruminants (cattle, goats and deer):
    - Basic vaccination shall be done at 4 and 12 months age respectively. The other one dose is given once a year.
  - The vaccine is ***partly subsidized*** by the government (5.4 NTD/dose during Jan-May; 2 NTD/dose during Jun-Dec in 2012) to encourage the farmers follow the programme.

(USD:NTD=1:29)

Surveillance

- **Active Surveillance**
  - To evaluate the efficacy of blanket vaccination.
    - At farm level.
      - Cut-off value of SN titer expression.
        - » >16x in pigs.
        - » >32x in ruminants.
  - As a precaution action to detect possible viral activity in the field and response.
    - At farm and auction (meat) market level.
      - Non structure protein (NSP) antibody.

Flowchart of active surveillance



Surveillance

- **On farm active surveillance**
  - Composed of clinical and serological surveillance.
  - Serological surveillance:
    - 95% probability.
    - 20% prevalence.
    - 600 pig farms/ yr.
    - 300 ruminant farms/ yr.
      - Stratified random sampling.
      - 15 serum samples/ farm.

Surveillance

- **On markets active surveillance**
  - Composed of clinical and serological surveillance.
  - ***Clinically suspected case*** in market shall be traced back to the original farm to conduct movement restriction and follow-up sampling and testing.
  - Serological surveillance:
    - On a daily basis.
    - At least 1-2 animal per original farm is randomly selected.
    - At least 40,000 samples/ yr.
  - ***The original farms with positive NSP antibody reaction*** shall be movement restricted and sampled for follow-up confirmatory testing.

Surveillance

- **Passive surveillance:**
  - To control and response any suspected case in the moment.
  - Reported case
    - 64% of FMD cases (9/14) in 2012 were detected by passive surveillance.
  - Vesicle fluid, blood and OP fluid samples of suspected case are collected for further diagnosis.

Emergency Response and Control Measures

- Movement restriction on the infected farm.
- Clinical infected animals and their pen mates (exposed animals) shall be depopulated.
- Disposal of carcasses.
- Clinically healthy animals within the index farm shall be vaccinated.
- Surveillance of surrounding cloven-hoofed animal farms within 3 km radius area around the infected farm.

Stockpile for emergency use

- **Vaccine and antigen bank**
  - Serotype A, Asia-1 and O were stockpiled.
    - Commercial vaccine bank:
      - Monovalent.
      - 100,000 doses for each serotype.
    - Antigen bank:
      - Monovalent .
      - 750,000 doses for each serotype.

Development on national FMD control

- *Revise of Regulations on Management of Vaccine Types for HC and FMD Elimination:*
  - SN<16 in tested pig population (<32 in ruminant population) shall be vaccinated with another FMD vaccine and the subsidization of the vaccine shall be removed at that time.
  - SN<4 in tested pig or ruminant population (indicating lack of vaccination) shall be vaccinated with another FMD vaccine, the farmer shall be fined NTD 10,000-50,000 and the subsidization of the vaccine shall be cancelled.
- *Planning to cease the subsidization of the FMD vaccine in 2013.*


Thanks for your attention!

Foot and Mouth Disease Control

Dr. Elaine Lee
Veterinary Officer
Veterinary Laboratory Division
Agriculture, Fisheries and Conservation Department, HKSAR

13 November 2012

Tai Lung Veterinary Laboratory

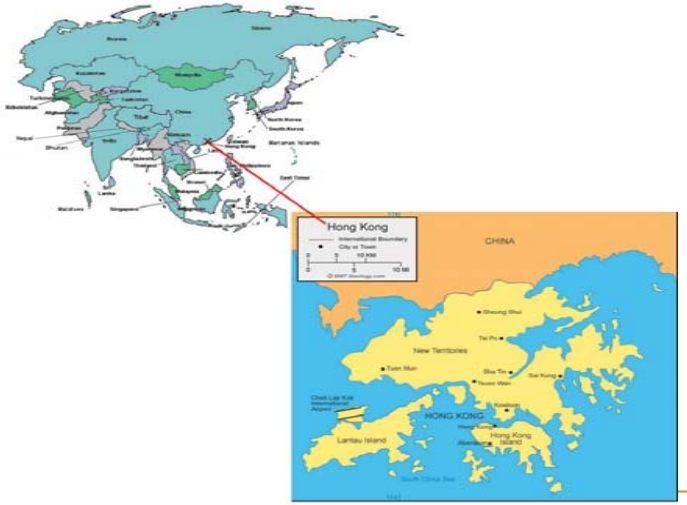
- The only Government Veterinary Laboratory in Hong Kong, SAR
- Accredited under the veterinary testing program of NATA since 2002

Tai Lung Veterinary Laboratory

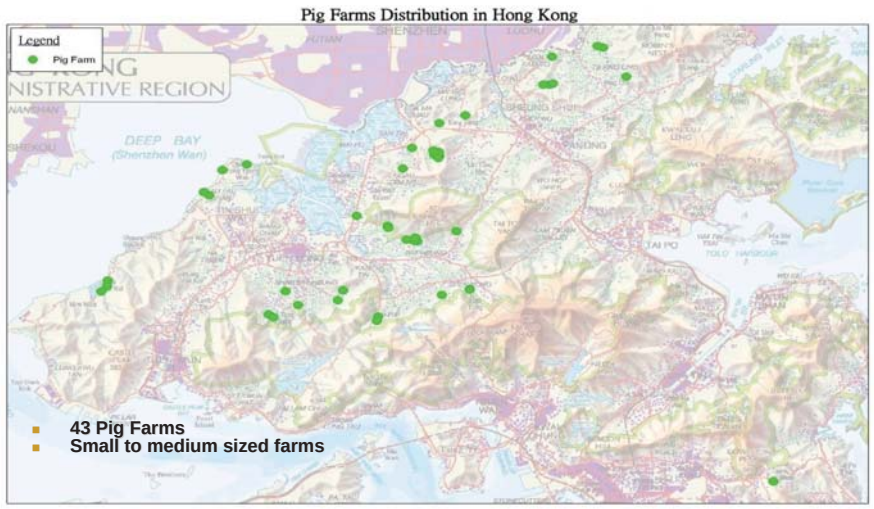
Services:

- Veterinary diagnostic support to investigate and control the outbreaks of animal diseases;
- Surveillance services e.g., AI surveillance programme for detecting diseases ;
- Fish health certification (ornamental fish export);
- Chemical residue screening

Hong Kong



Pig Farms



FMD in Hong Kong

- FMD is endemic
- First reported in Hong Kong in the 1950's
- Occurs mainly during the cooler months from November to March
- FMD is a notifiable disease in HKSAR under Cap 139 Public Health (Animals and Bird) Ordinance
- All confirmed cases report to OIE

Control strategy

- Given that FMD is endemic and there is high probability of re-infection, there is no specific strategic plan for the eradication of FMD
- Currently, we rely on disease control measures to prevent and control FMD

Import Control

- All pig breeding stocks are imported from the Mainland

Year	2010	2011	2012 (1st July)
Total quantity (head)	1477	1281	630

Import Control

- Certified that the imported pigs were free from FMD in the last 12 months
- Quarantine period for breeding pigs on local farm is 28 days after importation


中华人民共和国出入境检验检疫
ENTRY-EXIT INSPECTION AND QUARANTINE OF THE PEOPLE'S REPUBLIC OF CHINA
ORIGINAL
动物卫生证书
ANIMAL HEALTH CERTIFICATE

Local control

- Farm visit on a monthly basis
  - Inspection & investigation
  - Biosecurity advice
  - Disinfection Advice
- One farm per day
- Additional inspections if there is any indication that an outbreak has happened

FMD Biosecurity advice

- FMD Biosecurity advice is given to farmers.
  - Movement control
  - Foot dips
  - Vehicle control
  - Access control
  - Personal hygiene
  - Pest control etc.

FMD Disinfection Advice

- **FMD Disinfection advice** is also given such as
  - Cleaning (preferably with a detergent) should precede disinfection;
  - Acids and most alkalis as good FMD disinfectants;
  - Disinfectant should be kept fresh, and made up to the correct concentration.

FMD Vaccination

- AFTOPOR VACCINE (VET) , *Merial* (O Manisa and O 3039)
- Provide training for proper vaccination technique

FMD outbreak

Year	Number of outbreaks	Topotype
2005	Type O: 6	Cathay:6
2006	-	-
2007	Type O: 1	Cathay:1
2008	Type O:1	Cathay:1
2009	Type O: 1	Cathay:1
2010	Type O: 4	SEA: 3 Cathay: 1
2011	Type O: 3	SEA: 1 Cathay: 2
2012	Type O: 1	

Outbreak control

- Disease Investigation
- Mass vaccination with Serotype O
- Biosecurity advice

Disease investigation

- Samples from Slaughterhouses and Local Farms to Tai Lung Veterinary Laboratory
- Sample type: Skin flap, Vesicular fluid, live moribund or dead pig

FMD Diagnostic tests

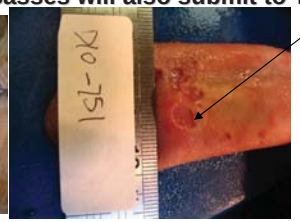
- Perform both antigen ELISA and PCR

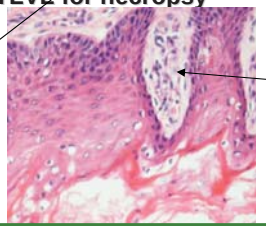
Antigen ELIZA	PCR
Type O, A, A1, & SVD Reagent supplied by IAH, Pirbright Indirect Sandwich ELISA	Gel Base PCR ▫ Type O Specifically targeted to FMD Type O ▫ VP gene Targeted to different serotypes (Use to guide non- type O infections)

- Positive: send to Institute for Animal Health (IAH), Pirbright

Necropsy

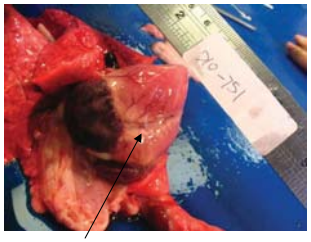
- **Live pigs and carcasses will also submit to TLVL for necropsy**





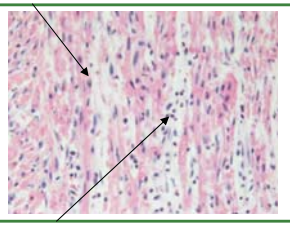
A pale sloughed necrotic area on the dorsum of tongue

Microvesicles that contained small numbers of neutrophils.



Diffusely pale with pale streaks

The myocytes were shrunken, hypereosinophilic, had lost their cross striations and the nuclei were pyknotic.



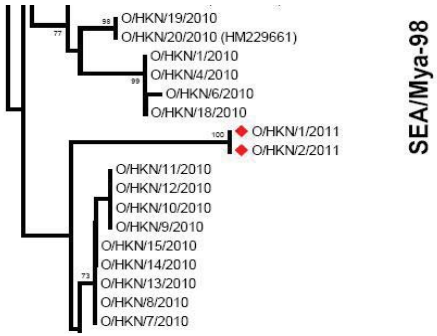
Moderate numbers of neutrophils in the necrotic area

Reference Laboratory

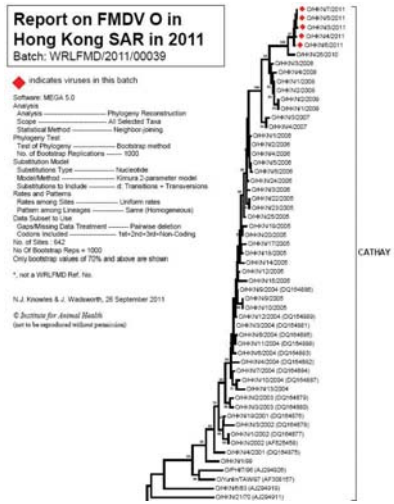
- Samples will be sent to IAH, Pirbright for further analysis

1. Phylogenetic Analysis (Mainly Cathay)
2. Strain Typing (Mainly Type O)
3. Vaccine Matching

Phylogenetic Analysis



Topotype Cathay and SEA of Type O FMDV were circulating in year 2010-2011



Vaccine Matching

- Provide information on the effectiveness of vaccine currently used
- Vaccine recommendation

Post Outbreak Investigation

- Sampling
- Education and advice for farmers
- Vaccine recommendations (vaccine matching result from Pirbright)

FMD status

- In Hong Kong, control programmes for FMD are based on vaccination, coupled with farm inspection, biosecurity and import control on livestock
- Keep close contacts with relevant international organizations to acquire updated knowledge on FMD and the latest development of control measures for the disease

Constraints

- Small market and vaccine manufacturer has low interest in supplying and developing properly formulated vaccines
- No downtime for disinfection in the slaughterhouse
- Movement of pigs and dealers' vehicles between slaughter house and local farms increased the chance of cross contamination

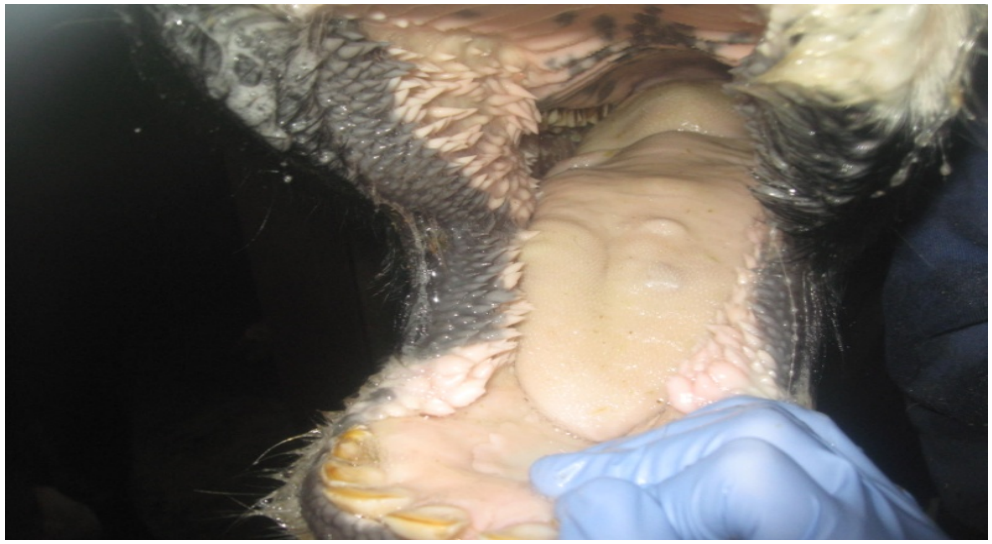
Thank You

Current Development on National FMD Control in Japan

Toshiro Kawashima
CVO, Director of Animal Health Division
Ministry of Agriculture, Forestry and Fisheries
JAPAN

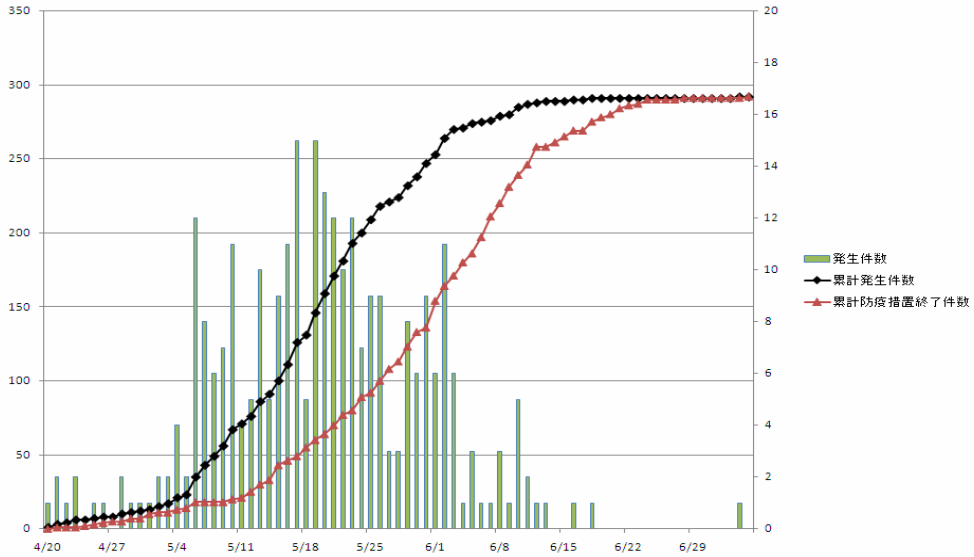
Contents

- Outline of FMD outbreaks in 2010
- Review of the FMD response (lessons learnt)
- Points of the revision of the Guidelines on FMD Prevention and Control
- Future policies



Outline of FMD outbreaks in 2010

- On 20 April 2010, an FMD outbreak was confirmed in Miyazaki and total number of the affected animals reached 211,608 heads at 292 farms.
- In order to control the rapid spread of the disease, emergency vaccination was applied for the first time in Japan (a total of 87,904 vaccinated animals were destroyed).
- The disease was consequently controlled and no case has been confirmed since 4 July 2010. All movement restrictions were lifted on 27 July 2010.



Review of the FMD response (lessons learnt)

- Unclear role sharing between the central government and the prefectural government and failure in coordinated cooperative operation
- Lack of concreteness of the biosecurity standards for farms
- Delay of detection of abnormal animals and notifications
- Delay of destruction and burial of infected animals
- Delay of decision of the emergency vaccination due to no legal basis for compensation

Contents of the revised Guidelines on FMD Prevention and Control

1. Preface
2. Basic policies
3. Prevention and preparedness
4. Detection of suspicious cases and investigation
5. Confirmation of cases
6. Immediate response
7. Control measures at affected farms
8. Control and block of the traffic
9. Movement and shipment restriction
10. Control of livestock gathering facilities
11. Establishment of disinfection stations
12. Surveillance
13. Precautional culling
14. Vaccination
15. Re-introduction of livestock
16. Epidemiological survey
17. Others

Preface

- FMD is a representative of TADs.
- FMD is so contagious that, once it should spread:

① It could lower productivity of livestock industry for a long time;

② It could threaten stable supply of livestock products to the people;

③ It could give a serious blow to local communities and regional economies; and

④ It could internationally compromise the reputation as a FMD free country.

Preface

- There is high risk that FMD will enter Japan again because the disease is continually confirmed in neighboring countries, and coming and going of people and trade between Japan and the countries are increasing.
- It is necessary to strengthen border control in cooperation with the people and tourists as well as to establish effective FMD control systems in close liaison with owners of livestock, administrative organs and related organizations.
- These guidelines will be reviewed when necessary or at interval of at least 3 years.

Basic policies

1. The most important elements for FMD control are:

- Prevention of the outbreak;
- Early detection and notification; and
- Rapid and appropriate initial responses.

Basic policies

2. It is the most important among others that livestock owners or managers follow the biosecurity standards as well as ensure that they immediately notify prefectural governments of suspicious cases showing clinical signs of FMD as a routine work.

Basic policies

3. In case of FMD outbreaks, it is important to make best efforts to prevent spreading of FMD and to contain them by prompt and appropriate initial responses.
4. The central government should promptly review the control policies or develop appropriate emergency guidelines for FMD control, if the initial responses based on the established control policies could not prevent the disease from spreading.

Prevention and preparedness

- Prefectural governments should promptly inform all livestock owners or managers and concerned organizations of recent global situations of FMD when they receive them from the central government.
- In order to develop awareness of FMD control in livestock owners and managers and to ensure they follow the biosecurity standards, prefectural governments should regularly conduct on-the-spot inspections at least once a year and hold seminars for them.
- Prefectural governments should give advice, recommendations and orders to livestock owners or managers who do not follow the biosecurity standards.

Initial response when found to be FMD positive

- Ministry of Agriculture, Forestry and Fisheries(MAFF) should establish a task force for FMD control.

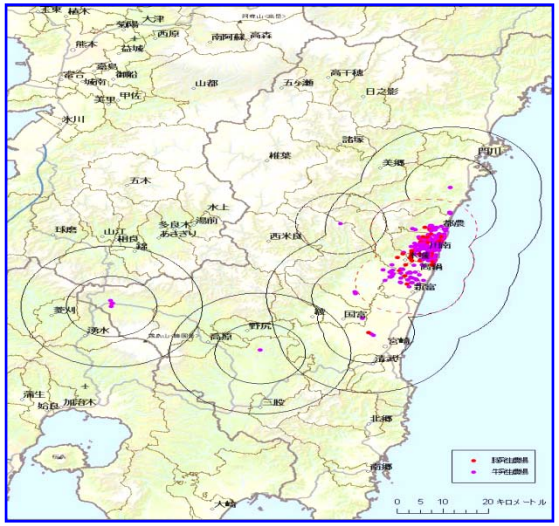
  (Director General: the Minister)
- MAFF should dispatch to FMD affected prefectures liaisons, experts, emergency support teams and epidemiological survey teams.

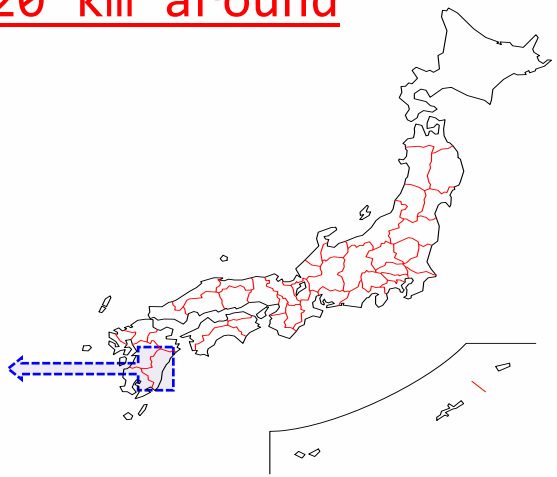
Control measures taken at affected farms

- The culling should be promptly completed within 24 hours.
- They should be buried within 72 hours.
- Prefectural governments should bury livestock derived products, excretions, bedding, feed and other possible contaminated goods in affected farms or the surroundings.

Establishment of movement/shipment restriction zones

- Prefectural governments should establish areas within a radius of 10 km around affected farms as movement restriction zones where movements of livestock and others are prohibited.
- Prefectural governments should establish shipment restriction zones where carrying-out of livestock and others are prohibited, circumscribing movement restriction zones, within a radius of 20 km around affected farms.



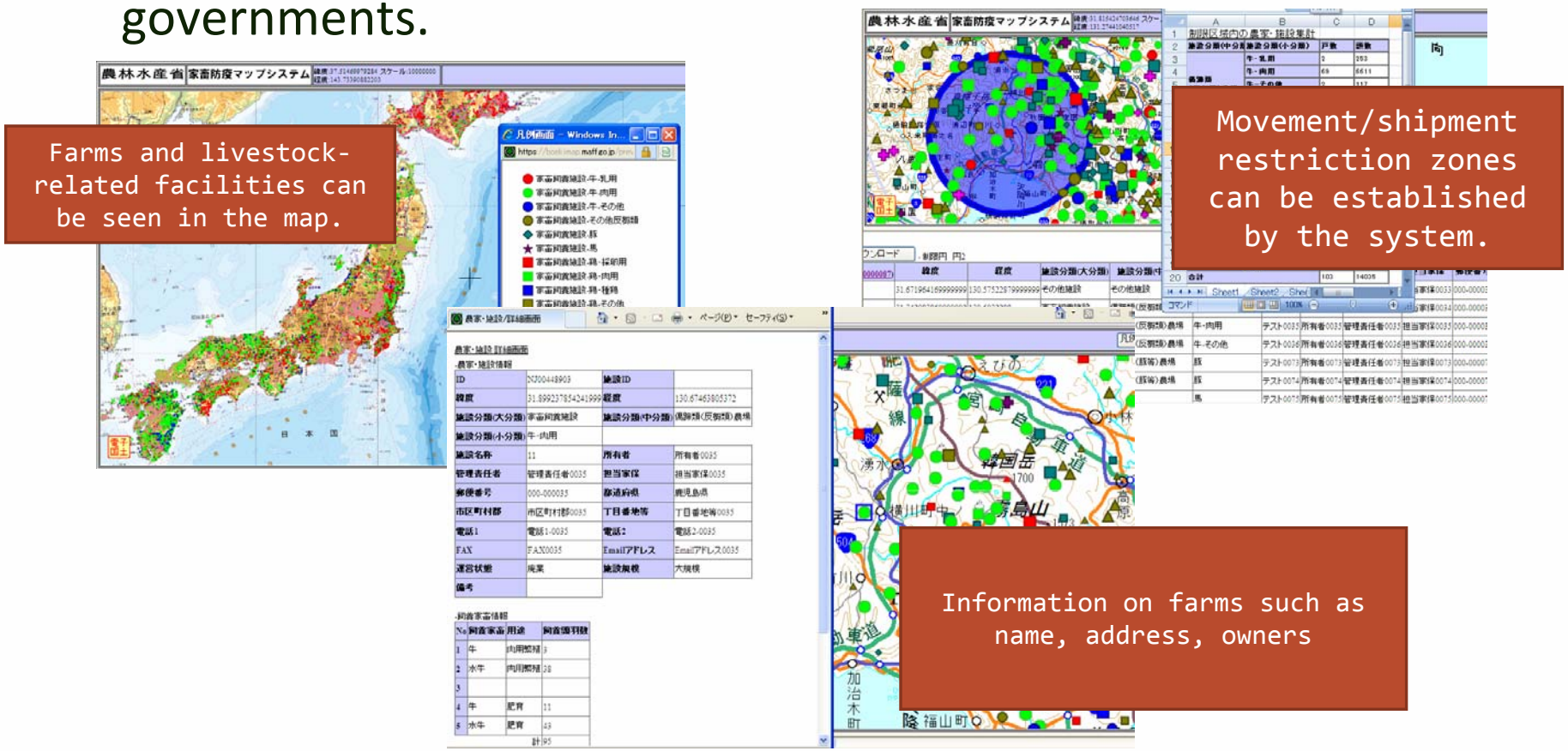


Establishment of disinfection stations

- Prefectural governments should establish disinfection stations promptly after confirmation of FMD outbreaks, placing great importance on prevention of spread of FMD infection to surrounding farms and to the outsides of movement and shipment restriction zones.

Map system for controlling animal diseases

- “Map System for Controlling Animal Diseases” was developed in October 2012 and has been available by all prefectural governments.



Surveillance

- Prefectural governments should collect epidemiological information on livestock, people and vehicles that visited the affected farms, and trace the epidemiologically-related farms.
- When outbreaks of FMD are confirmed, prefectural governments should conduct investigation by telephone, on-the-spot inspections and FMD freedom surveillance.

Surveillance

- **On-the-spot inspections**:
  - Farms within at least 1 km from affected farms within 24 hours after the diagnosis
  - Subsequently all farms in movement restriction zones
  - Clinical inspections, PCR and serological antibody tests
- **FMD freedom surveillance**:
  - All farms in movement restriction zones
  - After 10 days have passed since completion of all control measures at every farm.
  - Clinical inspections and serological antibody tests

Precautional culling

- MAFF should determine to adopt precautional cullings if it is difficult to prevent FMD infection from spreading only by culling and movement control, taking into account the followings:

① Time lags of notifications (conditions of lesions, the number of affected livestock and others);

② Spread of the infection (the number of epidemiologically related farms and presence or absence of swine cases);

③ Environmental factors (the number of surrounding farms, density of livestock, existence of mountains and rivers, and others); and

④ State of progress of control measures including destroying by burial.

Future policies

- To collect and analyze more detailed FMD outbreak information in Asia
- To strengthen import and export quarantine
- To encourage farmers to adopt the biosecurity standards and to continue FMD prevention
- To regularly carry out desktop simulations and FMD control exercises
- To ensure effective FMD vaccine stock
- To promote research and development (rapid and simple diagnostic techniques)

~ Thank you for your attention ~

FMD Outbreaks and Control Strategy (Rep. of Korea)

November 13th 2012

Joonkul Kim, DVM, MS

General Animal Health Division

Ministry for Food, Agriculture, Forestry and Fisheries

Contents

FMD Outbreak Situation

FMD epidemics in KOREA

Five epidemics of FMD from 2000 to 2010

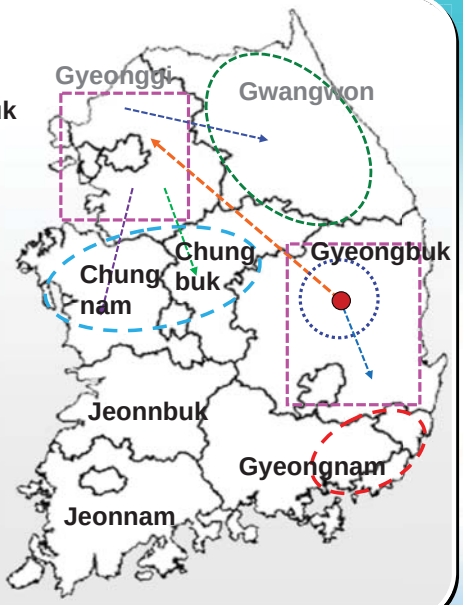
- 1st : Mar 2000, 15 Cattle farms, O type, Ring Vaccination
- 2nd : May 2002, 15 Pig+1 Cattle farms, O type, Stamping-out
- 3rd : Jan 2010, 6 Cattle+1 Deer farms, A type , Stamping-out
- 4th : April 2010, 8 Cattle+5 Pig farms, O type , Stamping-out
- 5th : Nov 2010, 153 Cases (3,743 farms), O type, Nationwide Vacc.

Overview of massive FMD epidemic in 2010/2011

No of infected farms		153 farms (3,748 heads)
Duration		145 days (Nov 28, 2010 – April 21, 2011)
Region		11 Provinces (75 Cities/Counties)
No of culled	Cattle	150,864
	Pig	3,318,298
	Goat+Deer	10,800
	Total	3,479,962
Eradication policy		Stamping out → Vaccination
Economic losses(USD)		Approximately 2 billion (1.7 bil. for animal compensation)
Causes of FMD invasion (presumed)		Tourist, Foreign worker, Livestock product

FMD Transmission in 2010/2011

- 2010.11.28. FMD occur in Gyeongbuk
- 12.14. Spread to Gyeonggi
- 12.21~ Spread to other Provinces



FMD Control Strategic plan

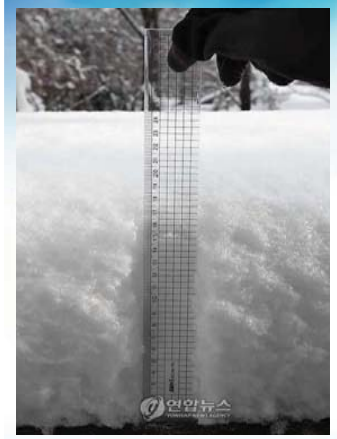
Lesson learnt : major causes of FMD amplification

- Initial reaction failure because of Judgment Error of local vet official
- Occurrence in huge pig complex(frequent people movement and traffic)
- Spread before showing specific symptoms (during latent period, 2wks)
- Less effect on disinfection because of severe cold during winter
- Inadequate animal farming and animal disease control system
  - low consciousness of the disease among officials and farmers
  - poor sanitation and densely populated environment


Disinfection Site


High-way tollgate

Lesson learnt : major causes of FMD amplification

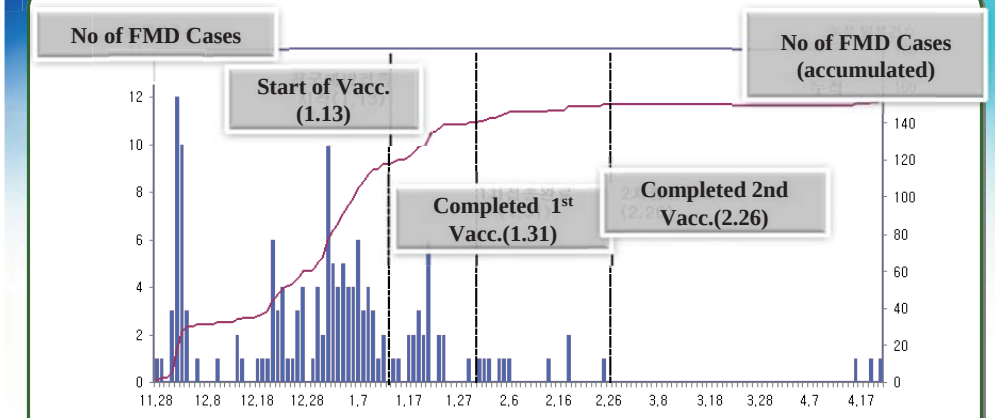


24 cm snow

Heavy snow on the road

Freezing temp.

FMD Outbreaks Situation after blanket Vaccination



- O (Manisa) monovalent vaccination : Jan 13, 2011
- Trivalent vaccination(O+A+Asia1) : After September, 2011
- Outbreaks reduced after vaccination

FMD vaccination schedule in Korea

Species	Ages	Dose	Remark
Cattle	Calf : 2 months(1st), 3 months(2nd) Adult : every 4-7 months interval	2 ml	Compulsory
Pig	Pregnant pig : 3-4 WK to parturition Boar : every 4-7 months interval Piglet : 8-14 weeks Gilt : 2 months(1st), 3 months(2nd)	2 ml	
Goat	Young : 2 months(1st), 3 months(2nd) Adult : every 1 year interval	1 ml	
Deer	Young : 2 months(1st), 3 months(2nd) Adult : every 4-7 months interval	2 ml	Autonomous

FMD Vaccination Management

- Mandatory vaccination against FMD (Ministerial Order)
  : Trivalent vaccine O(Manisa) + A(Malaysia) + Asia1(Shamir)
  : 32~35 million doses annually
- FMD vaccination certificate required for trade and slaughter
- Active serological surveillance to determine vaccination compliance (SP/NSP antibody tests) : Fines for non-compliance up to 5 million won (USD 5,000)

Serological Surveillance

DIVA Strategy by applying NSP free vaccine (Merial, MSD)

- SP antibody test to determine vaccination compliance

  Cattle 99.4%, Breeding pigs 77.9%, Fattening pigs 55.3% as of Sep 2012

- NSP antibody test to monitor field virus circulation

  (2011) 1,100 animals at 152 farms → No viral antigen

  (2012) 1,806 animals at 285 farms → No viral antigen

NSP positive animals be encouraged to early slaughter

Incentives to encourage Vaccination

- Supply of vaccines to small farms free of charge

  (cattle < 50, pig < 1,000)

- Subsidy to large farms for purchase of vaccines

  (50% of the vaccine price)

- Support of vaccinators(veterinarians) for small cattle farms

Compensation for slaughtered animals reduced to 80% of market price in case of FMD infection

Antigen Bank

Vaccination Preparedness for other Serotypes

- Antigen Bank of 300 thousand doses for each serotype (SAT1, SAT2, SAT3, C) for emergency ring-vaccination
- Available as final product within 6 working days in emergency

Border Quarantine

- Mandatory report and sanitation procedure for people entering from countries with FMD infection

  * Target : livestock related people entering from infected countries

- Operation of quarantine detector dogs : 43 dogs(Handlers 16)
- International airport and habor : shoes disinfection carpet
- Food waste in airport or ferry : regular audit & discard

Establishment of rapid reaction system

- **Improvement of disease control maunal**: Strengthen control measures at the early outbreak stage
  - * Nationwide standstill for temporary restriction of movement in case of introduction of new serotype (SAT1,2,3, C type) or strain : duration within 48 hours
  - * Emergency vaccination
- Operation of **emergency disease control center**(Risk period : Nov – May)
- **Annual disease control exercises(CPX)**
  - * Field simulation, Table-top simulation, Evaluation

Improvement of disease control manual for rapid response

[Vaccine Serotype outbreaks]

- **Only infected animal destroyed**
- **Restrict movement** of infected and epidemiologically linked farms
- **Movement control posts** and **disinfection**
- Provincial/Local veterinary officers dispatched to outbreak areas

Improvement of disease control manual for rapid response

Introduction of new FMD serotype (SAT 1,2,3, C type)

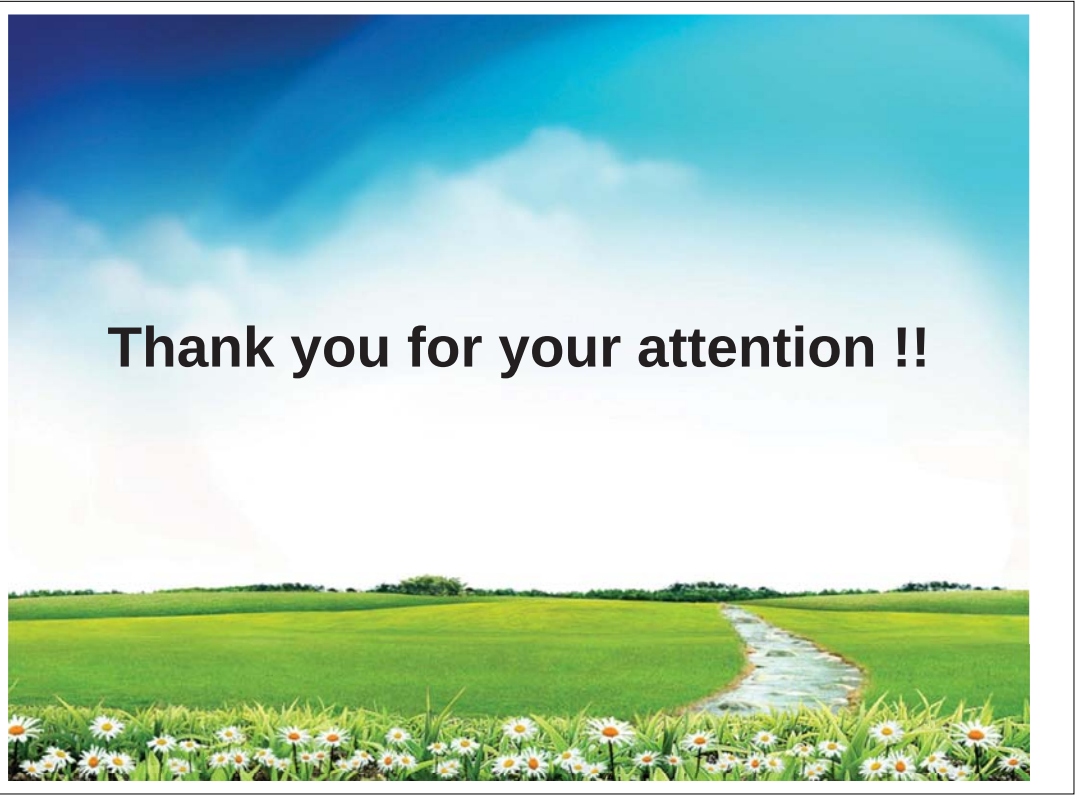
- **Standstill** for restriction of movement
  - All farms, farm workers and vehicles that can possibly spread FMD
- **Emergency vaccination**
- **Highest National Emergency level (Critical Level) issued**
  - 1. Attention (FMD in neighboring countries) → 2. Caution (Case confirmed) → 3. Warning (Spread) → 4. Critical (Widespread)
- **Culling** : within 500m radius of infected farms

Action plan for FMD Free status

Recognition of FMD free country with vaccination in 2014

FMD Free country plan (3 step)

- (Step 1) Set up infrastructure for eradication (April2011~September 2013)
  - – Maintain non-outbreak for at least 2 years with more than 80% of immunity by vaccination
  - – Expand serological surveillance(NSP, SP test) including wild animal
- (Step 2) Confirm FMD free status (October 2013~December 2015)
  - – FMD free country where vaccination is practised (May 2014)
- (Step 3) Risk assessment to consider stopping vaccination (2016~)


Thank you for your attention !!

CURRENT ACHIEVEMENTS ON FMD CONTROL IN MONGOLIA

First Coordination Committee Meeting of the
OIE/JTF Project for FMD Control in Asia
TOKYO, JAPAN 13-14 NOVEMBER 2012

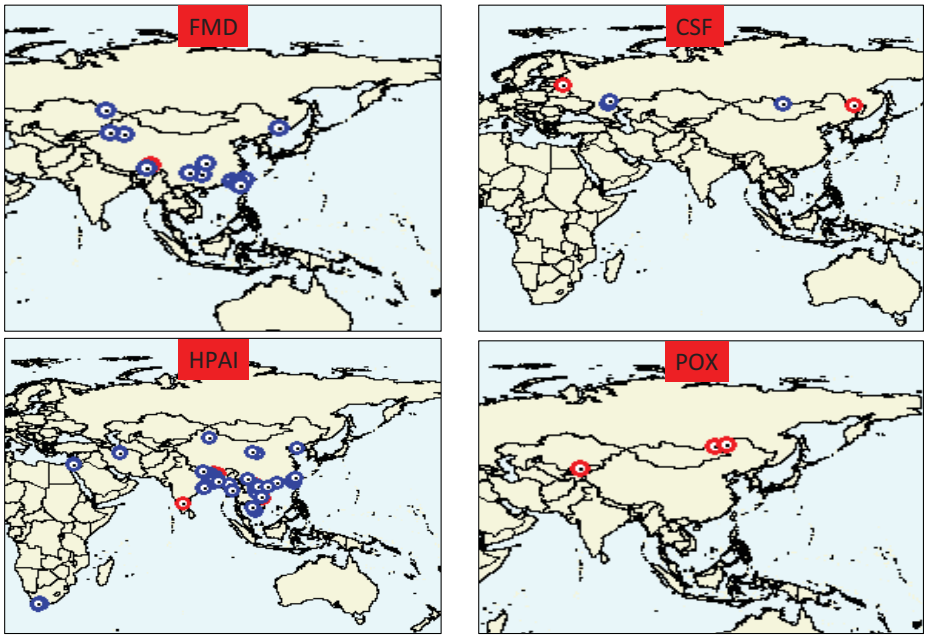
KH.GANZORIG, S.DIVANGAR, Z.BATSUKH

MONGOLIA

Contents

- FMD vaccination in eastern zone
- FMD control strategy
- FMD serosurveillance
- OIE expert mission for FMD free zone issues (2012.08.20-24)
- FAO TCP/MON3304 project
- FMD diagnostic training in Japan (May –Nov, 2012)

Current TAD status in the region



Vaccination strategy in Eastern Mongolia

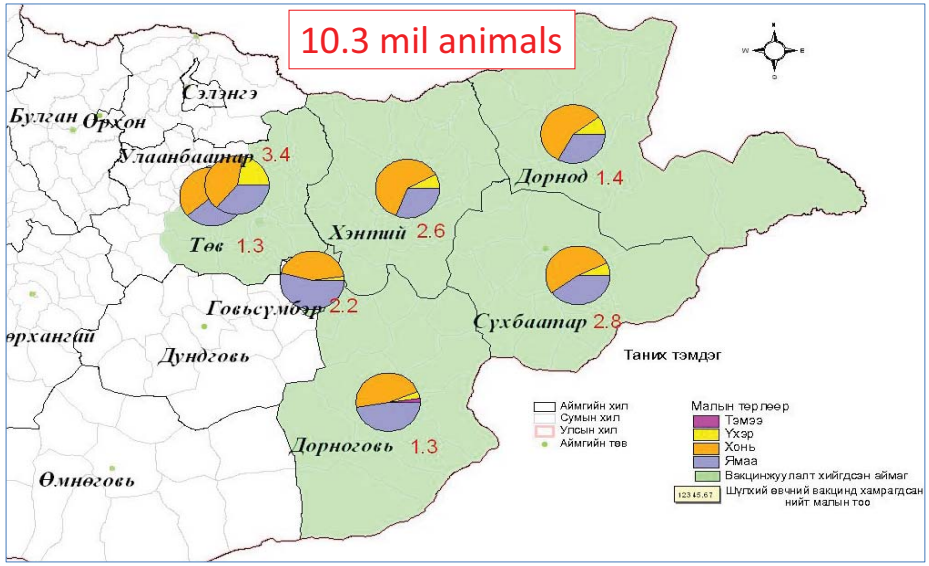
- Strict cold chain
- All susceptible animals
- Vaccination 6 months interval
- New born animals are injected twice within 14 days interval and shift to normal 6 months interval
- Reduce vaccination coverage, basing on the surveillance result and regional FMD situation
- Stop vaccination in 2014 and shift to active surveillance

Number of vaccinated animals

(May 2012)

No.	province	total	animal species			
			camel	cattle	Sheep	goat
1	Khentii	2 635 737	3 894	216 201	1 598 084	817 558
2	Sukhbaatar	2 824 084	12 915	196 164	1 498 308	1 116 697
3	Dornogovi	1 342 740	26 636	52 759	635 676	627 669
4	Dornod	1 494 680	7 421	154 555	856 290	476 414
5	Govi-sumber	226 279	687	5 416	98 778	121 399
6	Tuv	1 361 329	1 354	82 190	754 979	522 806
7	Ulaanbaatar	343 669	190	73 969	142 937	126 573
	Total	**10 228 518**	**53 097**	**781 254**	**5 585 051**	**3 809 117**

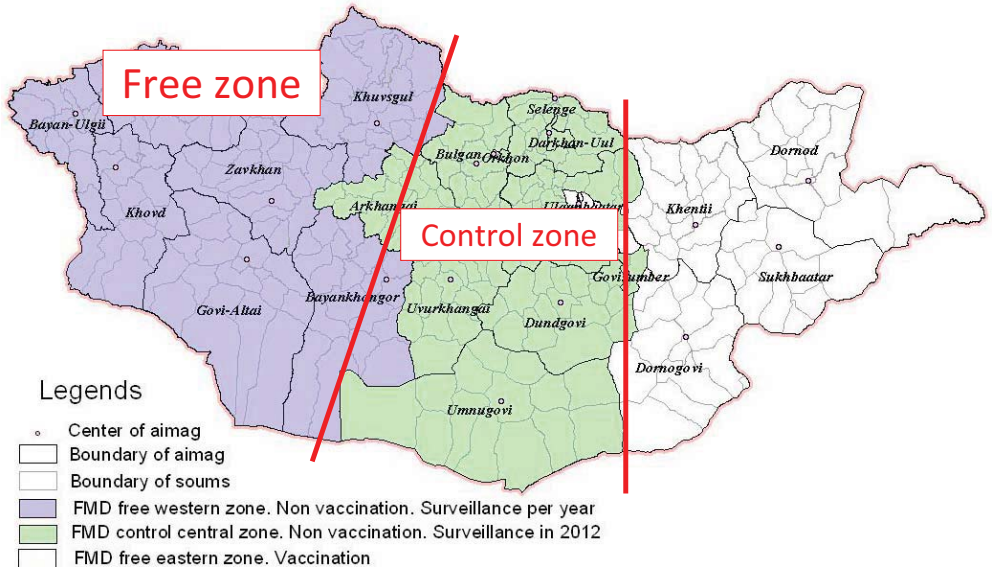
FMD vaccination area



Vaccination coverage survey result in 2011

Province	Number of serum	(n) number of immunized animal / (%) immune rate by virus type			
		A		O	
		quantity	%	quantity	%
Ulaanbaatar	**207**	**146**	**70,5**	**192**	**92,8**
Sukhbaatar	**228**	**201**	**88,2**	**212**	**93,0**
Dornogovi	**270**	**210**	**77,8**	**238**	**88,1**
Khentii	**240**	**185**	**77,1**	**208**	**86,7**
Tuv	**394**	**248**	**82,9**	**342**	**86,8**
Total and average	**1339**	**990**	**79,3**	**1192**	**89,48**

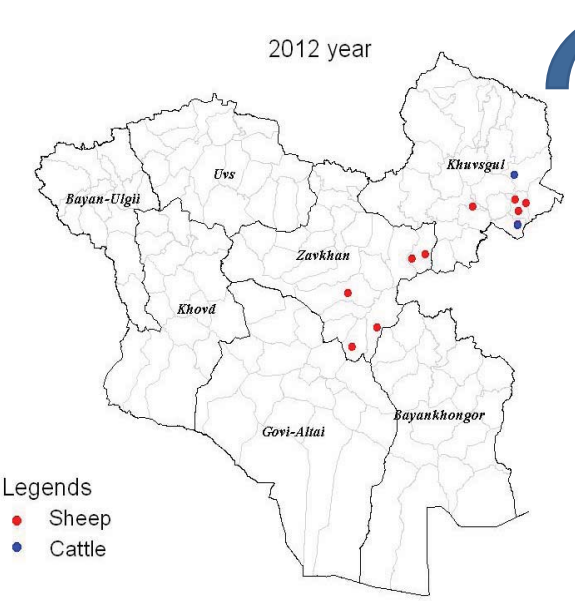
FMD serosurveillance in 2012



Surveillance result in free zone (2012)

	Name of province	total		cattle		yak		sheep		camel		goat	
		n	+	n	+	n	+	n	+	n	+	n	+
1	Bayan-Ulgii	1320	0	281	0	49	0	946	0	0	0	44	0
2	Bayankhongor	1380	0	345	0	0	0	1035	0	0	0	0	0
3	Govi-Altai	1213	0	313	0	0	0	661	0	0	0	239	0
4	Khovd	1320	0	330	0	0	0	990	0	0	0	0	0
5	Khuvsgul	960	6	249	3	5	0	706	3	0	0	0	0
6	Uvs	1560	0	387	0	0	0	874	0	25	0	274	0
7	Zavkhan	1536	5	373	0	0	0	1163	5	0	0	0	0
	Total	**9289**	**11**	**2278**	**3**	**54**	**0**	**6375**	**8**	**25**	**0**	**557**	**0**

GPS point of positive reactors



11x60=660 animals

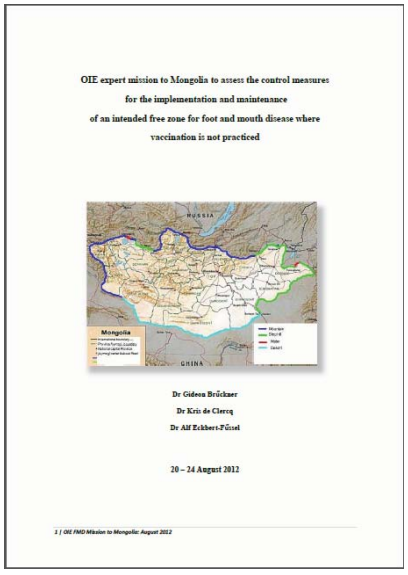
7 reactors

no positive by PCR

Surveillance result in control zone (2012)

	Name of province	total		cattle		yak		camel		sheep		goat	
		n	(+)	n	(+)	n	(+)	n	(+)	n	(+)	n	(+)
1	Arkhangai	720	5	165	0	15	0	0	0	540	5	0	0
2	Bulgan	840	3	210	2	0	0	0	0	626	1	4	0
3	Darkhan-Uul	240	4	60	2	0	0	0	0	180	2	0	0
4	Orkhon	1110	1	120	0	0	0	0	0	990	1	0	0
5	Dundgovi	960	8	237	3	0	0	3	0	720	5	0	0
6	Umnugovi	960	19	45	0	0	0	195	1	720	18	0	0
7	Uvurkhangai	720	4	180	1	0	0	0	0	540	3	0	0
8	Tuv	1380	3	345	0	0	0	0	0	1035	3	0	0
9	Govi-Sumber	240	37	60	4	0	0	0	0	73	4	107	29
10	Selenge	840	9	210	4	0	0	0	0	630	5	0	0
	total	**7170**	**84**	**1422**	**12**	**15**	**0**	**198**	**1**	**5424**	**42**	**111**	**29**

OIE expert mission for FMD free zone


OIE expert mission to Mongolia to assess the control measures
for the implementation and maintenance
of an intended free zone for foot and mouth disease where
vaccination is not practiced

Dr Gideon Brückner
Dr Kris de Clercq
Dr Alf Eckbert-Füssi

20 – 24 August 2012

Action plan created based on OIE expert's report

FAO-TCP/MON/3304

The main objective is to investigate the livestock and wildlife disease interface in the two provinces affected by FMD in 2010 and to gather the information necessary to evaluate transmission among livestock and gazelle thereby supporting strategic objective: improved preparedness for, and effective response to, food and agricultural threats and emergencies.

Outputs/outcomes

- Found answers to the questions whether FMD is being persistent in gazelles present in East Mongolia;
- Improved understanding of interface between cattle and gazelle to transfer infection of FMD to each other;

Activities

- To follow up livestock's movement in the two provinces affected by FMD in 2010
- Through random sampling to expose if there is any persistent infection among gazelle population in the areas affected by the FMD in 2010
- Through random sampling to expose if there is any infection among dead gazelles in the areas affected by the FMD in 2010
- Laboratory analysis of taken samples
- Data processing on livestock & gazelle's movement, gazelle's role in FMDV transmission

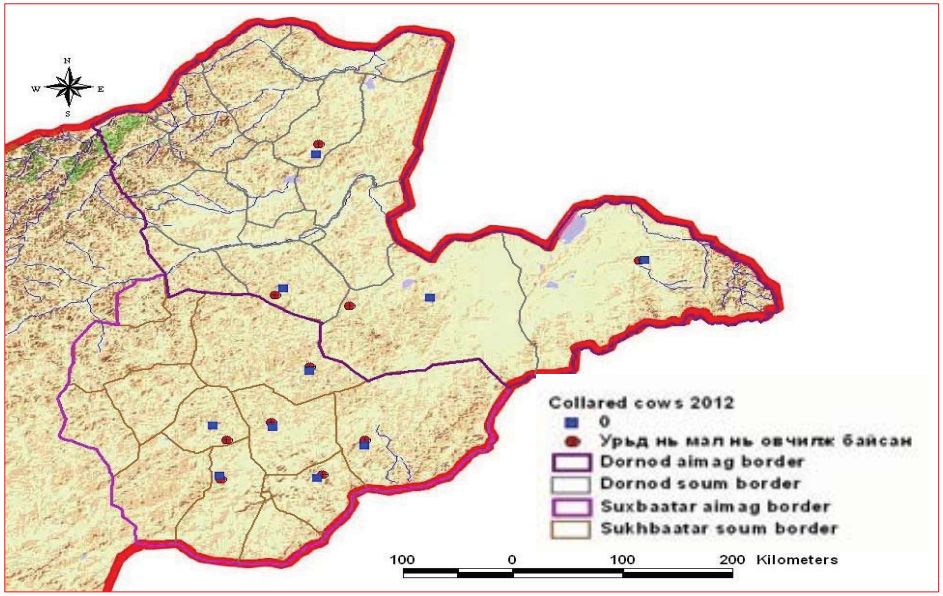
Follow up livestock movement

GPS/UHF, Savannah Tracking collar used on 20 cattle from 10 soums.

Herders selected for cattle telemetry from affected soums from Dornod or Sukhbaatar with inclusion of herders from the most severely affected soums.

Herders that have had livestock diagnosed clinically with FMD will be matched with those that were unaffected (similar location, similar size herd) during the FMD outbreak (i.e. case and non-case from the same approximate location).

GPS/UHF, Savannah Tracking collar used on 20 cattle in 10 soums of Dornod and Sukhbaatar



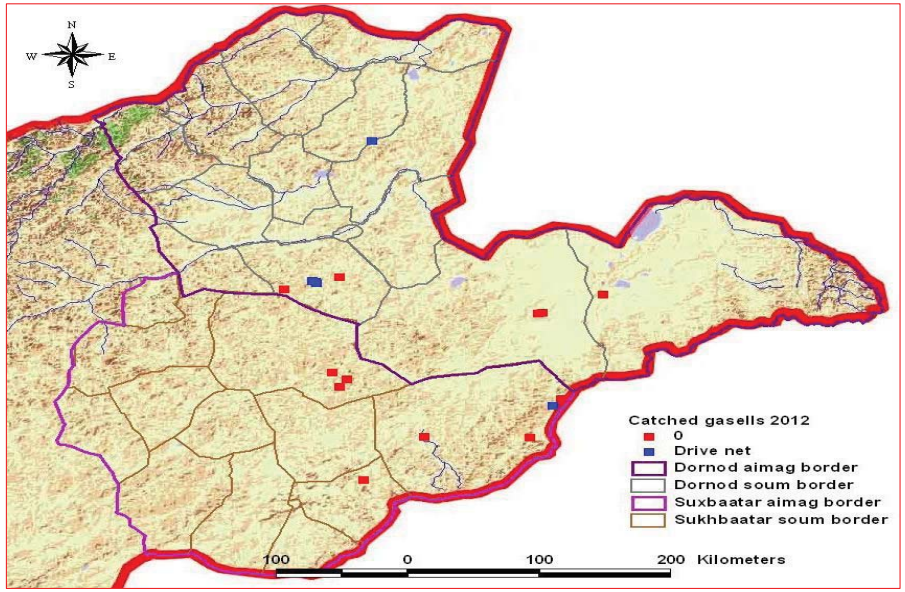
Diagnostic Sampling of livestock

Once the selection of herders had been carried out, serum samples collected from 10 cattle, 15 goats, and 15 sheep from each household. Total 690 serum and 30 probang sample collected by first trip.

Questionnaire for Livestock farmers

A questionnaire have administered to each herder where cattle sampled. The questionnaire seek to gain details of location of the herder in relation to the quarantine zone from the 2010 outbreak. Data also were obtained on interactions with livestock from other herders (when, where and under what circumstances) and gazelle i.e. when, where gazelle were sighted.

Live gazelle Capture and Sampling



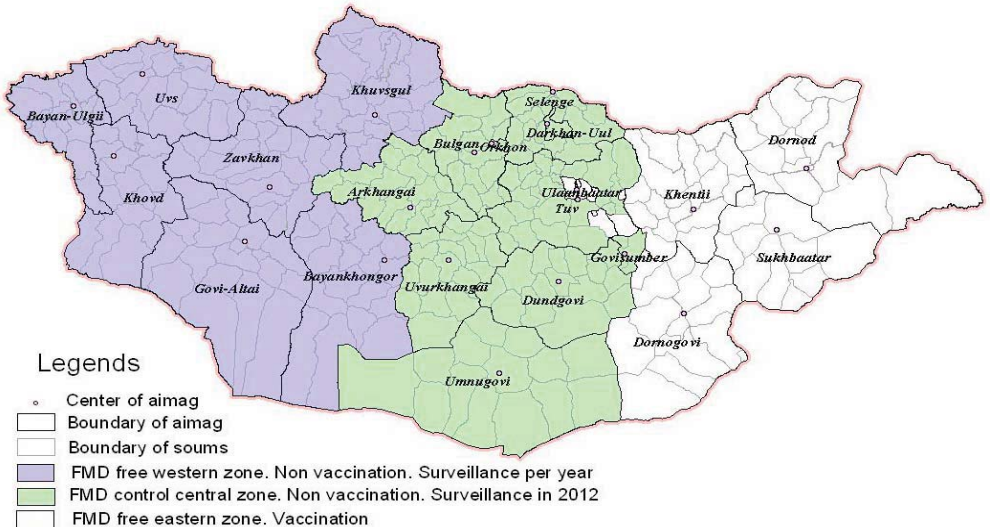
FAO TCP-E

- Meeting in Mongolia , April 2012 and involvement of OIE RR
- Planned trilateral meeting in Moscow 22-25 January 2013
- Value chain analysis in border are of China and Mongolia
- Surveillance for FMD in boarder are of China and Mongolia
- Russia permitted meat importing from central region of Mongolia

FMD diagnostic training in Japan (May –Nov, 2012)

1. Cell culture（IBRS-2、ZZR-127、BHK-21）
2. Virus isolation （FMDV)
3. Virus neutralization test （VNT)
4. Sequencing are acquired during the 6 months

National strategy to control FMD



FMD zones and FMD PCP Level 2013-2017

	Western Mongolia: free zone without vaccination	Central FMD free zone : II free zone without vaccination	FMD transition zone	Eastern Mongolia: FMD free zone with vaccination
2013 он				
Actual PCP level	PCP 5	PCP 4	PCP3	PCP2
PCP level to be achieved	Free zone without vaccination official status	PCP5	PCP4	PCP3
2014 он				
Actual PCP level	Free zone without vaccination official status	PCP 5	PCP3	PCP3
PCP level to be achieved	Free zone without vaccination official status	PCP5	PCP5	PCP3
2015 он				
Actual PCP level	Free zone without vaccination official status	PCP 5	PCP3	PCP3
PCP level to be achieved	Free zone without vaccination official status	Free zone without vaccination official status	PCP5	PCP3
		2016 он		
Actual PCP level	Free zone without vaccination official status	Free zone without vaccination official status	PCP5	PCP3
PCP level to be achieved	Free zone without vaccination official status	Free zone without vaccination official status	PCP5	PCP3
		2017 он		
Actual PCP level	Free zone without vaccination official status	Free zone without vaccination official status	PCP5	PCP3
PCP level to be achieved	Free zone without vaccination official status	Free zone without vaccination official status	PCP5	PCP4

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Thank you for your listening

OIE/JTF Project on FMD Control in Asia

Revised Framework of the Project

1st Coordination Committee Meeting of OIE/JTF Project on FMD Control in Asia
Tokyo , Japan, 13-14 November 2012

Itsuo Shimohira : Regional Representative for Asia and the Pacific

New programme for FMD control in East Asia

OIE/JTF Project on FMD Control in Asia was commenced for 5 year (2011-2015) in the region under the **new OIE/JTF programme**

Budget : 570,000 USD / year under OIE/JTF programme (including the GF-TADs coordination activities by OIE AP)

Sub-region covered : OIE Members in the East Asia (Japan, RO Korea, PR China, Mongolia, Chinese Taipei), SEACFMD members and Hong Kong SAR.

Other OIE Members in Asia may be covered in the project if deemed appropriate by the Coordination Committee.

Activities:

- Strengthen Information Sharing on FMD in East Asia
- Develop Regional Roadmap and Cooperation in East Asia
- Strengthen capacity of diagnosis for FMD
- Improve Control Measures (by the field study)

Inception Meeting was organised on 13-14 December, 2011, Tokyo, Japan

Conclusions and Recommendations of the Inception Meeting OIE/JTF Project on FMD Control in Asia

- Closely collaborate and coordinate between OIE/JTF Project for FMD Control in Asia and SEACFMD Campaign as well as other projects
- Promote information sharing on FMD in the region
- Develop strategies and a Road Map for FMD control in East Asia
- Strengthen the capacity of surveillance and diagnosis for FMD and Improve the FMD control measures in national and regional levels

- The proposed Project framework, implementation scheme and Activities proposed were supported by participants

- However the final version of the Framework for the project will be approved by the OIE HQ

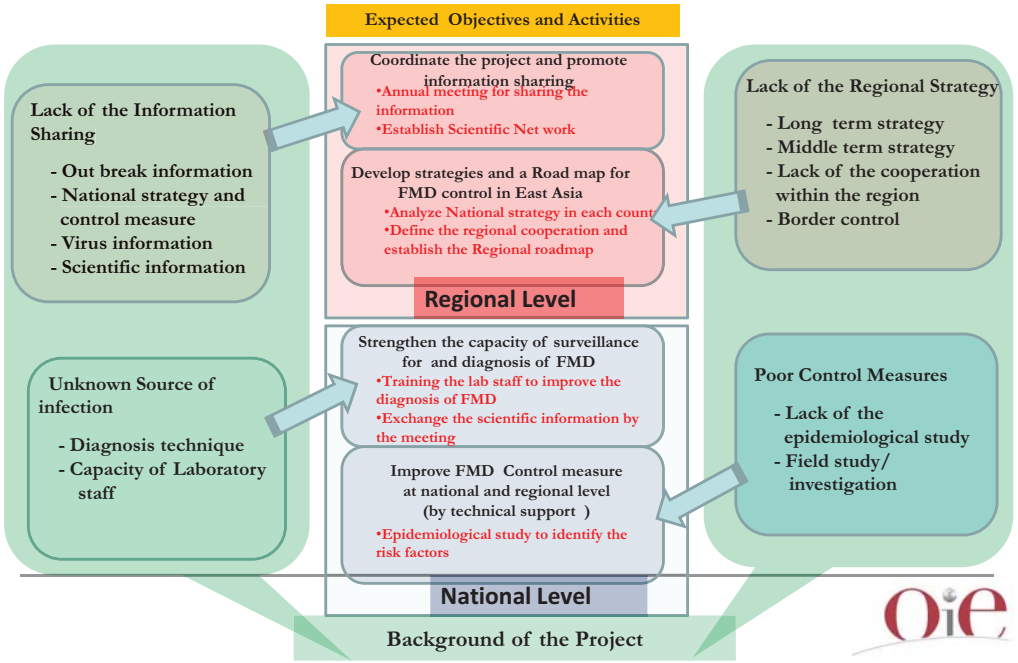
- Therefore the outcomes of the Meeting is used to complete the final design and the Framework of the Project in collaboration with the OIE HQ.

Chronology of Amendment of Project Framework

- **December 2011**: The Draft of the Framework was proposed at the Inception meeting
  - **Project framework, implementation scheme and Activities proposed were supported by participants**
  - **The outcomes of the Inception meeting will be used to complete the final design of the overall Project in collaboration with OIE Headquarters**
- **March 2012** : The draft framework of the Project was presented at the SEACFMD Sub Com meeting and the OIE HQ suggested the amendment of the project Framework
  - **The project should contribute to the SEACFMD campaign by the eligible activities under the OIE/JTF project**
  - **More simplified coordination system (not many group for management scheme)**
- **March- May 2012**: Through the discussion with OIE HQ, MAFF and OIE AP
  - **The Framework was revised based on the suggestion from HQ and the eligible activities to support SEACFMD campaign were identified**
- **June 2012**: Revised Project Framework was endorsed by the OIE HQ
- **July 2012**: Presented the new Framework of the project at the 6th GF-TADs SC meeting
- **August 2012**: At the NCP workshop, New Framework of the project and the procedure to develop the Regional Road Map in East Asia were discussed
- **September 2012**: At the NC meeting of the SEACFMD in Manila, the New Framework was presented by OIE AP.

Background and Activities of the Project

Final Goal: Significant decrease of FMD outbreak in Asia by strengthen prevention and control measures against



Achievement 1:
Coordination the project and Promote the information sharing on FMD in Asia

- **Objectives:**

  To provide coordination platform for MS to discuss, and decided cooperative activities of the project and share experience and information

- **Activities:**

  1.1) Organise the First Regional Workshop (Inception meeting) of the project

  1.2) Organise Annual Coordination Committee Meeting (starting 2012)

  1.3) Organise the Scientific meeting to strengthen lab network among FMD researchers in Asia

  1.4) Share scientific information including the circulating virus and vaccines

Achievement 2 :
Developing strategies and a Roadmap for FMD control in East Asia

- **Objectives:**

  To develop a Roadmap for FMD control in East Asia by using, among others, the Progressive Control Pathway for FMD (PCP) while ensuring to be in line with the Global Strategy for FMD Control and in coordination with SEACFMD.

- **Activities:**

  2-1) To analyze national FMD control Strategy in each country

  2-2) To develop a Roadmap for FMD control in East Asia

  2-3) To define regional cooperation

Achievement 3 :
Strengthen the capacity of surveillance for and diagnosis of FMD

- **Objectives:**

  To improve FMD surveillance and diagnosis capacity at a national level and harmonize diagnosis capability at the regional level

- **Activities:**

  3-1)To select target countries after assessing the needs for capacity building

  3-2)To conduct or support training programmes for FMD surveillance and diagnosis for the target countries by OIE Collaborating Centres/Reference Laboratory.

Achievement 4 :
Improve the FMD control measures in the region

- **Objectives:**

  To assist regional Members to improve FMD control measures by providing technical supports

- **Activities:**

  4-1) To select target countries after feasibility study, based on submitted proposal by the countries

  4-2) To assist the target countries to plan and implement field work on FMD

  4-3) To study circulating FMD viruses in Asia and share the information

Implementation Scheme

Project Management

- **Coordination Committee (CC)** shall be established for policy support, scientific coherence, smooth implementation and management of the OIE/JTF Project on FMD Control in Asia. The Coordination Committee comprises the Chief Veterinary Officers (CVOs) of the Regional Members.
- **Coordination Committee Meeting (CC Meeting)** will be annually organised by the OIE Regional Representation for Asia and the Pacific to discuss a plan and activities of the project and to **develop and endorse the strategy and a Roadmap for FMD control in East Asia.**
- Participants of **CC Meetings include CC members**, **National Contact Persons (NCPs),** national experts from the Regional Members, experts from OIE Collaborating Centres/Reference Laboratories, CVO of Hong Kong SAR, OIE Regional Representative for Asia and the Pacific, and OIE Sub-Regional Representative for South-East Asia
- **NCPs** are designated by CVOs of the Regional Members to support the project as contact points and **prepare a draft Roadmap for FMD control in East Asia during the NCPs workshops to be held once or twice (if necessary) per year.**

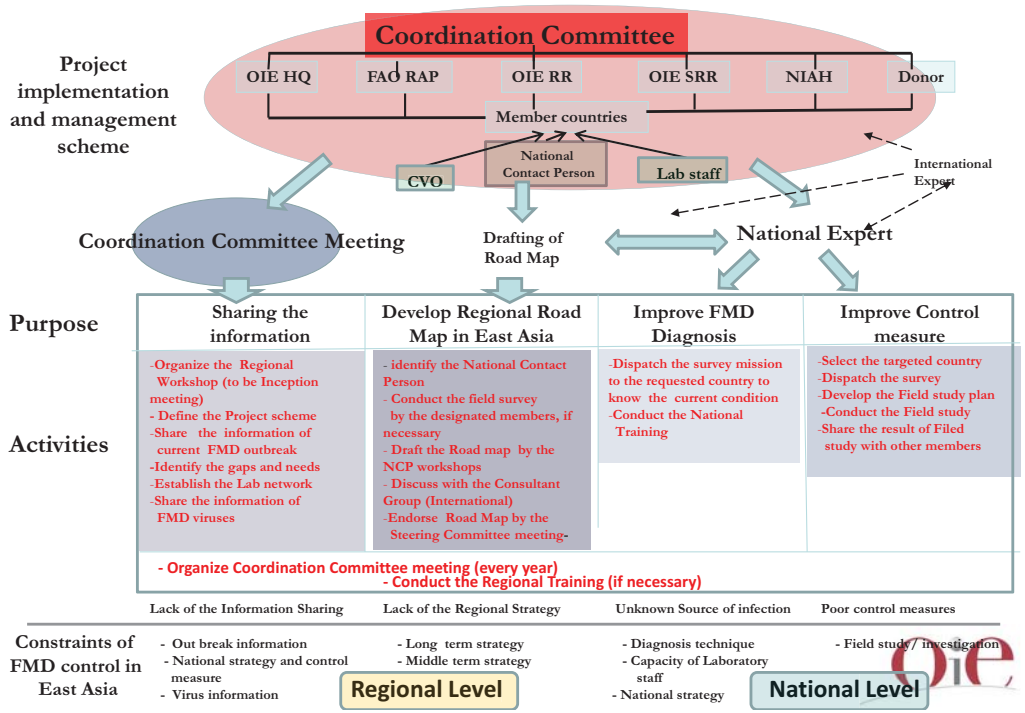
Regional Activities

1. Coordination Committee Meeting for Information sharing
2. Development of Regional Strategy and Roadmap for East Asia (draft by the NCPs workshops and endorsed by CC meeting)
3. Scientific meetings
4. Regional Trainings

Country specific activity (Field work)

1. Upon request of MS, the technical assistance and Field study could be provided (Country-specific training and Field study).
2. In some cases, mission team may be dispatched for feasibility study

Outline and Implementation scheme of the Project



Contribution to SEACFMD Campaign

After discussion with OIE HQ and the Ministry of Agriculture, Forestry and Fisheries (MAFF) in Japan, it was suggested that the project should contribute to the SEACFMD campaign by undertaking the eligible activities under the Project .

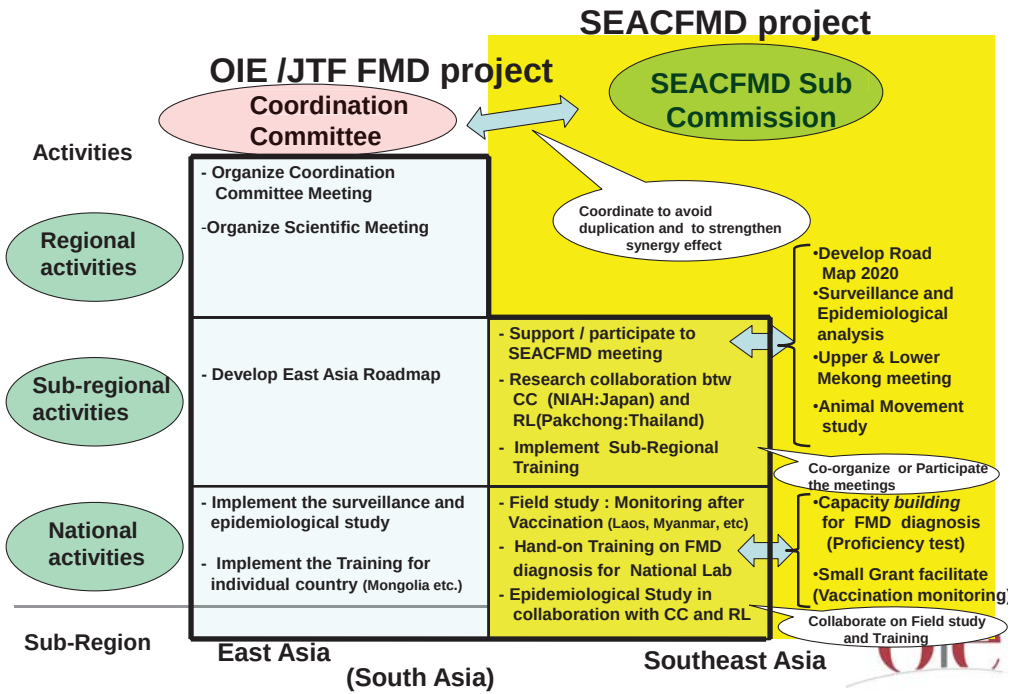
The **eligible activities of the OIE/JTF project** which is expected to contribute and collaborate to the SEACFMD campaign are as followings.

- Support / participate to SEACFMD meetings
- Field activities for FMD surveillance and study in SEA region
- Field study monitoring of FMD antibody after the vaccination by the Japanese donation
- Capacity building for the laboratory staff on the Diagnosis techniques for FMD control
- Technical training for SEA on the FMD diagnosis in NIAH Japan

etc.

/

OIE/JTF FMD activities in coordination with SEACFMD project



THANK YOU FOR YOUR ATTENTION

OIE/JTF Project on FMD Control in Asia: Progress Report 2011-2012

Chantanee Buranathai
OIE Asia-Pacific

Inception Meeting, December, 2011

- National coordinators for the project were officially proposed by CVOs
- The proposed project framework was endorsed by the meeting
- Conclusion and Recommendation document was produced, has been circulated for comments

Inception Meeting, December, 2011

Inception Meeting, December, 2011

Field activity in Myanmar: Feasibility Study, (October, 2011)

- **Background:**
  - Bilateral discussion between MAFF and LBVD on FMD vaccine donation from Japan started in 2005
  - Vaccine trial in 2006, also plan to donate vaccine was proposed and discussed during SEACFMD meetings (2006-2008)
  - Until 2008 MAFF officially agreed to donate expired vaccines to Myanmar; however, in stead of Myanmar, a few batches of FMD were donated to countries in East Asia due to FMD outbreaks in 2010 and 2011.
  - August 2011, Japan restarted the procedure the donate vaccines to Myanmar.

Field activity in Myanmar: Feasibility Study, (October, 2011)

- Proposal from LBVD on FMD vaccine donation and post-vaccination studies
- Visit proposed project sites
- Discuss on logistic arrangement
- Current status : proposed to implemented in 2013

Field activity in Myanmar: Feasibility Study, (October, 2011)

Field Activities in Laos: Feasibility Study (June 2012)

- Started discussion in September, 2011
- Proposal from DLF on FMD vaccine donation and post-vaccination studies
- Visit proposed project sites in Xieng Khouag
- Discuss on field implementation, post-vaccination study and logistic arrangement
- Vaccination and sample collection will be implemented in September – November 2012

Field Activities in Laos: Feasibility Study (June 2012)

D Diagnosis Training for Mongolia (May 2012~)

- 6-month training for a participant from SCVL, Mongolia in National Institute of Animal Health, Japan
- Hands-on training by assisting FMD research work in NIAH P3 facility

Mongolia-China FMD Activities

1st Meeting in Beijing

2nd Meeting in ULB + Russia

National Contact Person Workshop

14-15 August 2012, Tokyo, Japan

NCP Workshop: Outcomes

- Common understanding of the process to develop the Roadmap
- Outline of the Roadmap
- Suggestions to improve or develop national strategies
- Results from self evaluation exercise for PCP stage (non-validated)
- Ideas to overcome constraints when implementing FMD control measures
- Ideas for collaborative strategies and projects contributed to FMD control in the East Asia

PCP stage (self evaluation exercise)*

	2012	2013	2014	2015	2016
China	3	3	3	3	4
Taipei	3	3	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

***These results are pending for official confirmation.**

Vaccination campaign and Efficiency Study in Xiengkhouang, Laos

- Refreshing training for district staffs
- Opening ceremony of Vaccination Campaign in Xiengkhouag Province
- Hand-over ceremony
- Vaccination
- Animal Identification
- Sample collection from cattle and buffalo

Refresh training for district vet staffs

Opening ceremony of Vaccination Campaign in Xiengkhouang

Hand-over ceremony

OIE/JTF Project supports public awareness materials

Interviewed by National Television

Eartags

First Village, Na-gaem, Kham District

Taking records of the animals

THANK YOU FOR YOUR ATTENTION

Field implementation in LaoPDR

Presented by: Dr. Syseng KHOUNSY

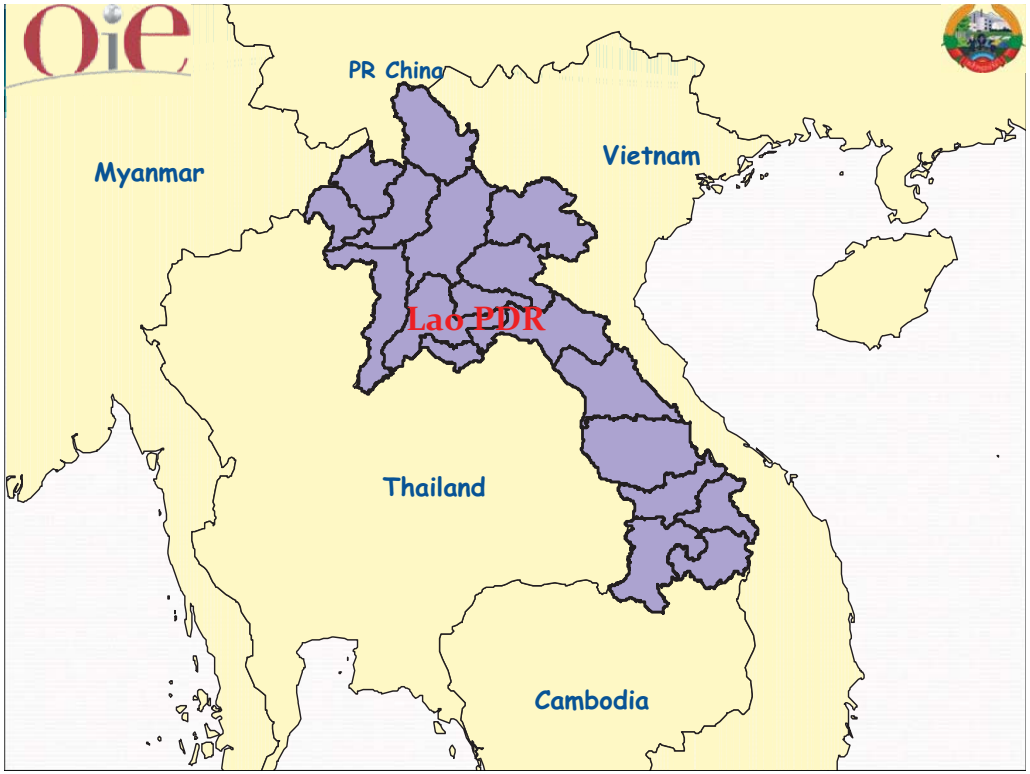
Regional Office Department of Livestock and Fisheries
Ministry of Agriculture and Forestry

The 1st Coordination Committee Meeting of the OIE/JTF Project on FMD control in Asia

Tokyo, Japan 13-14 November 2012

Outline

1. Background information
2. Structure of public veterinary services in Lao PDR
3. FMD outbreak status in 2011 in Lao PDR
4. FMD Control in Upper Mekong Zone
5. Foot and Mouth Disease pilot immunization in FMD hotspots area Upper Mekong Control zone, Xiengkhuang province,2012



Lao People's Democratic Republic

landlocked country in SE Asia

- Total Land area: 230,800 Km^2
- Population : 6.5 million *(49 ethnic groups)*
- Capital city-Vientiane (2012 pop. est. 853,000)
- Mekong river is the main waterway for the country

Lao People's Democratic Republic

Agriculture sector is very important:

- 70 % of the population participate in the agriculture and livestock production.
- contributing about 33% of national GDP and Livestock prouduction contributes about 15% of agricultural GDP.
- 80% of the livestock producer is smallholder farmers.

Livestock Population Trend in Lao PDR

(heads)

	2008	2009	2010	2011
Cattle	1,397,726	1,429,547	1,474,496	1,520,300
Buffalo	1,154,456	1,177,545	1,185,580	1,197,100
Pig	2,358,558	2,554,310	2,752,510	2,651,200
Goats	268,868	338,843	366,761	730,900
Poultry	21,213,728	22,529,025	24,078,983	26,850,000

Structure of public veterinary services

MINISTRY OF AGRICULTURAL AND FORESTRY

DEPARTMENT OF LIVESTOCK AND FISHERIES

- Administration section
- Legislation section
- Planning section
- Fishery section
- National Animal Health Centre
- Vaccine production centre
- Fishery centre
- Livestock production centre

Provincial Livestock and Fishery division

District livestock and Fishery Unit

Village Veterinary Worker

Major infectious diseases of cattle and buffalo in Lao PDR

- Foot and Mouth Disease (FMD)
- Haemorrhagic Septicaemia (HS)
- Anthrax
- Black leg

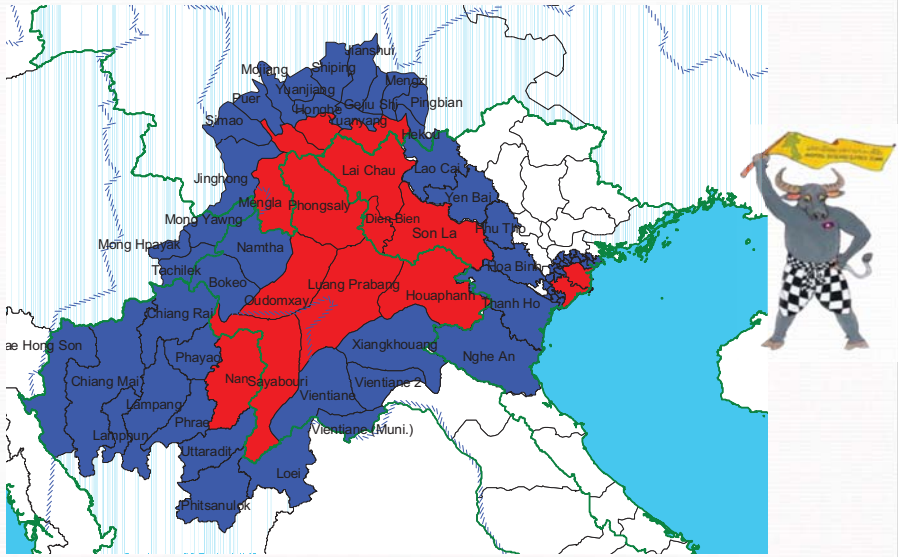
Major infectious diseases of pigs in Lao PDR

- Foot and Mouth Disease
- Classical Swine Fever
- PRRS

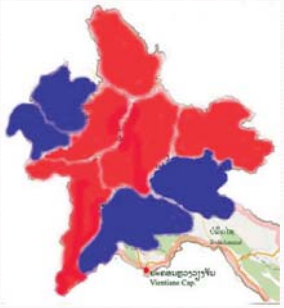
Major infectious diseases of poultry Lao PDR

- HPAI (H5N1)
- Newcastle Disease
- Fowl Cholera

SEACFMDUpper Mekong Zoning



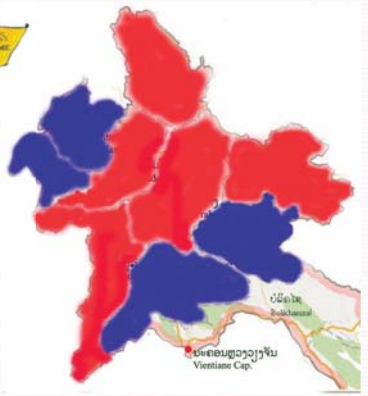
Established FMD zoning approach for Upper Mekong region Lao PDR



FMD zoning approach

1. **Control zone** :
   - Phongsaly province
   - Huaphanh province
   - Oudomxay province
   - Luang Prabang province
   - Xayabouly province

2. **Buffer zone** :
   - Luangnamtha province
   - Borkeo province
   - Xiengkhuang province
   - Vientiane province



3. FMD control strategy and sero-surveillance activities have been focused and implemented in these provinces more than other areas of the country

FMD Status 2011

- In 2011 Foot and Mouth Disease have been reported in
  - 414 villages
  - 41 districts
  - 14 provinces of 17

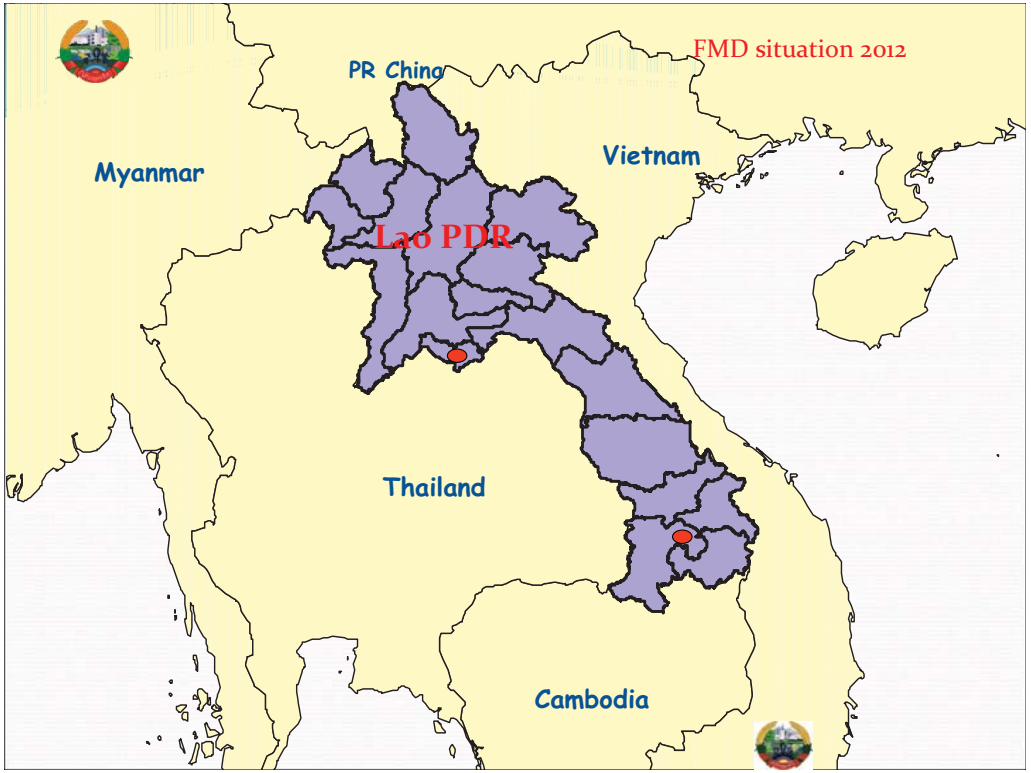
	Infected	Death
• Cattle	18,169	2,269
• Buffalo	16,406	2,063
• Pig	2.565	898
• Goats	349	98
Total	37,489	5,328

FMD Type

- Type O

FMD situation 2012

- In 2012 FMD have been reported in 2 districts of 2 provinces namely:
  - Champasak
    - Paksong district (1 village)
  - Vientiane Capital
    - Pakngeum district (2 villages)
- Infected 392 cattle, 242 Buffalo 12 pigs



FMD control in Upper Mekong Zone

I. FAO/ADB-GCP/RAS/233/ASB (2010-2011)
II. OIE RCU SEACFMD
   - ✓ STANDZ/SGF/2011-01
   - ✓ STANDZ/SGF/2012-02

III. OIE Regional representation for Asia and the Pacific and National Animal Health Research Institute of Japan

IV. GCP/RAS/283/ROK FMD Control in SEA through application of the PCP, 2012-2015

FMD Control in Upper Mekong Zone

Under support of FAO/ADB-GCP/RAS/233/ASB (2010-2011)

✓Conduct a pilot FMD immunization study in: LuangNamtha and Xiengkhuang province

✓Training district and provincial staff

✓Conduct KAP survey

OIE RCU SEACFMD

STANDZ/SGF/2011-01

- NAVETCO-MERIAL FMD Vaccine
- FMD virus strains:
  - O1 Manisa + O 3039
  - A 22 + A May 97
  - Asia 1 Shamir.
- 20,000 doses
- 25,900 ear tags for cattle and buffalo
  - Plastic tags 22,900
  - Metal 3,000
- Implementation cost

Implementing in 4 provinces Northern upland of LaoPDR

- ✓ Conduct a pilot FMD immunization in hot spot area:

1. Xayabouly
2. Luangprabang
3. Phongsaly
4. Huaphanh

- ✓ Training district and provincial staff
- ✓ Public awareness campaign
- ✓ Animal identification

OIE RCU SEACFMD

STANDZ/SGF/2012-02

- ✓ **200, 000 doses (Bivalent – O, Asia One)**
  12 May 2012
  - FMD virus strains:
    - O1 Manisa + O 3039
    - Asia 1 Shamir.
- ✓ **90,000 ear tags (10 Jun 2012)**
- ✓ **Implementation cost**

Implementing in 6 provinces Northern upland of Laos

- ✓ **Conduct a pilot FMD immunization in hot spot area:**

1. Xayabouly; 2.Luangprabang; 3.Luangnamtha;
4. Huaphanh; 5. Borkeo; 6.Oudomxay

- ✓ **Training district and provincial staff**
- ✓ **Public awareness campaign**
- ✓ **Animal identification**

FMD Vaccination Campaign 2012

Merial FMDV vaccine:

virus strain O Manisa, A 22 and Asia 1Shamir

Source of vaccine	Doses
❑ **OIE- SEAC FMD:**	
➢ ***STANDZ/SGF/2011-02/OIE – vaccine bank***	**200.000**
❑ **OIE –Tokyo/Japan MAFF**	**200,000**
Total	**400,000**

OIE Regional representation for Asia and the Pacific and

National Animal Health Research Institute of Japan

Foot and Mouth Disease pilot immunization and animal movement study in FMD hotspots area Upper Mekong Control zone Lao PDR.

Objectives

1) Assessing the likelihood of protection against future FMD outbreak by using FMD vaccines in a FMD hotspot areas upper Mekong control zone Lao PDR
2) Providing recommendations for improved management of future outbreaks in regional FMD 'hotspots'
3) Enhancing regional and global FMD control

Project target areas

Xiengkhuang province

1) Paek district
2) Kham district
3) Nonghad district
4) Khoun district
5) Phoukhouth district
6) Phaxay district
7) Mok district
8) Thathom district

Summary of target villages, number of animals, number of staffs

No	District	Total villages	Total Animals*	Target villages	Target animals*	No. DAFO
1	Paek	111	47,679	25	23,000	19
2	Kham	98	16,451	47	10,000	5
3	Nonghad	109	27,832	38	9,000	13
4	Khoun	52	22,030	30	8,000	15
5	Phoukhouth	42	28,642	35	19,000	13
6	Phaxay	33	12,217	18	7,000	10
7	Mok	25	13,966	20	7,000	5
8	Thathom	23	5,633	23	3,500	10
	Total	**493**	**174,450**	**236**	**86,500**	90

Feasibility study mission

- **Mission team from OIE-RR Asia-Pacific visited Laos to finalize implementation plan 17-22 June 2012**
- **Planning workshop 18 June 2012 (Xiengkhuang)**
- 1. **Dr. Kenichi Sakamoto (NIAH, Japan)**
- **2. Dr. Takehisa Yamamoto (NIAH, Japan)**
- **3. Dr. Chantanee Bu**

Implementation period

- **August 2012 - March 2013**

Implementation team

- Regional Office of Department of Livestock and Fisheries (Luang Prabang)-4
- Xiengkhoung Provincial Agriculture and Forestry office (PAFO) - 12
- District Agriculture and Forestry office (DAFO) - 32
- National Animal Health Centre (NAHC) of DLF in Vientiane-2
- Village veterinary worker (VVW, 1 person per village)
- livestock smallholder farmers

Technical support team

- **Department of Livestock and Fisheries**
- **OIE Regional representation for Asia and the Pacific**
- **National Animal Health Research Institute of Japan**
- OIE RCU SEA CFMD will be consulted to foster partnership and collaboration

Vaccine

- **Ministry of Agriculture Forestry and Fisheries donated 200, 000 doses of FMD vaccine**
- **FMD Vaccine types O (September 2012)**
- **Vaccine monitoring undertaking by NAHRI of Japan**

Prepare equipments, public awareness material and vaccines

Refreshment training

(1 October 012)

Field activities

- Conduct a pilot FMD immunization and animal edentification in 8 district of Xiengkhuang provinces
- FMV vaccine serology study conducting in 2 village Kham district

(to analyze the efficiency of FMD vaccine by LPB ELISA and Neutralization test)

Field activities

First serum collection has completed in First week of October 2012

- ***Dr. Chantanee***
- ***Dr.Sakamoto***
- ***Dr. Yamada***
- ***Dr.Morioka***

- ✓ ***Second serum collection has completed in first week of November 2012***
- ✓ ***And last serum collection will be happen in December 2012***

Field activities

Second serum collection has completed in First week of November 2012

- ***Dr.Sakamoto***
- ***Dr. Yamada***
- ***Dr. Tsutsui***
- ***Dr. Fukai***
- ***Dr. Ojima***

And last serum collection will be happen in December 2012

Blood Collection Team

(OISHI)

Vaccination and Animal identification team

(Beer Lao)

Thank you