HPAI outbreak 2010 in Bangladesh

Dr. Mohammed Ruhul Amin
Livestock Statistical Officer
Department of Livestock Services, Bangladesh.

1st Incidence of the Year 2010

- Yati Poultry Farm: Layer, 6 month age, commercial, cross breed (Sonali bird)- Khethlal Upazila at Joypur Hat District. About 260 km distance north-west from Capital city & about 1 km distance from local vet office.
- Date of out break- 04/01/10
- Date of culling- 05/01/10
- Number of Total Bird- 1182
- Number of Death Bird- 250
- Number of culled Bird- 932
- Number of destroyed Eggs- 183

Outbreak Detection

Farmer Approach:

- 1st information of ailing bird with few mortality on 04/01/10 by farmer himself to local vet office.
- 250 death report on 05/01/10 by farmer.
- Exact ailing information may be hidden (the usual manner of the farmer) with some treatment.
- This area was not under active surveillance.

Governmental Approach:

- Vet officer informed on 04/01/10.
- Visit & sample collection on 05/01/10 in the morning & impose the bird movement restriction.
- Sample reached to FDIL, Joypurhat within 1 hr.
- Rapid Antigen detect kit test, A +ve within an hr & inform to CVO through cell phone & Fax sent within an hr.
- G.O. issued of notification on 05/01/10.
- Stumping out on 05/01/10.

Notification system of the out break of disease

National level:

- Surveillance

  (a) Passive surveillance from Vet to DLS. Report bulletin 3 monthly or some time monthly.

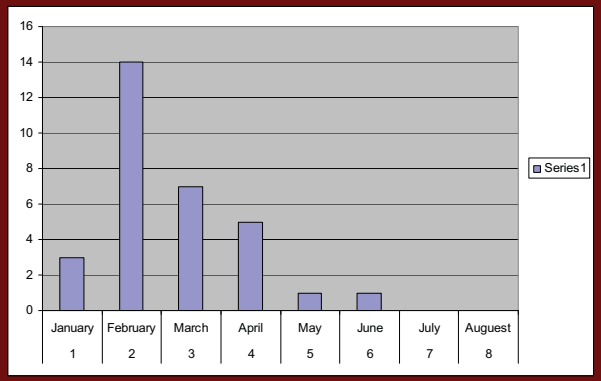
  (b) Active surveillance from field to DLS. House to house survey specially for AI through 780 Community Animal Health Workers (CAHW) at 260 upazilas (3 for each U/Z) & 88 Additional Veterinary Surgeons (1 for 3-4 U/Z).
- Lab test.
- Governmental order issued by the CVO.

Contd.

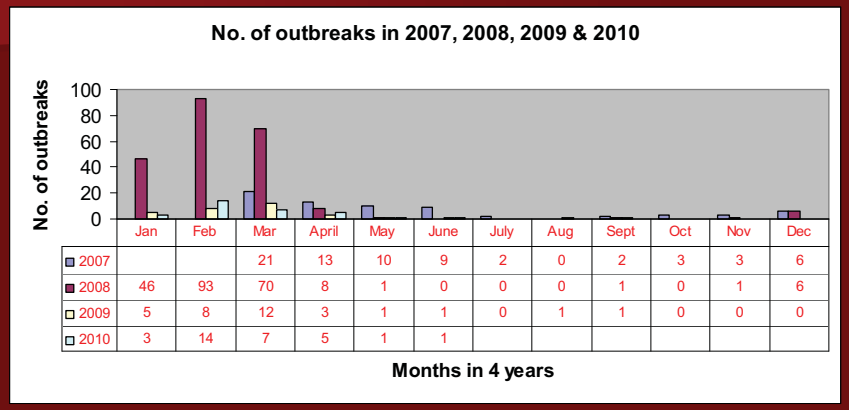
International Level:

- Regular report: to OIE
  (a) 6 monthly.
  (b) Yearly.
- Special Report: For new incidence of notify able disease.
  (a) Immediate Report for 1st time.
  (b) Follow up report.

The HPAI Situation in 2010



The Total HPAI Situation



	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2007			21	13	10	9	2	0	2	3	3	6
2008	46	93	70	8	1	0	0	0	1	0	1	6
2009	5	8	12	3	1	1	0	1	1	0	0	0
2010	3	14	7	5	1	1						

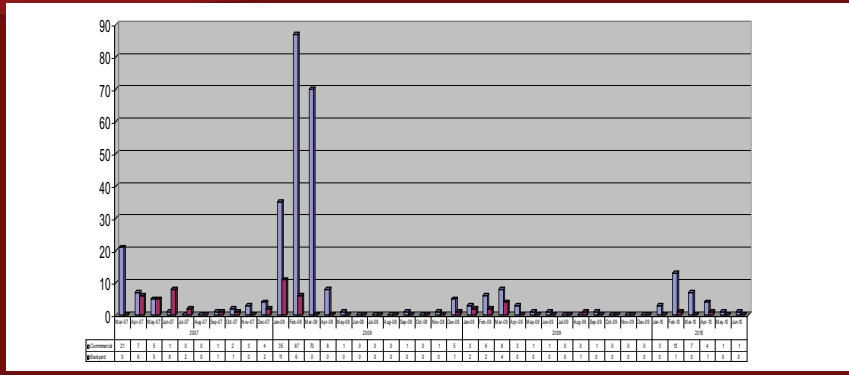
Situation after the first out break

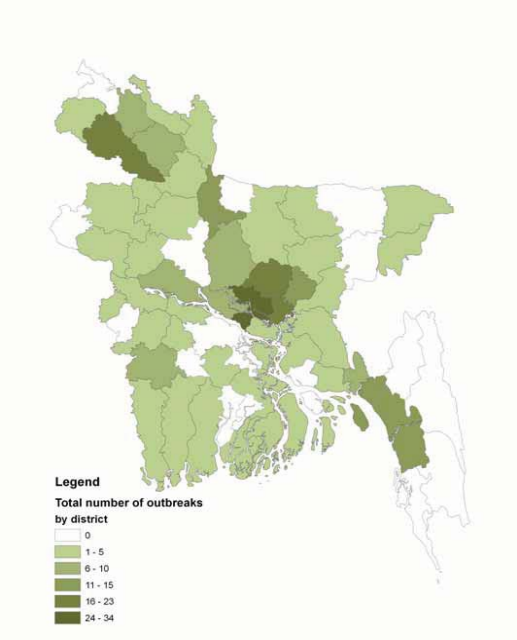
- HPAI was declared by the Government in 22nd March 2007, 30 km north west from capital city.
- The disease moved to the north western part of the country quickly within few days and first incidence of backyard flock (native chicken) was detected in April, 2007.
- Within a month disease moved to Northern part of the country.
- The first wave continued till July 2007 with steady regression of number of cases.
- Total Number of outbreaks were 55 during the first wave.

Contd.

- No disease was reported in August 2007.
- Second wave of outbreak started in September 2007.
- The number of outbreak was climbing steadily and it reached its peak in February 2008 with 93 outbreaks.
- There was a pause of 1 month after 14th April 2008.
- Another outbreak is declared on 18th May 2008.
- Total number of outbreak is 358 since first reporting.
- Outbreaks were reported in both backyard poultry and commercial chickens.

Out break Pattern in Commercial and Back yard Farms





Control Measures

- In case of high mortality of poultry, Lab test for AI, 64 District vet hospital, 7 FDIL & 1 CDIL having the facility to do the HPAI rapid detect test.
- In case of type A +ve, culled within 12 hrs.
- Farm excreta & liters buried within next 12 hrs.
- Epidemiological investigation carried out within next 12 hrs.
- Disinfection of the infected farm.
- Active surveillance of all commercial & backward poultry farm within 1km radius of infected farm including owner's & labor's health culled farm.
- Movement & sale restriction within the notified area.

Constraints

- Farmers try to mitigate himself practicing quack treatment to avoid the huge losses.
- Confuse with Newcastle disease, even the backyard poultry farmers are not awarded about the signs & symptoms of AI (Mis-diagnosed).
- No active surveillance in 221 upazilas out of 481 upazila.
- No lab facilities at the local vet (upazila level).
- SMS gateway system should apply for all 481 upazila.
- Remote Hilly & Coastal areas require more times to collect & send the sample for Lab test.

Lesson Learned: SMS Gateway system for controlling HPAI

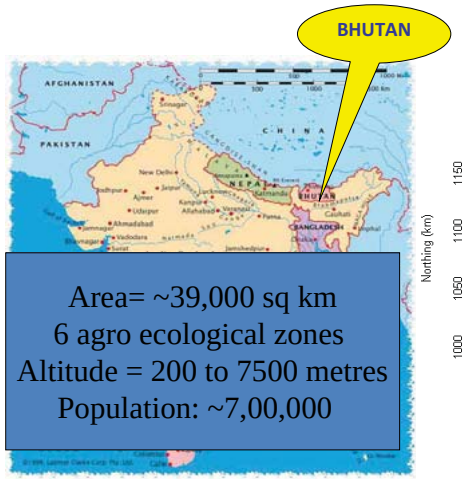
- From May 2009, DLS epidemiology unit started a web-based SMS gateway system for active surveillance with the technical assistance of FAO.
- Web server installation, cell phone & training for CAHWs, AVSs, ULOs are provided.
- CAHW when suspects an AI case an alert massage will be automatically generated through his/her cell phone which appear to his/her corresponding AVS & ULO.
- AVS or ULO visit & then send the massage to the web based server whether it is actually AI or not.
- The system is secured, epidemiological unit can access & monitor the activities of the subscribers, practiced in 260 upazila out of 481 with excellent result.

First Outbreak of Highly Pathogenic Avian Influenza (HPAI) in Bhutan

Experiences and Lessons Learnt

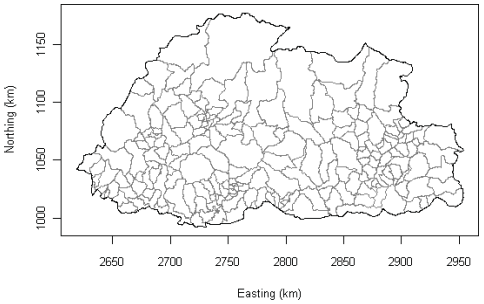
Karma Rinzin
Program Director
National Centre for Ani mal Health

Introduction



Area= ~39,000 sq km
6 agro ecological zones
Altitude = 200 to 7500 metres
Population: ~7,00,000

205 Geogs

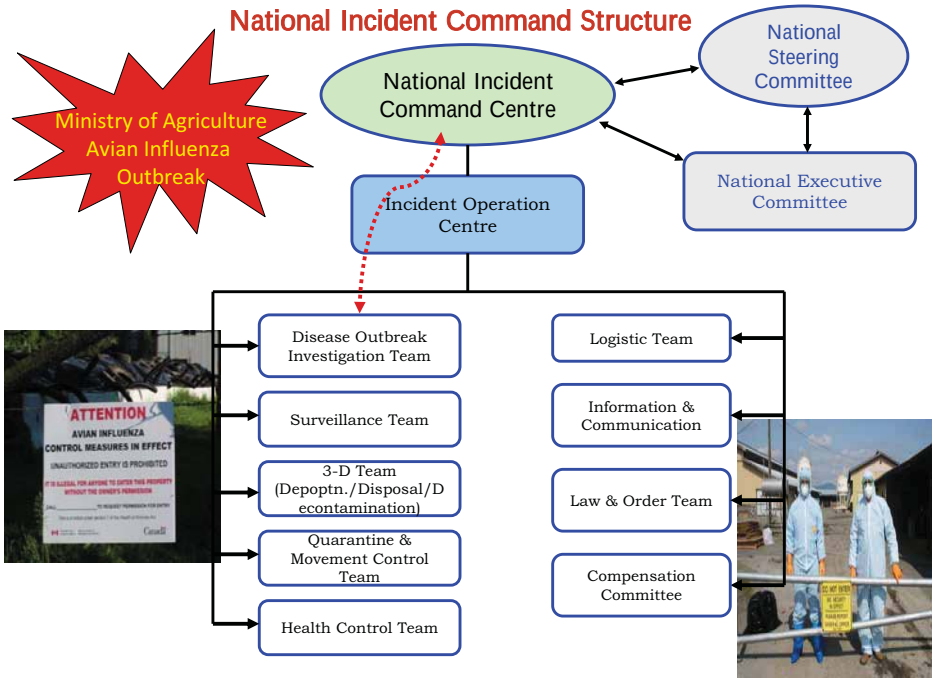


HPAI Preparedness and Control

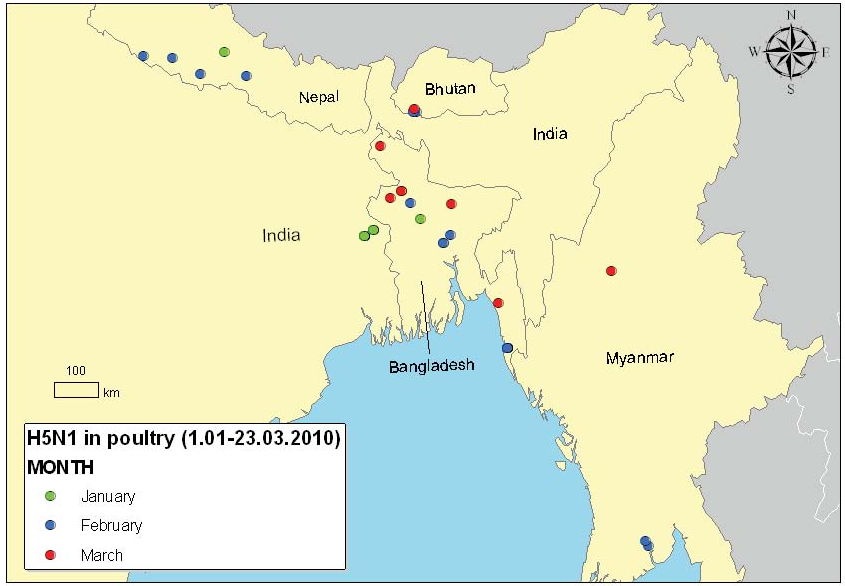
Milestones of AI Preparedness activities

Successful containment of HPAI outbreak in February 2010

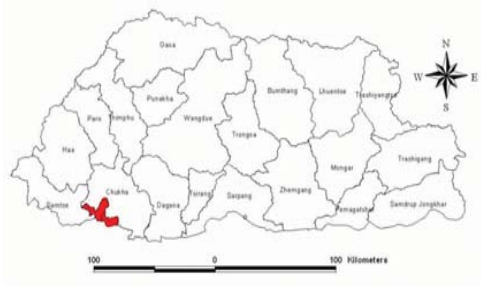
National Incident Command Structure

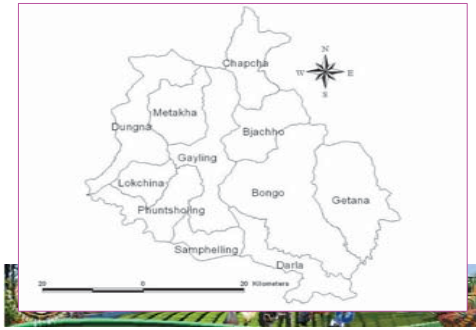


HPAI outbreak in the region



Outbreak Area





Milestones of HPAI outbreak

- 15th Jan' 2010 - VVT activated following HPAI outbreak at Murshidabad district, West Bengal, India
- on 17th Feb' 2010 VVT received report on suspected HPAI outbreak at Rinchending –Positive on FluDetect
- 18th Feb' 2010 – referred to NCAH
- 19th Feb' 2010 emergency meeting conducted and decided to carry out 3D operations at Rinchending since it is meeting the case definition for HPAI outbreak
- 3D operation executed at Rinchending
- 20th and 21st Feb' 2010 samples referred to National Institute of Animal Health in Bangkok and High Security Animal Disease laboratory, Bhopal

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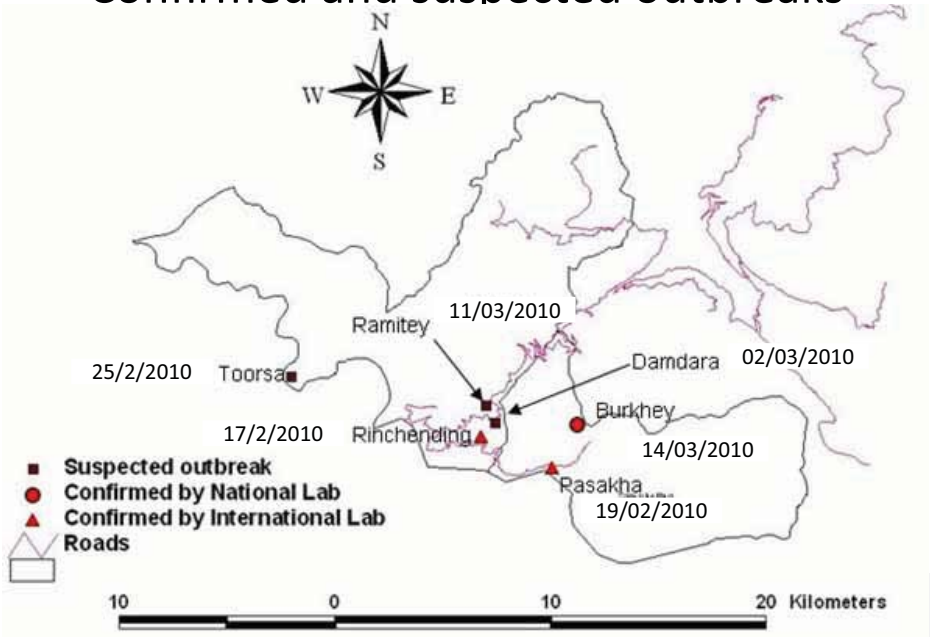
Case definition

Confirmed and suspected outbreaks



Milestones on HPAI

- 22nd Feb' 2010 emergency meeting convened following confirmation of the HPAI by international reference laboratories.
- 23rd Feb' 2010 - first NICC meeting convened
- IOC and RRT activated
- Notified OIE through WAHIS
- 3D operation started in second epicentre at Pasakha and in infected & protected zone
- More operations undertaken based on the field reports

Diagnosis of HPAI

3D Operation

Progress of IOC/ RRT

- ✓ *3D operation done in 44 sites encompassing 25 villages.*
- ✓ *Took place between 3.30pm to morning 12.30 am to 4.30 am in the morning.*
- ✓ *3D operation done in the evening to night due to heat and problem with the scavenging birds which are sheltered only after 3 to 4 pm every day.*
- ✓ ***Poultry Culled/depopulated-5379 poultry***
- ✓ ***Disposed- 921 eggs,***
- ✓ ***Dismantled and burnt- 578 coops / poultry shed.***
- ✓ ***Burnt-4 baskets.***

Progress of IOC/ RRTs

- Health Control Team monitored the health of front line workers & poultry farmers
- Movement control of people, vehicle and animals
- Disinfection of vehicles going out of outbreak area
- Disinfectant foot bath for people leaving outbreak area
- *Compensation to poultry owners of USD16,000/-*

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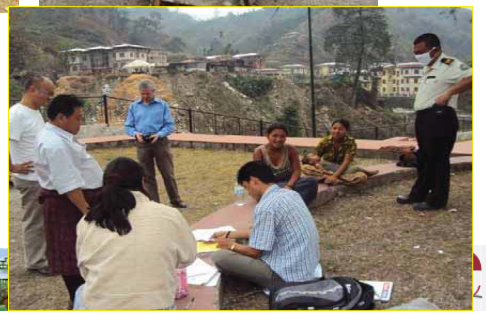
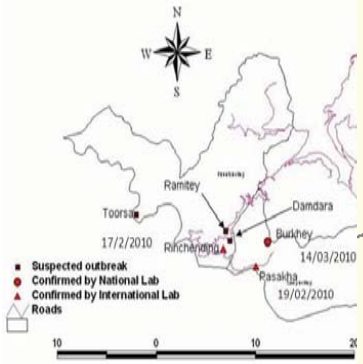
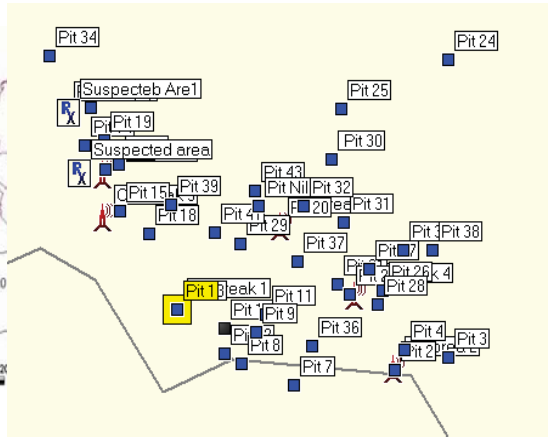
Outbreak containment activities



Geocoordinates of Disposal pits





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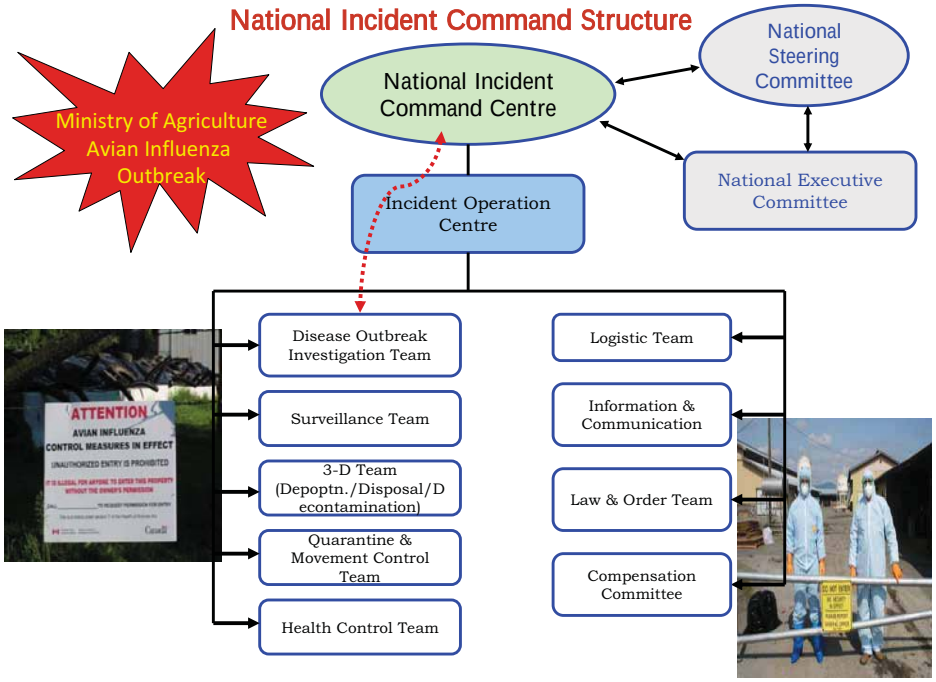
Public awareness programme

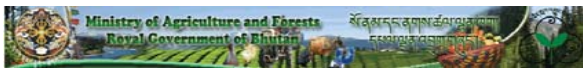
Lessons Learnt

- Previous awareness campaign ignored armed force and project colonies
- Appointment Village AI Focal persons with provision of some incentives for mobile voucher is very effective.
- IOC Commander should be from the field instead of from the national.
- Ambitious 3-D Operation area
- Fencing carcass disposal pits with barbed wire very expensive
- The depopulation and decontamination on day one is just 30% of the overall task
- Dismantling of coops in 3-D area may not be necessary



Successful control of HPAI

- National and international organization commended on effective control of HPAI
- Bird Flu ban lifted simultaneously with the ban lifting in West Bengal, India on 18th June 2010.
- Vehicle disinfection discontinued on 20th June 2010.
- IOC P/ling deactivated on 25 June 2010



Acknowledgements

- Successful HPAI control
  - All members of NICC and IOC
  - RBP, MOH, Local Government
  - MOAF (DOL & BAFRA officials)
  - World Bank for fund support
  - HSADL, Bhopal & NIAH Bangkok for advance diagnosis
  - OIE/JSTF – RT-PCR & training
  - FAO – Rapid assessment and technical assistance
- OIE JSTF for organizing this workshop
- Other Delegates for sharing the experience

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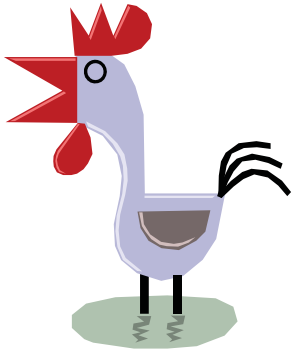
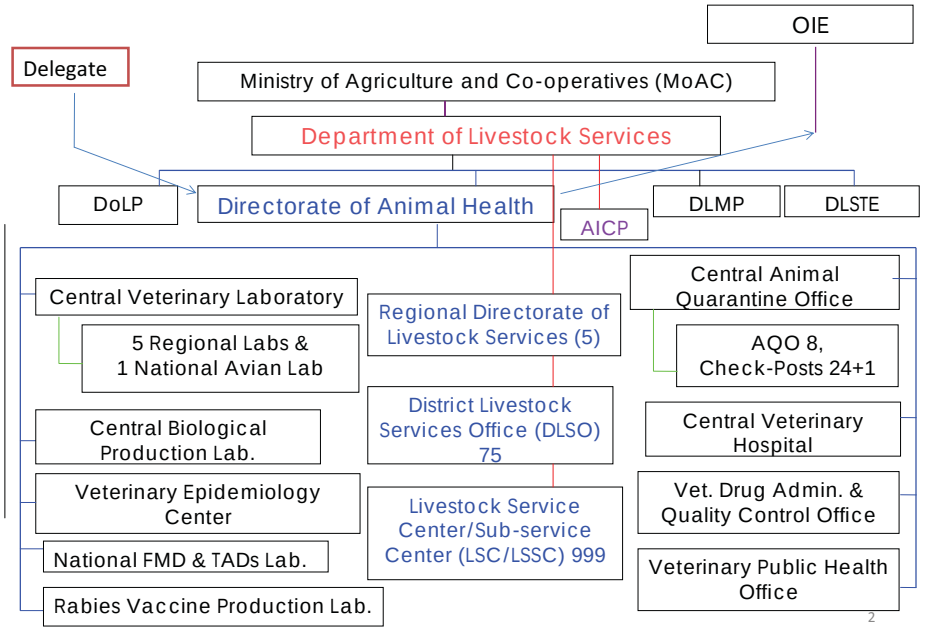
Kadinchey
&
Thank YOU!



Outbreak of Highly Pathogenic Avian Influenza (2009/2010) in Nepal

Bal Bahadur Chand
Senior Veterinary Officer
Directorate of Animal Health
Tripureshwor,Kathmandu, Nepal

Institutional Framework

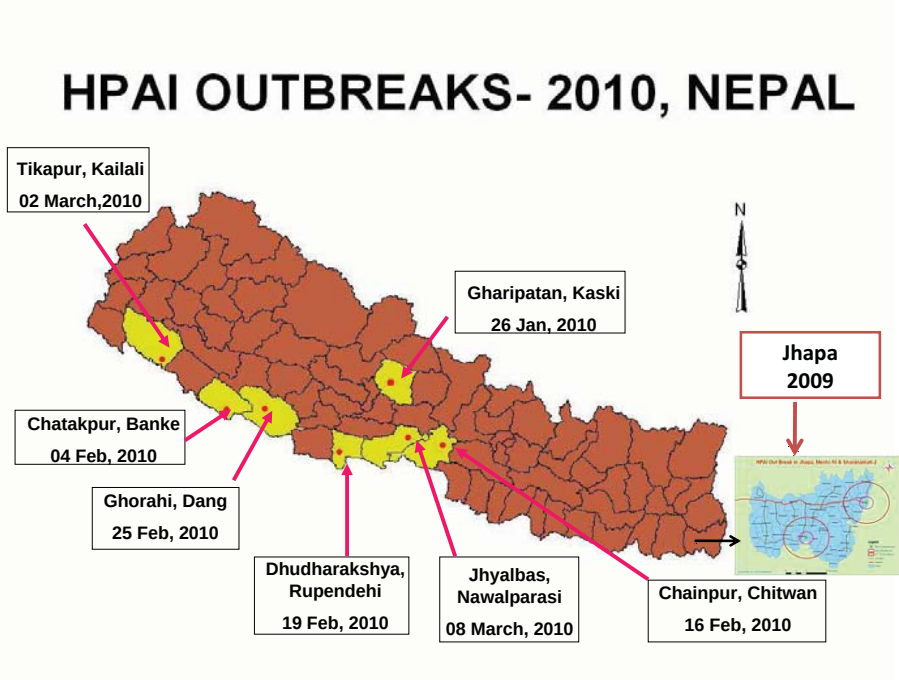


Information about the detection/recognition of the first occurrence (reoccurrence) of the disease in the year indicated in the above list

Places	Start of the Event	National Laboratory Confirmation	Confirmation from Ref. Lab	Days interval from start to confirmation
MechiNagar	8 Jan, 2009	12 Jan, 2009	16 Jan, 2009	4 Days
Saranamati	17 Feb, 2009	19 Feb, 2009	23 Feb, 2009	2 Day
Kaski	26 Jan, 2010	31 Jan, 2010	3 Feb, 2010	9 Days
Banke	4 Feb, 2010	7 Feb, 2010		3 Days
Chitwan	16 Feb, 2010	21 Feb, 2010		6 Days
Rupandehi	19 Feb, 2010	25 Feb, 2010		7 Days
Dang	25 Feb, 2010	27 Feb, 2010		2 Days
Kailali	2 March, 2010	11 March, 2010		10 Days
Nawalparasi	8 March, 2010	11 March, 2011		3 Days

Number of Animal Affected in 2009/010 HPAI outbreaks

O/B	Mechi Nagar	Saranamati	Pokhara Submetro city-7	Phetepur VDC-7 Banke District	Chainpur VDC-8 Chitwan	Dudhracksha VDC-3 ,Rupandehi	Tribhuvan Nagar -10, Dang district	Tikapur Munici-9 Kailali	Deurali VDC-6 Nawalparasi	Total
Susceptible Population	24703	3021	11281	637	224	614	2	123	4767	45372
Cases	14	150	153	351	30	256	2	40	216	1212
Death	14	150	153	351	30	256	2	40	216	1212
Destroyed	24689	2871	11128	286	194	358	0	83	4551	**44160**



Information about the diagnosis (including clinical one) conducted on the first suspicious case of outbreak

- In Mechinagar Municipality-10 of Jhapa district, Mortality (10 /14) in Backyard chicken reported by Farmer to Animal Quarantine Check post near the Indo Nepal Border.
- In Kaski, the case is recorded/detected by the Vet. Technician during the routine surveillance & confirmed on 31 Jan, 2010.
- In Between 31 January to 8 March 2010, there were six another outbreaks in different part of the country, detected by the routine surveillance.
- Control of last outbreak of 2010 was completed by 30 March 2010
- Farmers suspected the case but not able to recognize the case accurately.

Information about the diagnosis (including clinical one) conducted on the first suspicious case of outbreak

- Immediately after reporting farmer/field staff, Field Vet. Visited the farm & collected & dispatched sample to RVL/CVL
- Immediately Emergency Disease Investigation Team (EDIT) from the center mobilized to the respective site for clinical diagnosis & assessment & demarcation of area .
- First case diagnosed at National Laboratory verified from Reference lab. and for other cases stamping out began after national lab confirmation.
- Before receiving confirm result from Ref.Lab, :
  - Movement restriction
  - Daily active surveillance
  - Planning & Coordination with local authority for operation

Information about the notification of the outbreak of the disease

- Follow the National Surveillance Plan and Surveillance Guideline.
  - Routine visit during surveillance →Farmers/Contact person reports to the field technicians/vets
  - Rumor verification: Rumor from any means by DLSOs
  - Field Vets/Technician report to Local Veterinary Authority Weekly (Routine)/Immediately
  - Local Veterinary Authority Notify Immediately/weekly to Central Veterinary Authority (Directorate of Animal Health, DLS)
  - DAH/OIE Delegate reports to OIE Immediately after declaration from Government

Information about how the situation of the disease had been developed after the first outbreak and eradicated Virus

Phylogenic analysis of the viruses detected in Nepal shown that (the results obtained from VLA, Weybridge):

- In 2009 outbreaks, virus detected belonged to
  - Clade 2.2 closely related to the isolates from India and Bangladesh.
- In 2010, viruses detected from all 7 outbreaks are related to the Clade 2.3.2 (Closely related to the isolates from the outbreak of 2009 in Mangolia and 2010 of Romania)
  - Clade 2.2 (Closely related to the isolates form previous 2009 outbreak). (mixed infection in Pokhara)
- In 2009 two outbreaks were reported in 37 days interval and in 2010, seven outbreaks (Multiple) were reported in 42 days interval

Source of virus is still inconclusive, migratory birds is suspected for the spread of the virus in Nepal.

Information about control measures taken

- Stamping out of birds up to 3 km radius (infected zone) from the epicenter
- Cleaning and disinfection of infected premises
- Compensation
- Movement control inside the country for 90 (45) days
- Quarantine inspection inside the country and across the border
- Intensification of active surveillance in 7 Km radius out side the infected zone
- Import ban on poultry and products from infected countries
- No vaccination

Problems/ constraints observed

- Diversion of Highways is very difficult
- Disposal site for proper disposal is a problem
- Close container for transportation of infected material to burial site is not available
- Low Compensation rate enhance hiding And movement of birds outside the infected area
- Inadequate financial resource
- wild bird surveillance is very limited
- Data management at the field level not managed efficiently

Good practices/Lessons learned

- Motivation
- Good Coordination
- Management of Logistics
- Communication
- Monitoring from all levels and specially from higher authorities
- Compensation
- Cross border collaboration
- Hot-Spot


THANK YOU

3rd OIE Regional Meeting on
Strengthening Animal Health Information Networking in Asia

Country Presentation of Myanmar

Dr.Than Myint
Deputy-Director
Livestock Breeding and Veterinary Department
Ministry of Livestock and Fisheries

15-16 Sept 2010, Tokyo

I. HPAI outbreaks in 2010

First Case of HPAI Outbreak in Yangon Division

- Layer farm situated at No. 5 ward, Mayangone township, Yangon Division
- 2500 layers (CP brown) purchased and raised
- 2 poultry houses, each has about 1200 heads
- Purchased from CP at the age of 18 weeks

Date	Communication
Jan 27, 2010	Mortality occurred
Feb 2, 2010	Consulted with 2 Private veterinarians Report to LBVD Sample collection, diagnosis, first positive result
Feb 3, 2010	Second sampling and diagnosis, confirmation
Feb 4, 2010	Reporting to Ministry of Livestock and Fisheries
Feb 5, 2010	Inform to DoH, FAO, OIE, Myanmar Livestock Federation, LFME, Local Administration, YCDC
Feb 6, 2010	Press Announcement in Two Myanmar Language Newspapers
Feb 7, 2010	Reporting to Ministry of Livestock and Fisheries
Feb 8, 2010	Coordination with other agencies, local authorities, MLF
Feb 9, 2010	Daily reporting to all stakeholders

Second Case of HPAI in Yangon Division

- Occurred in Minaglardone Township, Yangon Division
- Backyard chicken infected

Date	Communication
Feb 16, 2010	Mortality occurred
Feb 19, 2010	Submission of dead chicken to YGN lab
Feb 20, 2010	Lab confirmation
Feb 21 & 22, 2010	Stamping out action

HPAI Outbreak in Yinmarbin Township, Sagaing Division

- Commercial layer chickens infected

Date	Communication
Feb 24, 2010	Mortality occurred
Mar 1 & 2, 2010	Submission of dead chicken to MDY lab
Mar 3, 2010	Specimens send to YGN lab
Mar 4, 2010	Lab confirmation
Mar 5, 2010	Reported to OIE & FAO

- *Infection occurred in Thetyetkan Village, Yinmarbin Township*
  - Stamping out within 1 km radius from infected premises
  - No. of farmers 30
  - No. of farms 38
  - flock size of each farm 100-200
  - Total layer chickens population 13543 heads
  - Total population of village chickens 250 heads
  - ***No Epidemiology Connection with Yangon Outbreak***

MYANMAR HPAI
Outbreaks reported to OIE

02/02/2010 in Yangon Commercial farm

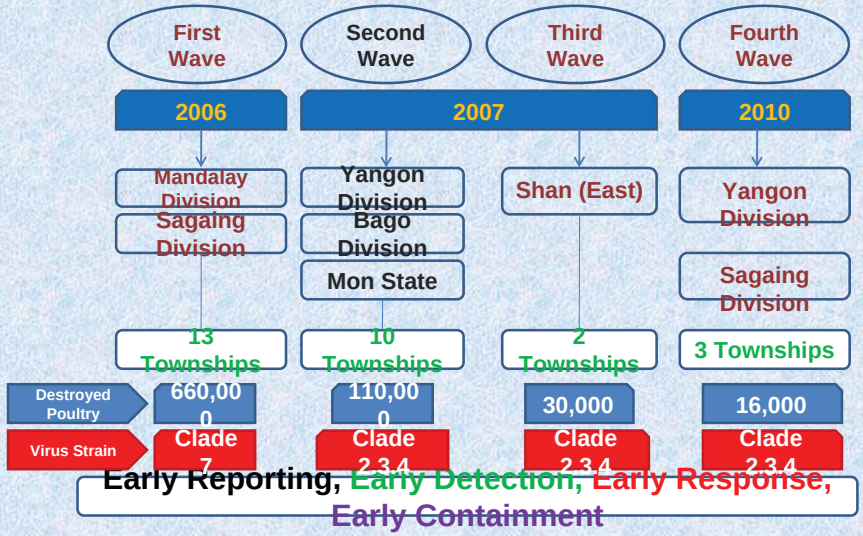
19/02/2010 Yangon, in backyard chicken.

01/03/2010 in Northern Myanmar, Monywa, Yinmabin, Thayetkan,

II. Diagnosis

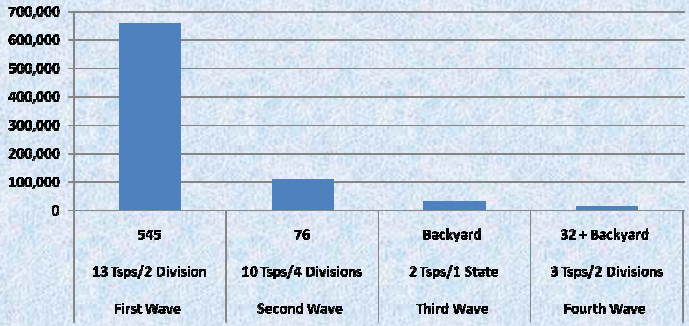
- PM Examination – Suspected for AI
- Rapid Test kit for Influenza Type A and Combo (ND + Type A) – Positive
- Confirmation for H5N1 virus was made by RT-PCR

III.Occurrence of HPAI in Myanmar



Occurrence of HPAI in Myanmar

Description	OB Started Date	Last Case of OB (Date)	Affected Townships/ Division
First Wave	8.3.2006	8.4.2006	13 Tsps/2 Divisions
Second Wave	27.2.2007	19.10.2007	10 Tsps/4 Divisions
Third Wave	18.11.2007	23.12.2007	2 Tsps/1 Division
Fourth Wave	5.2.2010	5.3.2010	3 Tsps/2 Divisions



IV. Control Measures Taken

The Response Teams organized

Backward and Forward Tracing

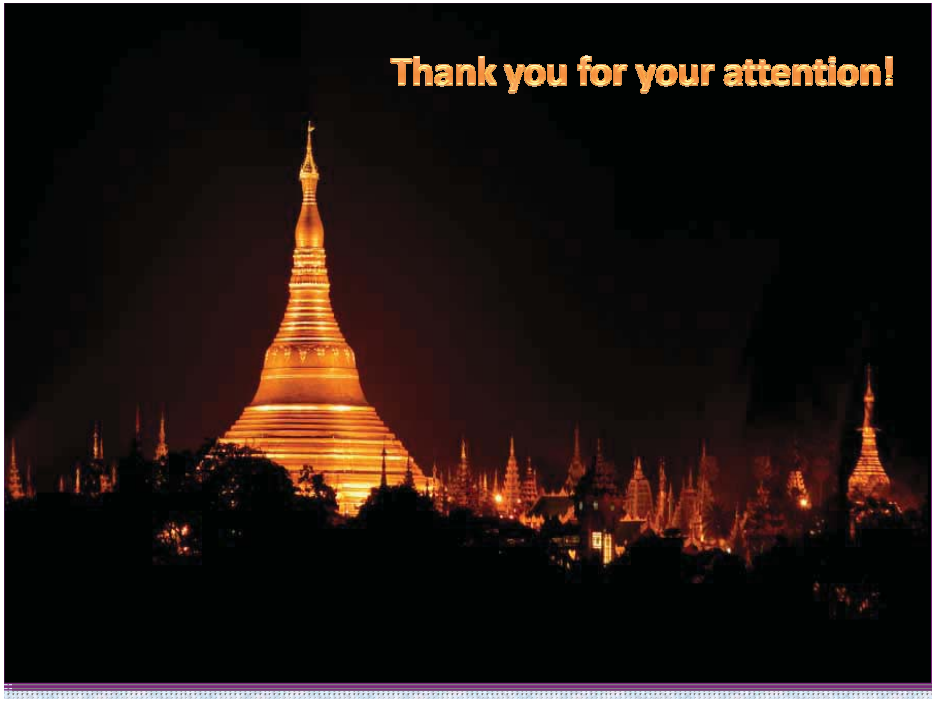
Outbreak Containment Measures

V. Problems/Constraints

- Difficulties in movement management of poultry and poultry products due to lack of public communication awareness and commodity price differences
- Difficult to establish the bio-security farming system due to the lack of budget for small- scale farmers
- Compensation can not be applied in case of HPAI outbreak at the present
- More activities needed to advocate changes in practice and attitude to manage risk factors
- Need more CAHWs at the grass-root level to assist field veterinarians of LBVD

VI. Good Practices/Lessons learnt

- LBVD disease control teams coordinate with MLF, DOH, MPF, Municipalities and international organizations including FAO, OIE, WHO and INGOs to control the HPAI outbreak within short period
- The emergency report and early information to the Chain of Command (Local administrators) are useful for the disease control.
- Early and systemic submission of appropriate specimens and samples to the lab, and accurate and quick laboratory confirmation eliminates the HPAI outbreak in a short period
- Low bio-security farm building favors the implication of wild birds.
- Egg trays and poultry feed bags are source of virus transmission as the tray are recycling without proper disinfection.
- Culling by CO_2 is better if applicable in the HPAI outbreak.


Thank you for your attention!

Current Status of the Control of PRRS and HPAI in Lao PDR

Presentation by: Dr. Mahanakhone SOURIYA
Deputy Director General
Department of Livestock and Fisheries
Ministry of Agriculture and Forestry

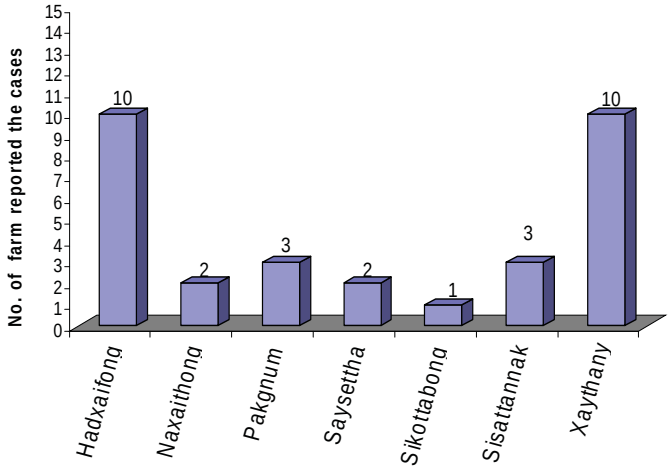
Outbreak of Porcine Reproductive and Respiratory Syndrome (PRRS)

Expected date of first onset	**16/06/2010**
Case reported, sample collection and submission	**District animal health officer**
Date of first confirmation of the event	**02/07/2010**
Laboratory performing the test	**National Animal Health Centre**
Report date	**06/07/2010**
Date of report submitted to OIE	**06/07/2010**

Summary of PRRS outbreak

Total number of infected farm :	**31**
Total number of pig :	**13,143 heads**
Total number of sick pig :	**3,668 heads**
Total number of dead:	**3,110 heads**

Break down of the number of farm affected with PRRS by district



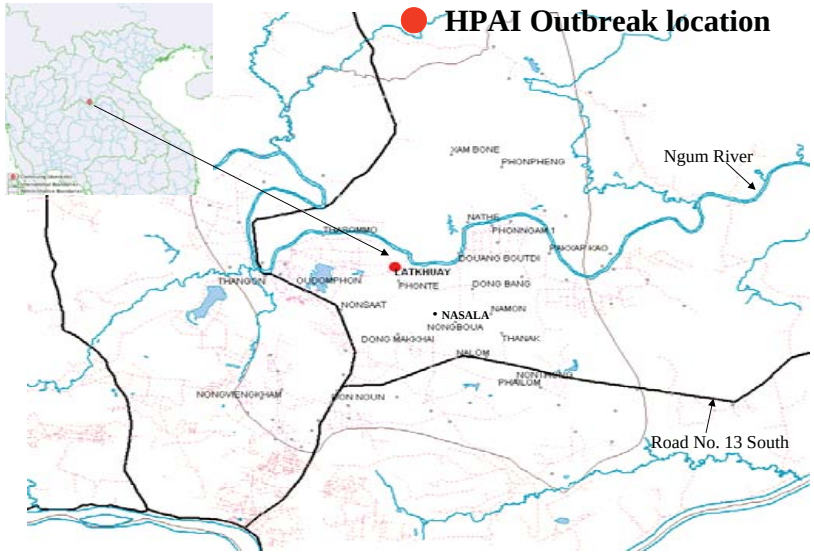
Characteristic of PRRS virus detected from sick and dead pig in Lao PDR

- **PRRS virus isolated is of pathogenic strain**
- **About 98 % similar to the Chinese highly pathogenic PRRS virus strain**

PRRS Control

- Movement control
- Isolation of sick from healthy pig
- Increasing the bio-security of the farm
- Perform symptomatically treatment
- Vaccination

The Control of HPAI outbreak in a semi-commercial layer farm in Vientiane Capital



How the first case of outbreak detected?

- **Type of the farm is layer semi-commercial**
- **Initial date of the case one layer dead was since 24 April 2010**
- **The farm owner report to the district officer when the mortality increased on 2 May 2010**
- **The farm owner report as a result of being aware on the HPAI by public awareness campaign**

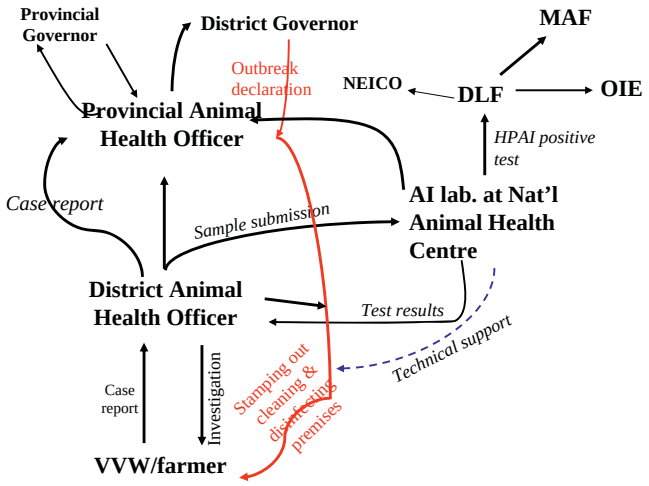
Record of the mortality of layer chicken in the HPAI infected semi-commercial layer chicken farm

Date	Total no. of layer chicken	No. of death	Cumulative number of death
23 /4/10	1,004	0	0
24 /4/ 10	1,003	1	1
25/4/10	1,002	1	2
26 /4/10	1,001	3	5
27 /4/ 10	998	3	8
28/4/10	995	1	9
29 /4/ 10	994	1	10
30/4/10	993	2	12
1 /5/ 10	991	4	16
2 /5/ 10	987	4	20
3 /5/ 10	983	5	25
4 /5/ 10	978	4	29
5-/5/ 10	977	10	39
6-/5/ 10	967	5	44

Information about the diagnosis conducted on the first suspicious case

- District animal health officer visit the farm and took sample for laboratory diagnosis at the NAHC laboratory
- On 5th May 2010 Presumptive test of the samples by using Rapid test shown slightly positive for Flu A and H5
- On 6 th Laboratory confirmation test positive for H5N1 by using Real-Time PCR
- Movement control
- Outbreak declared by District Governor
- Complete culling poultry in the farm was carried out on 6 May 2010
- Cleaning and Disinfecting the premise

Information Flow and Command chain



Example of HPAI information flow

Situation of the disease had been developed after the first outbreak and eradicated

- Human resource developed
- Surveillance and disease investigation and rapid response system improved
- Disease report system strengthened
- Diagnostic capacity strengthened
- Campaign on public awareness and public education on the prevention of HPAI strengthened

Information about control measures

- Movement control
- Quarantine
- Stamping out in case of HPAI
- No vaccination for HPAI
- Vaccination for other animal disease

  example: ● Ring vaccination for FMD
  ● Vaccination for PRRS

Problem and constraints

- Inadequate of budget support
- Insufficiency of qualified veterinarian for specific field such as epidemiology, pathology, disease surveillance and investigation
- Lack of experiences and capacity for disease diagnosis at the provincial level
- Insufficiency of disease notification and reporting

Good practice/Lesson learnt

- Rapid action shall be taken in case of mortality of animal be reported to district animal health office
- Skillful and well experienced staff on the disease recognition, surveillance and investigation and sampling be available in the national, provincial and district level.
- Disease investigation and sampling for laboratory has to be taken as fast as possible
- Laboratory diagnostic capacity be available with skillful staff and materials equipment necessary to perform the test
- In case of HPAI, field diagnose through the necropsy and rapid test using rapid test kit will help to make decision for culling the infected poultry to prevent the spread of disease
- Budget for compensation shall be made available at central, provincial and district to support rapid culling of infected poultry
- Rapid response team be prepared with material and equipment and others necessary for taking action
- Empowering the field investigation and Rapid response teams taking action

Thank you for your kind attention

2010 FMD outbreaks in Korea

September 15, 2010

MiFAFF, R.O.K.

1st FMD outbreak in 2010 (type A)

First recognition

1st recognition (2 Jan)

The farmer found the abnormal symptoms
: hyper salivation and loss of appetite

The 1st Infected premise

Location
: Pocheon, Gyeonggi
No. & type of animals
: 198 Dairy Cattle

Evaluation

The owner recognized and notified the suspicion of disease in an appropriate and accurate way

1st FMD outbreak in 2010 (type A)

Diagnosis

Clinical observation

- 2 Jan • The visit of a field vet. by the owner's request and notified to local VS
- 3 Jan • 1st visit of local VS : No FMD specific symptoms / place under close observation
- 6 Jan • Revisit of local VS : FMD-like symptoms(erosion, ulcer, etc)

Laboratory diagnosis

- 7 Jan • Central VS(NVRQS) conducted sample collection & final diagnosis
  • Final sequence analysis confirmed as A-type FMD

Lab. Diagnosis	Ab test (No. positive/No. tested)			Ag test (No. positive/No. tested)	
	NSP ELISA	SP ELISA	VNT	RT-PCR	Ag ELISA
Results	3/11	8/11	9/9	6/6	1/2

2nd FMD outbreak in 2010 (type O)

First recognition

1st recognition (8 Apr)

The farmer found FMD-like clinical signs
: vesicles in mouth and teats

The 1st Infected premise

Location
: Ganghwa, Incheon
No. of animals : 177
Type of animals
: Hanwoo(Korean native beef cattle)

Evaluation

The owner recognized and notified the suspicion of disease in an appropriate and accurate way

2nd FMD outbreak in 2010 (type O)

Diagnosis

Clinical observation

- 8 Jan • Field vet. : visited by the owner's request and notified to local VS
- 8 Jan • Local VS : FMD-like symptoms (vesicles in mouth and teats, etc)

Laboratory diagnosis

- 9 Jan • Central VS(NVRQS) conducted sample collection & final diagnosis
  • Final sequence analysis confirmed as O-type FMD

Lab. Diagnosis	Ab test (No. positive/No. tested)			Ag test (No. positive/No. tested)	
	NSP ELISA	SP ELISA	VNT	RT-PCR	Ag ELISA
Results	1/8	1/8	2/8	9/9	2/2

FMD outbreaks in 2010

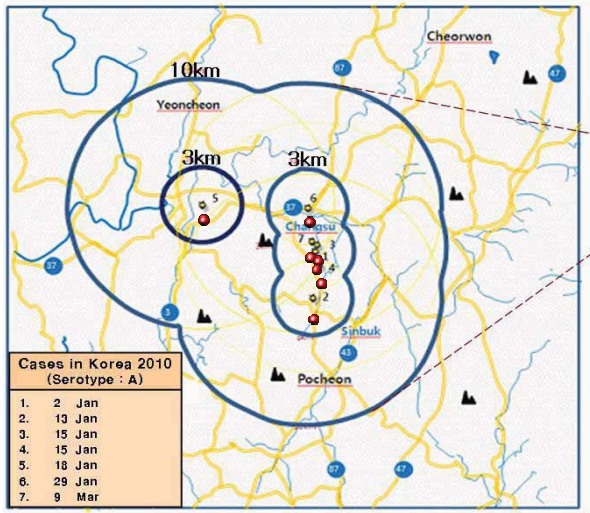
Notification

■ **Animal disease information networking**

Notification method	1st outbreak (typeA)		2nd outbreak (typeO)	
	When	How	When	How
Stage 1 (farmer to field vet)	Jan 2	Calling	Apr 8	Calling
Stage 2 (to Local VS)	Jan 2 (1st) Jan 6 (2nd)	Calling	Apr 8	Calling
Stage 3 (to Central VS: **NVRQS & MiFAFF**)	Jan 6	Official paper (**Fax, computer system**)	Apr 8	Official paper (**Fax, computer system**)
Stage 4 (to OIE)	Jan 7	Official paper (e-mail)	Apr 9	Official paper (e-mail)

1st FMD outbreak in 2010 (type A)

Spreading & Eradication



- **No. of outbreaks : 7 (6 cattle & 1 deer)**
- **Total 5,959 animals of 55 farms stamped out**
- **23 Mar : All control measures are resolved**

2nd FMD outbreak in 2010 (type O)

Spreading & Eradication

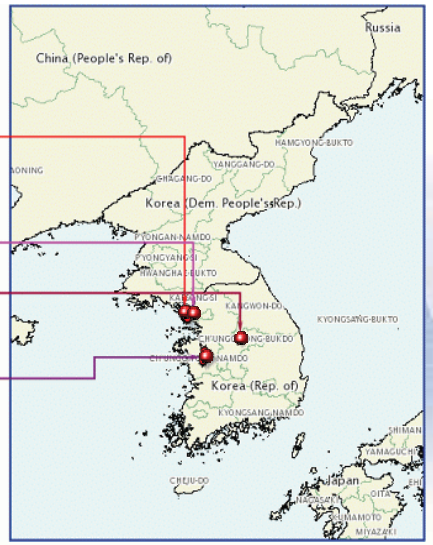
Cases in Korea 2010 (Serotype : O)

Ganghwa, Inch'on-Jikhalsi
1. 8 Apr
2. 9 Apr
3. 9 Apr
4. 9 Apr
5. 10 Apr
7. 21 Apr
9. 27 Apr

Gimpo, Gyeonggi-Do
6. 19 Apr

Chungju, Ch'ungch'ong-Bukdo
8. 21 Apr

Cheongyang, Ch'ungch'ong-Namdo
10. 30 Apr
11. 6 May
12. 30 May
13. 4 Jun



- **No. of outbreaks : 13 (cattle & pigs)**
- **Total** 49,874 animals **of** 395 **farms culled**
- **19 June**
  : All control measures are resolved

FMD outbreaks in 2010

Control measures

"FMD control guidelines",
"SOP for FMD"
"Animal disease crisis management manual"

Emergency FMD Control Center
- MIFAFF, NVRQS, Local VS, LHCA, etc

The infected farm or area
- Strict movement control (zoning and quarantine)
- Prompt stamping-out (100% compensation)
- Epidemiological investigation
- No vaccination

Nationwide
- Nationwide disinfection
- Surveillance (including telephone, wild animals)
- Education and public relations

Intensifying Border Quarantine
(Border Quarantine Management System)

FMD outbreaks in 2010

Problems or constraints

- **No problems or constraints found in animal disease information networking during FMD outbreaks in 2010**

※ 2nd outbreak case was completed only for 16 hrs from notification to diagnosis

Detection or Notification		Situation	
Farmers' detection		Appropriate & accurate	-
Notification	Farmers → Field vet.	Prompt & appropriate	Farmers may notify local VS or central VS
	Field vet. → Local VS	"	-
	Local VS → Central VS	"	-
Diagnosis		"	Within 8 hr after a sample arrives

FMD outbreaks in 2010

Good practices

Activities for immediate notification
- Constant education & public relations contributed to prompt notification of farmers

Activities for swift detection of a suspicion
- Phone-call surveillance daily on susceptible farms throughout the country
- Operation of animal disease reporting-line call(1588-9060/4060) for 24 hrs

Time-saving activities for prompt diagnosis
- Alteration of commend chain for field observation
  - Before : notify disease → clinical observation of local VS → dispatching central VS
  - After 16 Jan : notify disease → dispatching local VS & central VS at once
  - ※ Revision of "FMD control guidelines"

3rd OIE Regional Meeting
on Strengthening Animal Health Information Networking in Asia
Tokyo, Japan, 15-16 September 2010

COUNTRY PRESENTATION
MONGOLIA

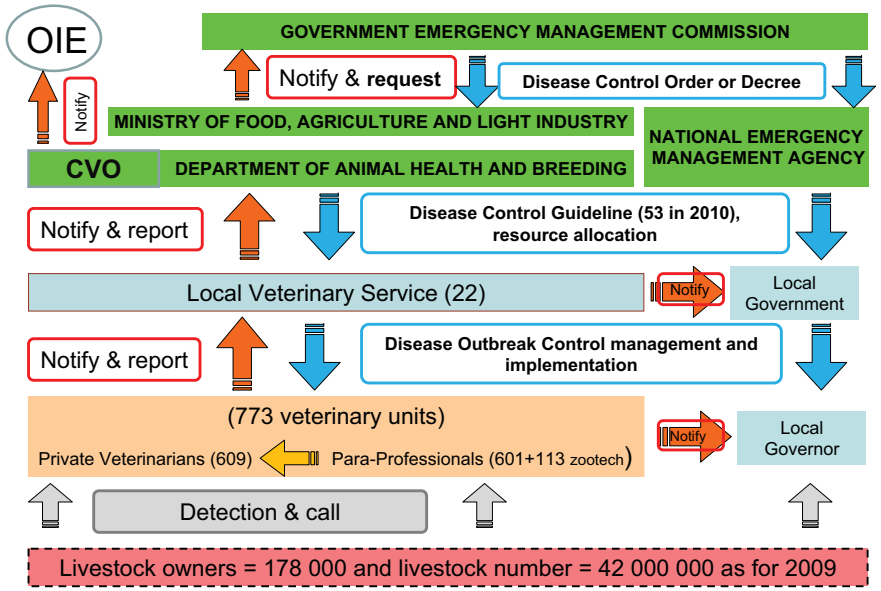
OUTBREAKS OF HPAI AND FMD IN MONGOLIA AND DISEASE NOTIFICATION 2009/2010

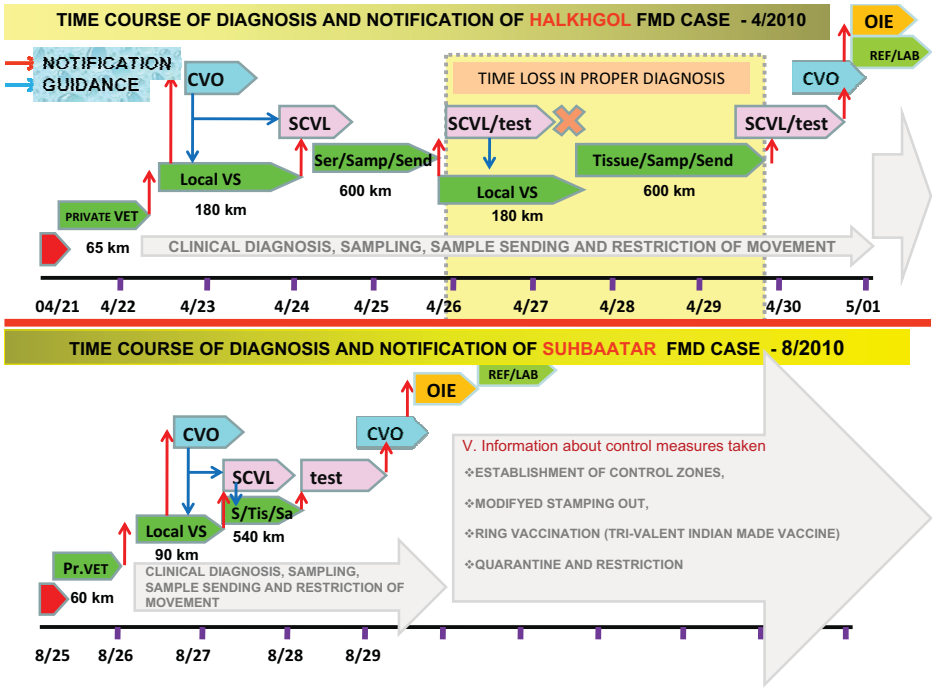
R. SODNOMDARJAA
STATE CENTRAL VETERINARY LABORATORY
MINISTRY OF FOOD. AGRICULTURE AND LIGTH INDUSTRY
MONGOLIA

AVIAN INFLUENZA (H5) OUTBREAKS IN WILD BIRDS IN MONGOLIA (2005-2010)

FMD OUTBREAKS IN MONGOLIA (2000-2006 and 2010)

INFORMATION FLOW AND COMMAND CHAIN IN NOTIFIABLE ANIMAL DISEASE CONTROL





Information about the detection/recognition of the first occurrence of the FMD and HPAI:

Legal basis: **According to the article 14.1.5. (LAW – AHP-2007) animal owner should inform the local service unit and administration within 12 hours in case of a symptom of an infectious disease and/or sudden loss of group of the animals.**

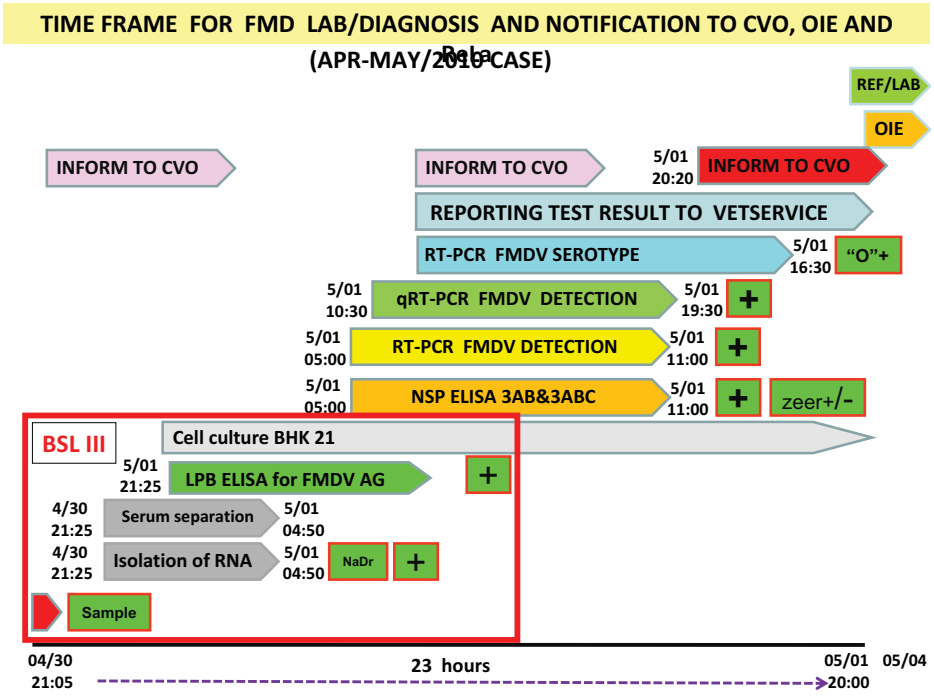
•How could owners (farmers) detect/notice the suspected case of the disease at the very beginning of the case?

- behavioral changes, unusual body condition, losses of productivity, clear clinical sign, or sudden death or mass sickness and death

-most of livestock owners have understanding about clinical signs of FMD in farm animals - FMD is named in Mongolian as "SHULKHII", that means hyper salivation.

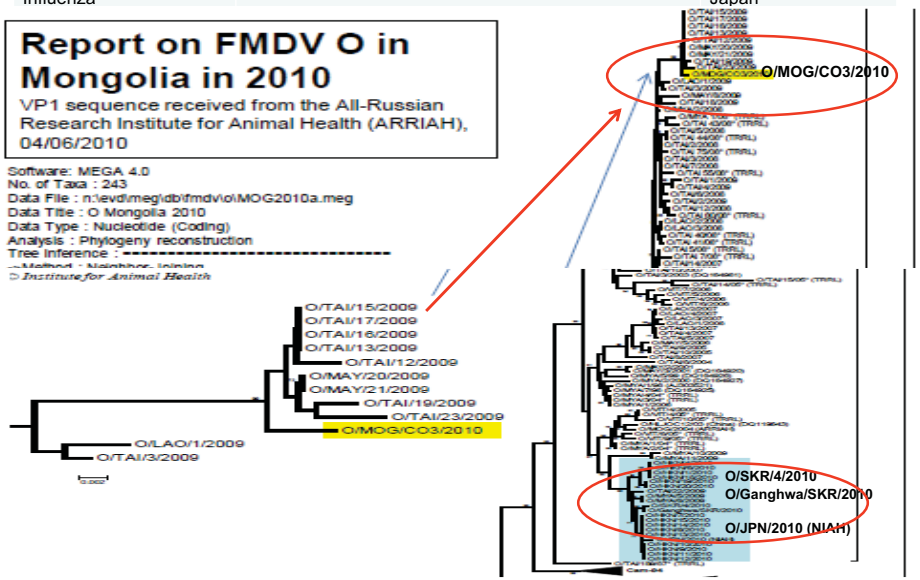
•Do you think owners or farmers of the affected animal(s) did recognize the suspicion of the disease in an appropriate and accurate way?

•Not all, only experienced (aged) Mongolian herders can recognize the suspicion of the FMD in appropriate way



Result of confirmatory diagnosis in WRLs

Foot and Mouth Disease	One case in 2010	- 100 %	ARIAH, Russia
Highly Pathogenic Avian Influenza	Four cases in 2009 and 2010	- 100 %	Hokkaido University, Japan



PROBLEMS/ CONSTRAINTS OBSERVED IN THE CASE OF THE PREVIOUS OUTBREAK

Appropriate and accurate detection of the suspicious case of the disease in the field by farmers:

•Low level of awareness of young herders in detection of the suspicious cases of FMD or any other diseases

•Appropriate and prompt notification of the disease by farmers to field veterinarians

•Long distance and poor infrastructure in many areas, where no access to cellular phone service

•Appropriate and prompt notification of the disease from field veterinarians to the local veterinary authorities

•Most of young veterinarians are unfamiliar with clinical or suspicious cases of TAD

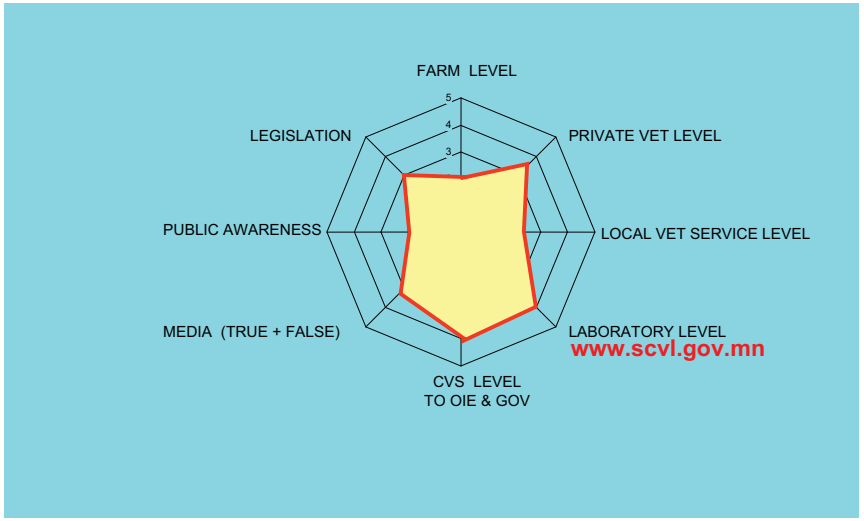
•Appropriate and prompt diagnosis of the disease by Laboratories

No proper sampling results delayed laboratory diagnosis and holding up timely notification of disease

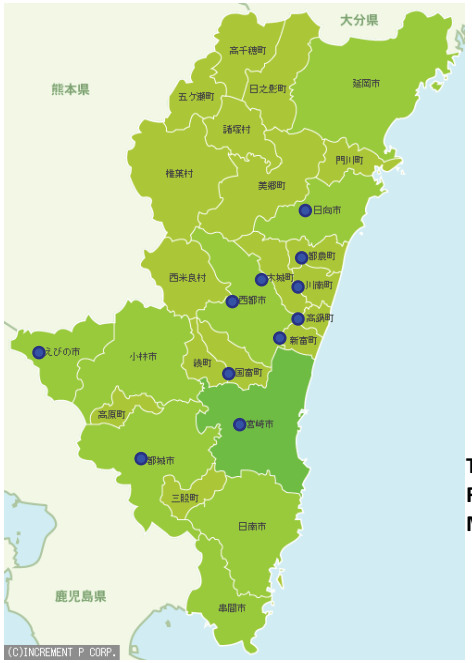
•Appropriate and prompt notification of the disease from the local veterinary authorities to the central veterinary authorities

•Luck motivation in epidemiological survey of disease upon receiving disease notification from the field veterinarian

PRELIMINARY ASSESSMENT ON TAD DETECTION, NOTIFICATION AND INFORMATION IN MONGOLIA



THANK YOU FOR YOUR ATTENTION



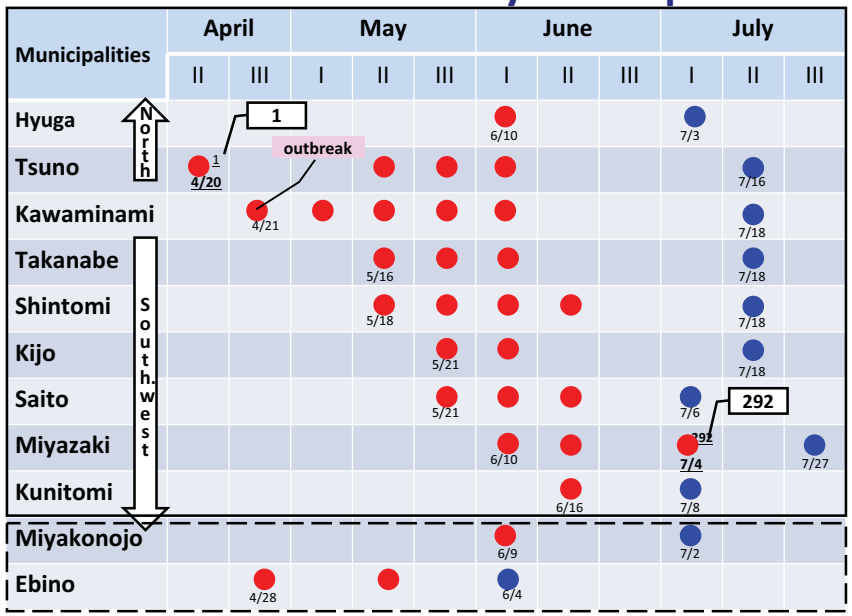
Overview of the outbreak of foot-and-mouth disease in Japan, 2010

Takehisa Yamamoto
Food Safety and Consumer Affairs Bureau
Ministry of Agriculture, Forestry and Fisheries

Outbreaks by animals

No. of outbreaks	No. of infected/suspect animals	
292	Cattle	37,412
	Beef cattle	36,284
	Dairy cattle	1,128
	Water buffalo	42
	Pig	174,132
	Goat	14
	Sheep	8
	Total	211,608

Time-series outbreaks by municipalities



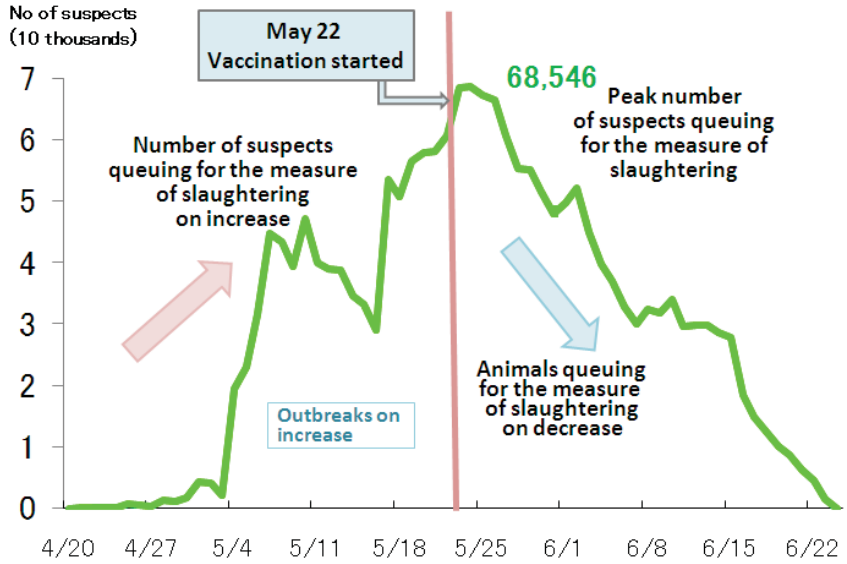
Geographical overview

Control measures

Measures		No. of animals
Stamping out (infected and suspected animals)		**211,608** **Cattle 37,412** **Pig 174,132**
Quarantine		—
Movement control	within a 10 km radius **(no movement)**	—
	10-20 km radius **(no export)**	—
Disinfection		—
Vaccination Animals within a 10 km radius with Oil-adjuvant killed vaccine against type O & destruction of the vaccinated animals		***124,000** **Cattle 46,000** **Pig 78,000**

* Total number of 49,525 animals were destroyed as infected and suspected animals after vaccination.

Time series of suspected animal and the control measures



Slaughter of the animal

Disinfection

Disinfection station on the road

Disinfection station on the road

Burial

Burial

Burial

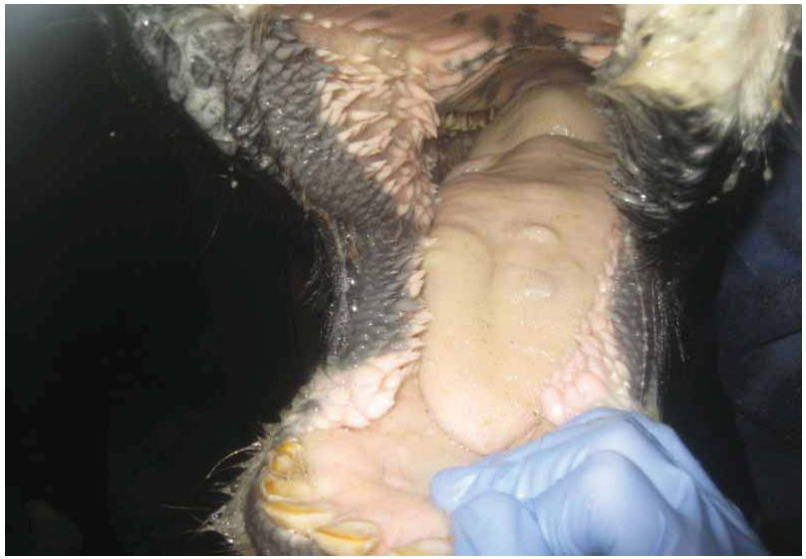
Burial

Clinical signs

	Cattle	Pig
Fever	○	○
Anorexia	○	○
Excessive salivation	○	△
Vesicular condition (vesicle, ruptured and erosion) of the feet, buccal mucosa and, in females, the mammary glands	○	○
Lameness	△	○

Pig > Dairy cattle > Beef cattle > (Water buffalo?)

Vesicle on tongue surface, dairy cattle



Bubbly salivation, beef cattle

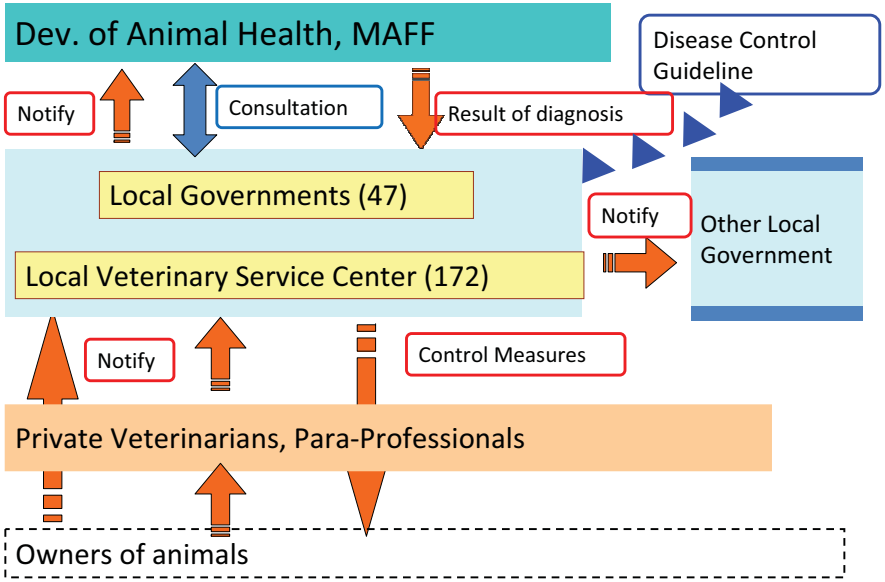
Erosion, vesicle, beef cattle

Erupted vesicle, pig

Erosion, pig

Vesicle, pig

Information Flow and Command Chain



Lessons to learn

Early report & quick implementation
(Preparedness)

Outbreak	Start date ①	Date of				Days ②−①	Days ③−①
		Report	Confirmation ②	C/M started	C/M completed ③		
A	9 Apr.	9 Apr.	20 Apr.	20 Apr.	21 Apr.	11	12
B	16 Apr.	20 Apr.	21 Apr.	22 Apr.	24 Apr.	5	8
C	26 Mar.	31 Mar.	23 Apr.	25 Apr.	26 Apr.	28	31
D	17 May	18 May	19 May	26 May	28 May	2	11
E[3]	9 May	10 May	11 May	11 May	12 May	2	3
F[0]	9 Jun.	9 Jun.	9 Jun.	10 Jun.	12 Jun.	0	3
G[0]	10 Jun.	10 Jun.	10 Jun.	11 Jun.	12 Jun.	0	2

1 C/M : Control Measures (destruction & disinfection)
2 [ ] : No. of subsequent outbreaks in the same municipality

Lessons to learn

When was the initial exposure ?

The field investigation and serological tests indicate :

1.At Farm C the exposure took place around mid March.

2.At Farm A the exposure took place in late March.

3.10 or more farms had already been exposed at the time of 20 April, the day of the 1st diagnosis of FMD.

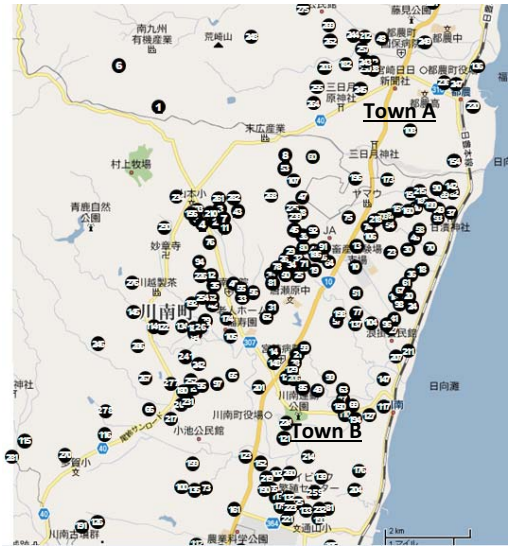
Lessons to learn

Distribution of outbreaks in a densely populated area

Town B		
Area size	90 km²	
	No. of farms	No. of animals
Pig	79	124, 974
Beef cattle	228	7, 597
Dairy cattle	28	1, 537
Layer	14	1, 129, 717
Broiler	23	4, 698, 495

335

Year 2005



Lessons to learn

Epidemiological background for spreading

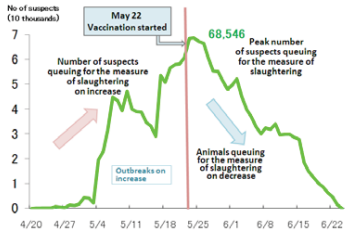
- Outbreaks in densely populated area

Delayed diagnosis

- Movement of people. vehicles, etc.
- Infection among pig herds
- Accumulation of infected/suspect animals to be slaughtered

- Increasing number of infected/suspected animals
- Increasing circulation of FMD virus

- Explosive outbreaks
- Spilling over not only to neighboring area but also to other distant area



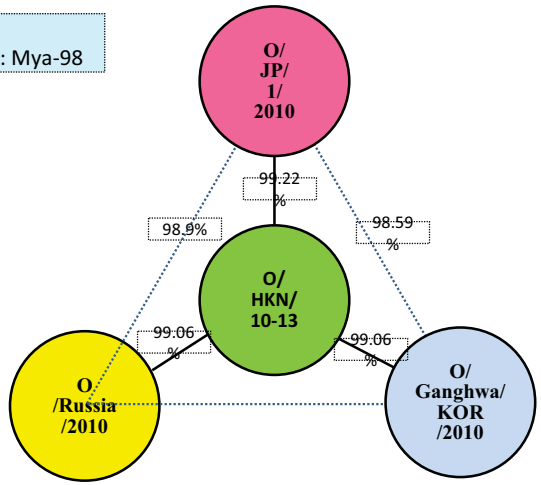
Lessons to learn

Isolates from Japan, Korea & Russia

Topotype: SEA
Genotype/strain: Mya-98

WRLFMD Quarterly Report April-June 2010 reports on **recent Mongolian FMD outbreaks caused by " O "** that

- The isolated virus belongs to the SEA topotype, Mya-98 lineage,
- Importantly, it appears to be a different introduction to outbreaks in the P.R. China, Hong Kong SAR, Republic of Korea and Japan, as it is most closely related to viruses from Thailand and Malaysia from 2009.



Source : Molecular epidemiology reports of WRLFMD

Lessons learned

… still under discussion

- **Early reporting**
- **Diagnosis**
- **Quick implementation of control measures - preparedness**
  - **Movement control**
  - **disinfection**
  - **Biosecurity**
  - **Quick destruction**
  - **Manpower mobilization & nation-wide cooperation**
- **Public awareness**

Thank you for your attention