





# **Enhencing capacities of veterinary workforce** to prevent and manage emergencies

Dr. LUONG VAN-VINH, DVM.

Raho6 - Department of Animal Health of Vietnam



# **OUTLINE**

- I. General background
- II. Animal health system of Vietnam
- III. Legal documents/National programs
- IV. Summary



# GENERAL BACKGROUND



# **INTRODUCTION**

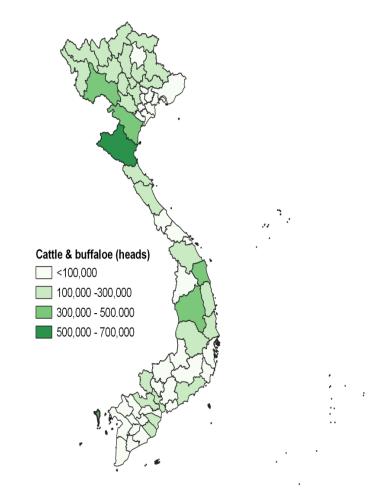
- Located in Southeast Asia
- Area: 332,000 km2
- Population 98.5 million
- 70% rural population
- Average 6.4% increase in annual GDP
- Livestock contributes ~ 22 % of total agricultural GDP

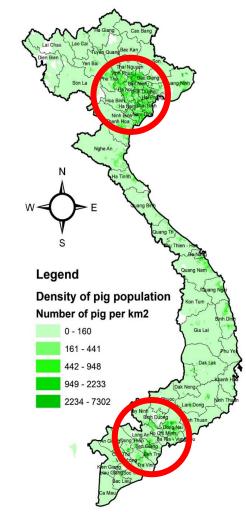




### LIVESTOCK POPULATION

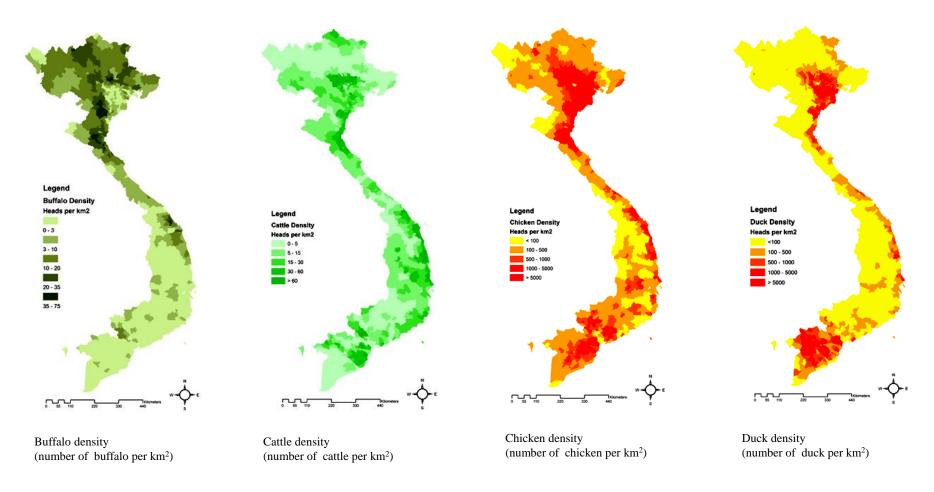
- Pig population: (10/2023)
  - ~ 30 million
- Poultry population:
  - ~ 550 million
- Ruminant animals population:
  - Cattle: ~6 million
  - Dairy cattle: ~331 thousand,
  - Buffalo: ~2.2 million
- Small-scale farms accounted for 40% of cattle, 80% of pig farms.
- Semi-intensive to intensive pig and dairy farms are growing fast.







### ANIMAL HUSBANDRY IN VIET NAM



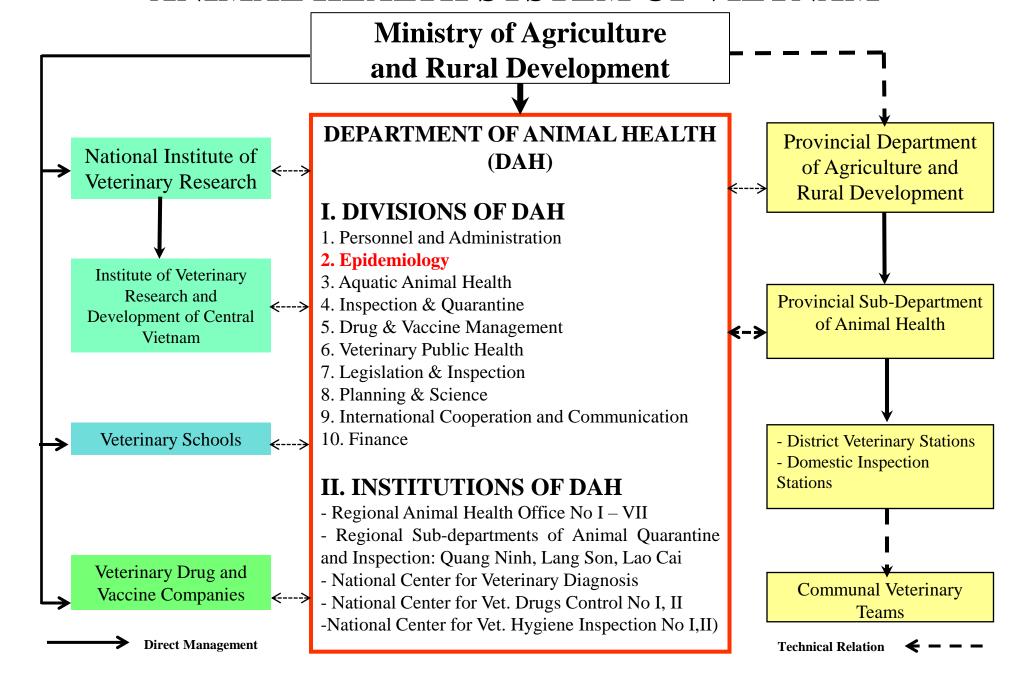
The maps of animal density in Viet Nam (head per km2) Total animal products increse about 3.5% annually.



# ANIMAL HEALTH SYSTEM IN VIETNAM



### ANIMAL HEALTH SYSTEM OF VIETNAM





# **Structure of Veterinary Services**

# National Institute of Veterinary Research

#### Regional Animal Health Offices (RAHO)

(NIVR)

- \* No. 1 (Ha Noi)
- **★ No. 2 (Hai Phong)**
- **★ No. 3 (Vinh)**
- **★ No. 4 (Da Nang)**
- \* No. 5 (DakLak)
- **★ No. 6 (Ho Chi Minh)**
- **★ No. 7 (Can Tho)**

Regional Sub Departments of Animal Quarantine and Inspection

# MINISTRY OF AGRICULTURAL AND RURAL DEVELOPMENT

# DEPARTMENT OF ANIMAL HEALTH Function Divisions:

- Personnel and Administration
- Epidemiology
- Inspection & Quarantine
- Drug & Vaccine Management
- Legislation & Inspection
- Planning (Inter. Cooperation & Science)
- Veterinary Publish Health
- Aquatic Animal Health
- Finance

#### **Sub-Department of Animal Health (province)**

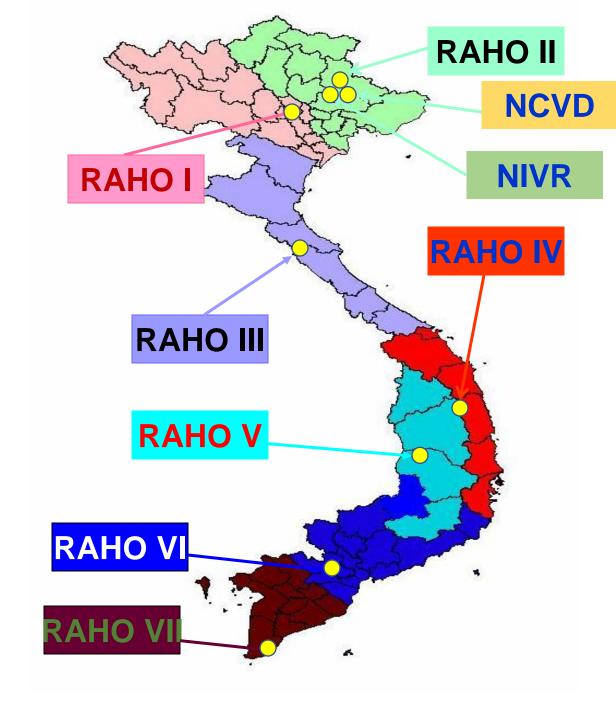
District Veterinary Station **Domestic Animal Inspection Station** 

Communal Veterinary Team Veterinary Drug and Vaccine Companies (Navetco)

#### **Professional Centers**

- ⇒The National Center for Vet. Diagnostics (NCVD)
- ⇒ The National Center for Vet. Bio-products Inspection 1, 2
- ⇒ The National Center for Hygiene Inspection 1, 2



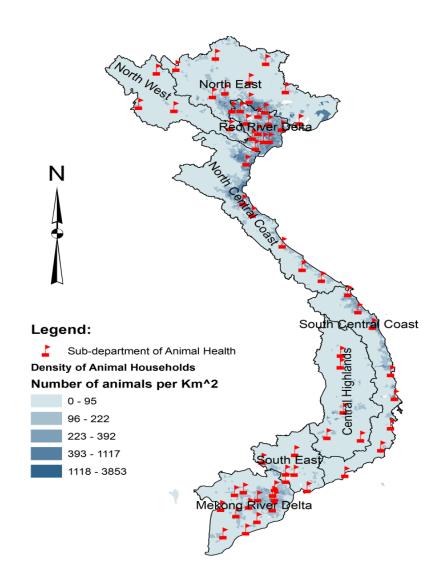


7 Regional Animal Health Offices (RAHOs) and Laboratories



#### LOCATION OF ANIMAL HEALTH OFFICES IN VIETNAM

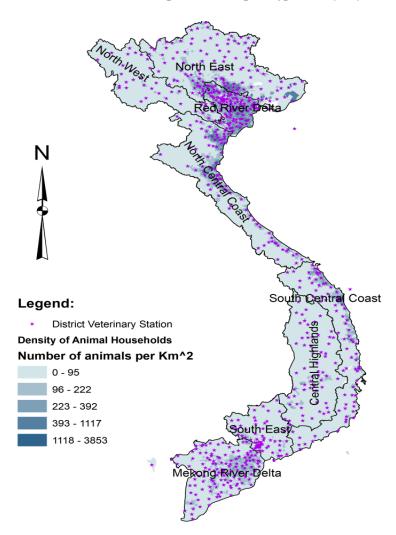
63 Provincial Subdepartment of Animal Health (SDAH)





### LOCATION OF ANIMAL HEALTH OFFICES IN VIETNAM

713 DistrictVeterinaryStation (DVS)



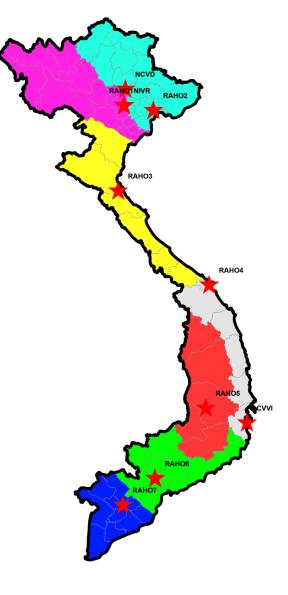




**Mobile Laboratories: Trailers** 

Germfree's Trailer Labs: Biological Safety, High Containment up to BSL-3

- 8 Laboratories with BSL-2 Plus are available for animal disease diagnosis and surveillance activities,
- 01 mobile lab with BSL-3
- 2 Laboratories for veterinary hygiene control







Veterinary laboratories



### Chart of diagnostic

(Quality Assurance by ISO/IEC 17025 guidelines)

Samples to Lab

- Blood, serum, Swabs, tissue,...ea
- Animal suspes disease

Method testing by:

- ELISA, HA-HI
- PCR/ Realtime PCR
- Virus neutralisation tests (VNT)
- Histopathology
- -Isolation
- Sequencing

Response/Feedback results to:

- Farm,
- Epidemiology division
- Sub-Department of Animal Health



No	Purpose testing	Methods			
1	Antibodies detect	- Rapid test; M.A.T, ELISA; Inhibition of hemagglutination			
		- Serum neutralisation test,			
		- Immunoperoxidase monolayer assay			
2	Antigen detect	- ELISA, PCR, Realtime PCR,			
3	Isolation virus	- Chicken embryo egg, Cell lines			
4	Bacteria	- Isolation & Identify by traditional method			
		- Automatic identification system (VITEK 2) .			
		- PCR, Realtime PCR			
5	Sequencing	Sanger sequencing 3500XL			
6	Parasite	- Microscopy			
		- PCR, Realtime PCR			
7	Histopathology	- Traditional methods (H&E)			
		- IHC (Immuno-Histo-Chemistry, IF)			



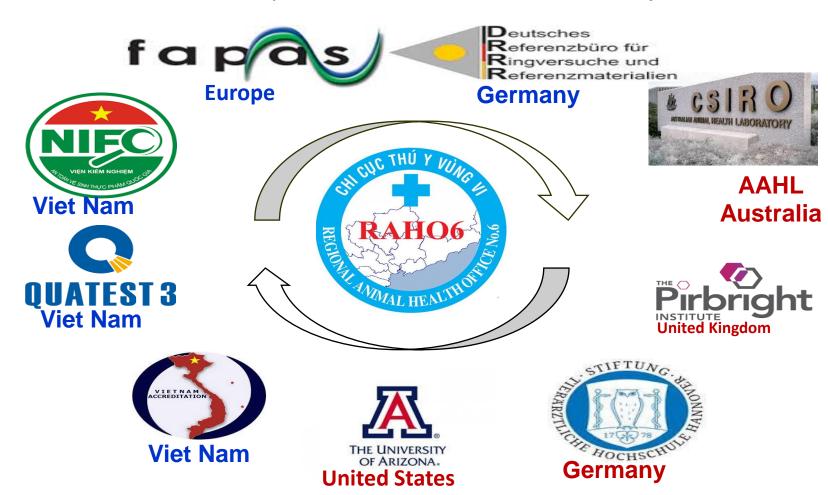
- Before applying the procedure. The laboratory must verification of the test method to ensure that it passes the standards: *Sensitivity; Specificity; Repeat, limit of detect (LOD)*.
- Also, many protocol/technique method has assessment, accredited by the Department of Animal Health.

Target/animal	testing	Result response
Terrestrial animal diseases	<ul> <li>Avian Influenza H5N1;</li> <li>H5N6; Newcatle;</li> <li>Gumboro;</li> <li>Foot and mouth disease;</li> <li>Classical Swine Fever;</li> <li>Aujeszky; Bluetongue;</li> <li>Leptopira; Rucellosis; PCV-2, PED</li> </ul>	1-2 day



## Join participant Proficiency testing

#### Avian Influenza, Newcastle method refer from WOAH/OIE



8/19/2024

### **Primary method using at RAHO6**

Codes and Manuals Publications

Documentary Portal

Training Platform

Bookshor

EN FR ES



Animal Diseases

Monkeypox

COVID-19

Q SEARCH

WHO WE ARE ~

WHAT WE DO V

WHAT WE OFFER ~

MEDIA V

WAHIS ⊅

Updated 24/06/2022

Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2022



19











IN-HOUSE METHOD



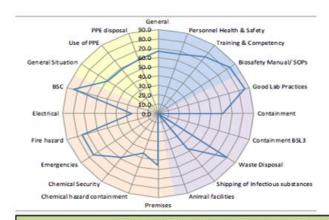


International Organization for Standardization





## **Biosafety & Biosecurity**



#### 06/21/2016 - LMT-Biosafety Module. Results : Summary for RAHO 6

Area	Category	21/06/2016 - LMT 8M Results for RAHO 6	Reliability **
	General	66.7	●100
Administration	Personnel Health & Safety	66.7	0100
	Training & Competency	75.0	0 100
	Biosafety Manual/SOPs	83.3	100
	Good Lab Practices	85.7	0100
	Containment	61.1	<b>100</b>
Operational	Containment BSL3	#D(V/0)	<b>0</b> 0
SQC REVISE	Waste Disposal	80.0	<b>083</b>
	Shipping of Infectious substances	46.7	<b>100</b>
	Animal facilities	#D(V/01	<b>0</b> 0
	Premises	55.6	<b>100</b>
	Chemical hazard containment	44.4	<b>950</b>
	Chemical Security	58.3	<b>100</b>
Engineering	Emergencies	75.0	0 100
	Fire hazard	75.0	<b>100</b>
	Electrical	25.0	<b>100</b>
	BSC	83.3	0100
	General Situation	58.3	<b>100</b>
99E	Use of PPE	58.3	<b>100</b>
	PPE disposal	60.0	0 100
	Grand total (%) RAHO 6	64.1	@ 80

Current Assessment*					
21/06/2016 - LMT-BM Areas * Results for RAHO 6	TOTAL (%)				
TOTAL Administration	71.1				
TOTAL Operational	69.6				
TOTAL Engineering	58.0				
TOTAL PPE	59.0				

\*Numbers displayed in percentage; Scoring based on the ideal situation (100%): numbers in each cell represent the achieved percentage compared to the optimum (100% being the ideal aboratory), faior coding 0-70%, 20-40%, 40-500%; 0-80%, 0-100%.

\*\* Reliability of the result depends on the percentage of questions filled or left blank per category in the LMT questiagnaire. From 100 to 90%, the LMT scoring is reliable! green, From 90 to 70%, realiability of the scoring is medium ( orango from 70 to 0%, reliability is low ( red).

The laboratory is evaluated and checked by FAO biosecurity expert. with the comments "good practice" at RAHO6 lab.





# LEGAL DOCUMENTS/NATIONAL PROGRAMS



# Legal documents on control and prevention of animal diseases

- Veterinary Law was recently approved by National Assembly and enforced from 01 July 2016.
- In the Law, Chapter II regulates disease control and prevention in terrestrial animals from Article 14 to Article 31.





### Legal documents on control and prevention of animal diseases

- Degree No. 35/2016/ND-CP regulate animal health system from the central down to commune level.
- Decision No. 16/QD-TTg regulating establishment of the national and local committees for prevention and control of animal diseases
- Circular 07/2016/TT-BNNPTNT regulating prevention and control of terrestrial animal diseases
- Circular 14/2016/TT-BNNPTNT regulating disease free compartments and zones (updated by Circular 24/2022/TT-BNNPTNT regulating disease free compartments and zones)
- Circular 16/2013/TTLT-BYT-BNN&PTNT regulation collaboration between animal health and public health sectors for controlling zoonotic disease



### National Programs for the control and prevention of animal diseases

- AI: The plan aims to establish a HPAI and Newcastle disease free zone in 5 provinces in region No. 6 recognized by OIE in 2025
- **FMD:** period 2006-2010, 2011-2015, and 2016 2020, 2021-2025 (each period, Government budget allocated from 34 million USD to 40 million USD)
- ASF, Lumpy skin: National Programs period 2020-2025; 2022-2030
- **Rabies:** Rabies control and elimination in Viet Nam 2017 2021 period, basically controlling rabies on domestic dogs by 2021, 2022 2030 period, basically controlling rabies on domestic dogs by 2022, progressing towards eliminating rabies on domestic animals.



# List of notifiable diseases

#### **Terrestrial disease:**

- Anthrax
- Foot and Mouth disease
- Lumpy skin
- Leptospirosis
- Rabies

- Classical swine fever
- PRRS
- ASF
- Avian Influenza (HPAI)
- Newcastle



# **Animal Health Staff**

	Number of staff	Qualification (%)			
Institution		Post.Grad	Graduate	Technicians	Basic training
DAH and RAHOs	643	16	58	9	17
Provincial SDAH	7,457	2	54	37	7
Commune vets	25,227	0	5	38	57
Private vets	30,653	0	2	29	69



# **SUMMARY**



# Challenges/Gaps

- Many emerging diseases: highly contagious and difficult to control, requiring effective prevention and treatment measures
- Long land border: Vietnam shares a land border with 3 countries Laos, Cambodia and China with nearly 4,510 km of land border, creating conditions for the smuggling of livestock breeds and animal products
- Small-scale livestock farming: Most livestock farming activities in Vietnam are still small-scale and scattered
- Small-scale slaughterhouses: Many small-scale slaughterhouses are prone to the risk of spreading diseases and reducing quality
- Urban growth and climate change
- Fragmentation in the food supply and consumption network



# Way forward

- Reporting Applications: Develop an Automated Reporting System and Develop a Mobile App
- **Digital Transformation**: Digitize Records and Data, Develop an Integrated Disease Management System: Convert traditional records into electronic formats for easier management, tracking, and analysis.
- Policy Improvement: Update and Adjust Existing Policies, Develop Supportive Policies and Compensations
- **Document Improvement**: Review and Revise Legal Documents, Create Detailed Guidelines
- Training and Capacity Building: Professional Training, Advanced Skill Workshops
- Establishing Disease-Free Zones: Develop a Database of Disease-Free Zones, Invest in Infrastructure





Thank you very much for your attention!