



THE 2013 REGIONAL ANIMAL HEALTH  
LABORATORY TECHNICAL ADVISORY GROUP  
(Lab TAG) MEETING

---

29-30 October 2013  
Yogyakarta, Indonesia

## EXECUTIVE SUMMARY

The Regional Animal Health Laboratory Technical Advisory Group (Lab TAG) was established to provide technical advice to the member countries on strategic planning and laboratory capacity building activities related to emerging, re-emerging and priority animal diseases of the region. The Lab-TAG members include experts from key technical partners in particular the leading laboratories for the region, international reference centers, and key donor agencies supporting laboratory activities in the region. The 2013 Lab TAG meeting was held, in conjunction with the ASEAN Laboratory Directors' Forum meeting. The meeting was hosted by the Directorate General of Livestock and Animal Health Services (DGLAHS), Department of Animal Health, Indonesia, in collaboration with FAO and OIE. Thirty-one representatives from the reference/leading laboratories experts and developing agencies attended the meeting. The objectives of the meeting were to discuss on issues related to the progress on ASEAN related issues, existing RLN laboratory capacity building programs, and issues related to the recently emerging avian influenza H7N9 virus. In addition, as 2014 marks the final year of the USAID Emerging Pandemic Threat (EPT) program and EU Highly Pathogenic Emerging Diseases (HPED), the meeting provided good opportunity for discussion of main achievements of these projects and future directions of the RLN laboratory capacity building program and potential funding resources.

The Meeting acknowledged the progress made by the relevant partners and noted the ability of the member countries to apply the improved laboratory and surveillance capacities to the emergency surveillance of the Avian Influenza A (H7N9). The Meeting also agreed that continuation of surveillance to explore within and out of China to the Southeast Asian region as well as improvement of laboratory testing be required.

The Meeting recommended that:

- a. Lab TAG continue to make available technical support to ASEAN in elaborating details and implementation of the "Regional Strategic Framework for Laboratory Capacity Building and Networking in Southeast Asia", and coordinate with relevant ASEAN technical groups, including the ASEAN Laboratory Directors' Forum, to report the progress of activities related to regional laboratory capacity building and networking;
- b. Lab TAG continue to support member countries to:
  - i. Effectively address technical problems identified during participating Regional QA and PT program;
  - ii. Improve their laboratory biosafety and biosecurity systems which include facilities, equipment, management and personal practices;
  - iii. Advice on new technologies and techniques available to address priority and emerging issues in the region;
  - iv. Advocate through relevant development partners to mobilize resources to support implementation of "Regional Strategic Framework for Laboratory Capacity Building and Networking in Southeast Asia".
- c. FAO and OIE to:
  - i. Collaborate closely in supporting the member countries in laboratory policy and strategy development taking into considerations the following points:

1. National budget to support priority laboratory activities including quality of laboratory services, biosafety and biosecurity, maintenance of equipment and facilities;
  2. Human resource development plan including career path and succession plan;
  3. Engagement of public health sector.
- ii. Collaborate with relevant partners in developing advocacy materials on the importance of proficiency testing implementation to improve quality of laboratory services;
  - iii. Advocate through the ASEAN Laboratory Directors' Forum to:
    1. Ensure member countries continue to actively participate in the Regional PT program, implement an IQC program, and efficiently manage technical problems to improve the quality of their diagnostic services;
    2. Gain their supports in implementing laboratory biosafety and biosecurity programs and to make appropriate decisions preceding the construction of new, or expansion of existing, BSL3 facilities which include feasibility and proper design;
    3. Ensure sufficient and sustainable funding of laboratory services including QA program, biosafety and biosecurity, maintenance of equipment and facilities;
    4. Operationalize the "Regional Strategic Framework for Laboratory Capacity Building and Networking in Southeast Asia" at country level.

The Meeting agreed with the 2013-2014 coordinated work plan and encourages the partners to implement their activities collaboratively. The Meeting agreed that the next meeting of Lab TAG be organized back-to-back with "Laboratory Director Forum".

## ACRONYMS AND ABBREVIATIONS

AAHL	Australian Animal Health Laboratory
ACCAHZ	ASEAN Coordinating Center for Animal Health and Zoonoses
AEC	ASEAN Economic community
AGAH	Animal Production and Health Division, FAO
AI	Avian Influenza
AMAF	ASEAN Ministers of Agricultural and Forestry
AMR	Antimicrobial Resistance
AMS	ASEAN Member States
ASEAN	Association of Southeast Asian Nations
ASF	African Swine Fever
ASWGL	ASEAN Working Group on Livestock
BSC	Biosafety Cabinet
CDC US	Centers for Disease Control and Prevention, USA
CSF	Classical Swine Fever
DGLAHS	Directorate General of Livestock and Animal Health Services (DGLAHS), Department of Animal Health, Indonesia
ECTAD	Emergency Centre for Transboundary Animal Diseases
EID	Emerging and Re-emerging Infectious Diseases
EPT	USAID funded- Emerging Pandemic Threats Program
EU-HPED	European Union funded-Highly Pathogenic Emerging Diseases Program
FAO	Food and Agriculture Organization of the United Nations
FAO-RAP	Food and Agriculture Organization of the United Nations, Regional Office for Asia and the Pacific
FAT	Fluorescence Antibody Test
FMD	Foot and Mouth Disease
FMDV	Foot and Mouth Disease Virus
GISRS	Global Influenza Surveillance and Response System
HCMC	Ho Chi Minh City
IHR	International Health Regulations
IPX	Immunoperoxidase Test
IQA	Internal Quality Control
Lab Framework	Regional Strategic Framework for Laboratory Capacity Building and Networking
LP ELISA	Liquid phase ELISA
NCVD	National Center for Veterinary Diagnosis, Hanoi, Vietnam
ND	Newcastle Disease
NIAH	National Institute of Animal Health, Bangkok, Thailand
NICs	National Influenza Centers
NSP ELISA	Non-structural protein ELISA
OIE	World Organisation for Animal Health
OIE SRR SEA	World Organisation for Animal Health Subregional Representation for South East Asia
PRRS	Porcine Reproductive and Respiratory Syndrome
PT	Proficiency Test
PVS	Performance of Veterinary Services
QA	Quality Assurance
RAHO6	Regional Animal Health Offices, Number 6, Ho Chi Minh, Vietnam
RBE	Registered Biosafety Expert
RLN	Regional Laboratory Network
RRL-FMD	Regional Reference Laboratory for FMD in South East Asia

RSU	Regional Support Unit
RVRDC	Regional Veterinary Research and development Center, Thailand
SEA	Southeast Asia
TAD	Transboundary Animal Diseases
USAID/RDMA	United States Agency for International Development/Regional Development Mission for Asia
VLP	Veterinary Laboratory Policy
VRI	Veterinary Research Institute, Ipoh, Malaysia
WHO	World Health Organization
WPRO	World Health Organization, Western Pacific Regional Office

## TABLE OF CONTENTS

Executive summary .....	1
Acronyms and Abbreviations .....	3
Introduction .....	6
Background .....	6
Objectives.....	6
Minute .....	8
Session 1: Opening and Introduction.....	8
Welcome remark from FAO .....	8
Welcome remark from OIE .....	8
Opening remark from DGLAHS .....	9
Introduction and objectives and review of 2012 Lab TAG recommendations .....	9
Session 2/1: Progress of the Regional Laboratory Network Activities .....	9
Key updates on ASEAN issues and the ASEAN Regional Strategic Framework.....	9
Review and discuss on outputs from country-level Laboratory Strategic Planning Workshop....	10
Outcomes of the FAO review on policies for veterinary laboratories and potential needs in policy developments within SE Asia.....	11
Discussion and conclusion for the session.....	11
Session 2/2: Progress of the regional laboratory network activities.....	12
Progress of the Regional Proficiency Testing (PT) Program.....	12
Regional Proficiency Testing Program by inter-Laboratory comparisons on FMDV.....	12
Progress of the Regional Biosafety Program .....	13
Discussion and conclusions for the session .....	13
Session 3: Issues related to the emergence of Avian Influenza (H7N9) virus.....	14
Activities implemented and planned: FAO .....	14
Activities implemented and planned: OIE SRR SEA .....	14
Activities implemented and planned: AAHL.....	15
Activities implemented and planned: others .....	15
Discussion and conclusions for the session .....	16
Session 4: Laboratory Support Contributing to one health initiative at the regional level.....	16
Laboratory component for regional rabies control initiatives.....	16
Laboratory component to address Anti-Microbial Resistance (AMR) issue in a sustainable manner .....	16
Discussion and conclusions for the session .....	16
Session 5: Future Directions of the Regional Laboratory Capacity Building and Networking Program .. .....	17
Meeting Conclusions and Recommendations .....	17
List of Annexes .....	20

**THE 2013 REGIONAL ANIMAL HEALTH LABORATORY TECHNICAL  
ADVISORY GROUP (Lab TAG) MEETING**  
29-30 October 2013, Yogyakarta, Indonesia

## INTRODUCTION

### BACKGROUND

Strengthening national laboratory capacities, collaboration as well as information sharing among the laboratories within the region through the “Regional Laboratory Network (RLN)” is essential for the effective surveillance and control program against transboundary animal diseases in the Southeast Asia (SEA). The Regional Animal Health Laboratory Technical Advisory Group (Lab TAG) was established to provide technical advice to the member countries on strategic planning and laboratory capacity building activities related to emerging, re-emerging and priority animal diseases of the region. The Lab TAG members include experts from key technical partners in particular the leading laboratories for the region, international reference centers, and key donor agencies supporting laboratory activities in the region and the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE). The role and responsibilities of the Lab TAG include 1) Provision of advice on strengthening laboratory capacity, improving quality of laboratory diagnostic services, and laboratory biosafety and biosecurity; 2) Advocacy for the relevant policy level and development partners to gain sustainable support for the implementation of the “Regional Strategic Framework for Laboratory Capacity Building and Networking in Southeast Asia”; and 3) Facilitation and coordination among relevant partners in implementing the activities related to laboratory capacity buildings to minimize the duplication and maximize the outputs.

The 2013 Lab TAG meeting will be held, in conjunction with the Laboratory Directors’ Forum meeting on 29-30 October in Yogyakarta, Indonesia. The meeting will be hosted by the Directorate General of Livestock and Animal Health Services (DGLAHS), Department of Animal Health, Indonesia, in collaboration with FAO and OIE. The meeting will discuss on the progress in integrating the RLN within ASEAN, existing RLN laboratory capacity building programs, and issues related to the recently emerging avian influenza H7N9 virus. In addition, as 2014 marks the final year of the USAID Emerging Pandemic Threat (EPT) program and EU Highly Pathogenic Emerging Diseases (HPED), the meeting will provide a good opportunity for discussion of main achievements of these projects and future directions of the RLN laboratory capacity building program and potential funding resources. The concept note and agenda of the meeting is provided in Annex 1.

### OBJECTIVES

2.1) To update the Lab TAG members on;

- Results and recommendations of the ASEAN Working Group on Livestock (ASWGL) meeting that were related to the Regional Laboratory Network for Southeast Asia as well as the required follow-up actions that can be supported by the Lab TAG;

- Progress of activities related to the regional laboratory network and progress based on the recommendations made at the previous meeting;
- Progress of issues related to the emergence of the Avian Influenza (H7N9) virus

2.2) To explore the future directions of the RLN laboratory capacity building and networking programs in the next 5 years, in alignment with the strategic goals of the Regional Strategic Framework for Laboratory Capacity Building and Networking in Southeast Asia, and possible resource mobilization in a coordinated manner.



## MINUTE

The 2013 Lab TAG meeting was held, in conjunction with the ASEAN Laboratory Directors' Forum meeting. The meeting was kindly hosted by the Directorate General of Livestock and Animal Health Services (DGLAHS), Department of Animal Health, Indonesia, in collaboration with FAO and OIE. The Meeting welcomed 31 participants from the reference/leading laboratories experts and developing agencies including the World Organisation for Animal Health (OIE), Food and Agriculture Organization of the United Nations (FAO), Australian Animal Health Laboratory (AAHL), World Health Organization Western Pacific Regional Office (WPRO) and the United States Agency for International Development (USAID). The list of participants appears as Annex 2.

## SESSION 1: OPENING AND INTRODUCTION

### WELCOME REMARK FROM FAO

Dr. Wantanee Kalpravidh, Regional Coordinator, delivered the welcome remark on behalf of the Food and Agriculture Organization of the United Nations, Regional Office for Asia and the Pacific. Dr. Kalpravidh recalled the first meeting of laboratory partners in 2009, which the name later changed to the Regional Laboratory Technical Advisory Group (Lab TAG). Several key achievements have been accomplished in the past five years, including the development of a collaborative work plan to coordinate activities, the involvement of human health sector, the development of a collaborative framework-which subsequently was the predecessor of the ASEAN laboratory strategic framework, and recently the strong engagement of ASEAN as a political body. Undoubtedly, the Lab TAG has emerged as an important collaboration platform to coordinate laboratory activities in the region. With political acceptance from ASEAN and in order to ensure continuation of efficient coordination, Dr. Kalpravidh urged the meeting to contemplate on how to sustain this initiative. Dr. Kalpravidh also acknowledged the contributions made by all the partners, including international organizations, leading and reference laboratories in the region, participating national laboratories, and lastly but most importantly the hospitality of Indonesia through the Directorate General of Livestock and Animal Health Services (DGLAHS) to willingly host the meeting.

### WELCOME REMARK FROM OIE

Dr. Jaruwan Kampa, IDENTIFY Programme Coordinator, OIE SRR SEA, provided a welcome remark on behalf of the OIE, World Organisation for Animal Health. Dr. Kampa stressed the importance of laboratory capacity building as one of the key activities for OIE to contribute to enhancement of scientific development. OIE first participated in the Regional Laboratory Network (RLN) meeting in 2008. Later, OIE partnered with FAO to co-organize the meeting in 2009. Since then this network has evolved from HPAI to expand to other TADs and emerging zoonoses. OIE has embarked on laboratory capacity strengthening in line with the process of OIE PVS Pathway. Specifically, with the recent development of the OIE PVS Laboratory which was first piloted in one country in the region. Dr. Kampa briefed the meeting on relevant activities of OIE, including training, twinning programme for national laboratories, and development and/or revision of national laboratory strategies and

strategic plans. Dr. Kampa thanked DGLAHS for hosting the event and wished the meeting to successfully achieve its objectives.

#### OPENING REMARK FROM DGLAHS

Dr. Pudjiatmoko, Director of Animal Health, DGLAHS, delivered an opening remark on behalf of the host country. Dr. Pudjiatmoko welcomed all participants to the meeting, and also to Yogyakarta “Never Ending Asia” with its tropical setting, friendly people and cultural heritage. Dr. Pudjiatmoko thanked the FAO, OIE, USAID-IDENTIFY and EU-HPED for continuous support in improving the laboratory capacity and quality of the animal health laboratories in South East Asia region. Dr. Pudjiatmoko acknowledged the contribution of the Lab TAG in providing technical advice to the member countries on strategic planning and laboratory capacity building activities related to emerging, re-emerging and priority animal diseases of the region. With recent recognition of the Laboratory Directors’ Forum (LDF) as an ASEAN laboratory technical group, Dr. Pudjiatmoko envisioned that the Lab TAG as a main partner of ASEAN LDF to provide advice on laboratory capacity strengthening, improving the quality and safety of diagnostic services; to advocate for sustainable support for the implementation of the “Regional Strategic Framework for Laboratory Capacity Building and Networking in Southeast Asia”; and to facilitate and coordinate among relevant partners in implementing the activities related to laboratory capacity buildings to minimize the duplication and maximize the outputs. Dr. Pudjiatmoko expressed his gratitude to all participants for their full cooperation and contribution; and thanked the organisers for providing necessary support to organise this meeting.

#### INTRODUCTION AND OBJECTIVES AND REVIEW OF 2012 LAB TAG RECOMMENDATIONS

Dr. Wantanee Kalpravidh provided the overview and objectives of the meeting. The expected outputs of the 2013 meeting included 1) a report outlining the updated information and recommendations on policy, activities and progress related to regional laboratory network for Southeast Asia; and 2) recommendations on the future directions of the RLN laboratory capacity programs in the next 5 years, in alignment with the Regional Laboratory Network strategic framework for Southeast Asia. The agreements and key recommendations from the 2012 Lab TAG meetings were revisited (Annex 3). Dr. Kalpravidh encouraged the participants to provide comments and recommendations for the future direction of the regional laboratory network. Dr. Kalpravidh’s presentation appears as Annex 4.

### SESSION 2/1: PROGRESS OF THE REGIONAL LABORATORY NETWORK ACTIVITIES

#### KEY UPDATES ON ASEAN ISSUES AND THE ASEAN REGIONAL STRATEGIC FRAMEWORK

Dr. Kachen Wongsathapornchai, ASEAN Regional Support Unit Coordinator, provided a presentation on key updates on ASEAN issues. Dr. Wongsathapornchai’s presentation focused on the outcomes from the 21<sup>st</sup> Meeting of the ASEAN Sectoral Working Group on Livestock (ASWGL) held in May 2013 with regards to laboratory-related ASEAN disease-specific and cross-cutting initiatives. Disease-specific initiatives included updates on future expansion of the scope of the ASEAN Taskforce for

HPAI Control and Eradication (HPAI Taskforce) to address broader issues on animal influenza; as well as the progress to strengthen Thailand's National Institute of Animal Health (NIAH) as OIE Reference Centre for animal brucellosis. Dr. Wongsathapornchai updated the meeting on the endorsement of the Regional Strategic Framework for Laboratory Capacity Building and Networking (Lab Framework) by the ASEAN Ministers of Agriculture and Forestry (AMAF) during its 35<sup>th</sup> Meeting in September 2013 (Annex 5). Recognizing the need to support the implementation and to monitor progresses, the 21<sup>st</sup> ASWGL Meeting agreed to establish an ASEAN laboratory technical group to assume the responsibility and accountability. The 21<sup>st</sup> ASWGL Meeting also recognized the existence of the Regional Laboratory Directors' Forum (LDF) as the ASEAN ad-hoc group on laboratory. With the ongoing initiative to establish the ASEAN Coordination Centre for Animal Health and Zoonosis (ACCAHZ), there is a parallel effort for the subsequence transition of the LDF to ACCAHZ in 2015. Dr. Wongsathapornchai highlighted the opportunities to capitalize on the strong political support from ASEAN and ASEAN Member States (AMS) to support laboratory activities, as well as the need for the Lab TAG to coordinate closely with the LDF on laboratory initiatives. Dr. Wongsathapornchai's presentation appears as Annex 6.

---

#### REVIEW AND DISCUSS ON OUTPUTS FROM COUNTRY-LEVEL LABORATORY STRATEGIC PLANNING WORKSHOP

Dr. Jaruan Kampa delivered a presentation on outputs from country-level Laboratory Strategic Planning Workshop conducted by OIE. Up to May 2013, OIE supported 5 national animal health laboratories for strategic planning workshops. Output from the workshops are draft strategic plan that the national animal health laboratory can use for strengthening their capacity by their specific roles. Visions of the 5 laboratories addressed the key areas of veterinary diagnostic services as epidemiology and veterinary research, management networks, animal diseases and livestock products testing and reference center. Key stakeholders of the laboratories are the government animal health departments, regional and reference laboratories, public health sectors, academic sectors, international organizations and farmers. Four laboratories had done SWOT analysis for to diagnosis their readiness. Internal analysis showed that even the laboratories have well-trained staffs and satisfied managements have been identified as their strength but still need more technical trainings on diagnosis techniques and standard operation system to improve their services. External analysis was interesting that two of the laboratories indicated ASEAN community and international trade was being both opportunity and threats. This issue was raised in discussion session for recognition of the importance of ASEAN in the lab development-advocacy and (internal) coordination issues. The formulated strategies of the five laboratories showed the most concerning issues on increase human resource capacity, quality assurance and standard test protocol and laboratory network for information sharing and management. To increase human resource capacity, most of the lab planned for staff development platform and required technical training on diagnosis technique for both the central and provincial/satellite labs. The labs also developed their action plans for improve or institutionalize quality assurance system in compliance with international quality assurance system and standards. Networking for laboratory information sharing and linking between provincial and central laboratories is also strategized. Dr. Kampa's presentation appears as Annex 7.

---

## OUTCOMES OF THE FAO REVIEW ON POLICIES FOR VETERINARY LABORATORIES AND POTENTIAL NEEDS IN POLICY DEVELOPMENTS WITHIN SE ASIA

Dr. Filip Claes, laboratory expert, Animal Production and Health Division (AGAH), FAO provided an update on the outcomes of the review on policy for veterinary services at global and regional levels. Gaps identified in the laboratories of the developing world need to be addressed with a strong and adequate veterinary laboratory policy (VLP). VLP will set the basic principles for the organization of the veterinary laboratory system and is a prerequisite for reliable and sustained laboratory services. VLP should be developed in close collaboration with the regional framework. An FAO task force of lab and policy experts aims to review the prevailing veterinary laboratory policies across the continents, at national and regional level, and at governmental and institutional level. This review will point out strengths and weaknesses of existing policies and will serve as a basis to develop guidelines on laboratory policy. To make this policy successful collaboration with regional networks at an early stage is necessary. Key components of VLP are identified at governmental and institutional level (for extensive list of topics, please see the attached presentation).

Main preliminary findings of the review show that laboratories, as services providers, are not a priority in terms of policy development, and poor general knowledge exists of what a VLP should be. When a regional regulatory framework exists, the policy is much more advanced at the national level. VLP is much more developed in the food safety sector than in the animal health sector, although they should be part of the same domain. The same findings are applicable in developed and developing countries. The VLP guidelines that are being developed are not intended nor presented to the targeted audience as a “list of recommendations” and they will not be duplication or simply an expanded version of existing documents on veterinary laboratories. They are aimed to be a practical document guiding decision-makers (e.g. Central Authorities and Laboratory Directors) in the development and harmonization of “their” laboratory policy, governance and management strategies.

FAO proposed to further consult with SE Asian countries for their interest to participate in this review and if so to share national/regional documents on laboratory policy with FAO task force on lab policy (e.g. on lab status, livestock policy, PVS gap analysis, etc). To consult with ASEAN for existing information on regional and ASEAN resources and policy documents. Another proposal is to try and operationalize this initiative in some countries with the aim to strengthen lab policy at national level. Dr. Claes’ presentation appears as Annex 8.

---

## DISCUSSION AND CONCLUSION FOR THE SESSION

The Meeting discussed on issues related to resource mobilization to support laboratory functions including budgets for laboratory maintenance, equipment, and supplies. It was noted that the policy support gained from ASEAN could be used to advocate for more support at the national level. The advocacy could also be done through the development of national laboratory policies and strategies, which is also stipulated in the Lab Framework as one of the strategic goal. The Meeting recommended that FAO and OIE collaborated through their existing programmes to develop guidelines for such policy and strategy development. The Meeting also highlighted the importance to strengthen laboratory capacities, including acquiring of new laboratory facilities and equipment,

that are fit-for-purpose and based on country and regional priorities. Facilities have to be practical with an affordable level of maintenance.

## SESSION 2/2: PROGRESS OF THE REGIONAL LABORATORY NETWORK ACTIVITIES

### PROGRESS OF THE REGIONAL PROFICIENCY TESTING (PT) PROGRAM

Mr. Chris Morrissy, Australian Animal Health Laboratories, presented the progress of activities conducted under the 2013 Regional Quality Assurance (QA) Program, supported under FAO-IDENTIFY and EU-HPED programs. The scope of work included conducting regional diagnostic workshops, Proficiency Testing (PT) activities, and the backstopping missions. Three regional workshops were conducted during 2013. These included 1) the Regional workshop on Laboratory-Epidemiology Linkage (Bangkok), 2) Diagnosis of AI (H7N9), ASF, CSF and PRRS (RAHO6, HCMC), and 3) Diagnosis of Rabies and ND (NIAH, Bangkok). In 2013, 14 laboratories from 9 Southeast Asia countries participated the Regional PT program. The 6 targeted diseases included Influenza A, ASF, CSF, PRRS, Rabies and ND. The panels included H5, H7, N9 & Type A PCR and H5-HI serology test, CSF, ASF and PRRS PCR tests, NDV PCR and HI test, and Rabies PCR, Fluorescence Antibody Test (FAT) and Immunoperoxidase Test (IPX). The PT activities will be followed by expert backstopping missions to rectify problems identified during the PT activities and other relevant laboratory issues.

The review of the results from the PT rounds in 2012 and 2013 showed that all laboratories continued to improve their performance in the PT rounds undertaken in 2012 and 2013. The improvements were in both quality of results and accuracy. The problems that had identified in the 2007-2011 PT rounds were in most cases fixed by the laboratories in the 2012 - 2013. The results from the PT rounds showed improvement in sensitivity in all tests, particularly for CSF & PRRS tests. Good improvement on the Rabies PT test results was noted, for both the FAT and PCR tests. The PT activities also identified some sensitivity problems for some laboratories. The problems were mostly resolved through the backstopping missions. The observed constraints in 2012 and 2013 were mainly due to resourcing in the laboratory, budget for reagents or the lack of use of the tests in the laboratory.

In conclusion, significant overall improvement in diagnostic capability and quality was observed among the participating laboratories. In general, all participating laboratories have improved in accuracy and sensitivity of the targeted diagnostic assays. Mr. Morrissy's presentation appears as Annex 9.

### REGIONAL PROFICIENCY TESTING PROGRAM BY INTER-LABORATORY COMPARISONS ON FMDV

Dr. Somjai Kamolsiripichaiporn, Director of the Regional Reference Laboratory for FMD in South East Asia (RRL-FMD) provided the update on the Regional Proficiency Testing Program (PT) by Inter-laboratory Comparison on FMDV. The definition, objective and procedure of the regional PT program were described. The 3<sup>rd</sup> round of the Inter-laboratory comparisons for FMDV was conducted during December 2012-November 2013. Fifteen laboratories including 7 Regional

Veterinary Research and Diagnostic Centers (RVRDC), and the National Institute of Animal Health (NIAH) Thailand, and 7 Southeast Asia member countries (Cambodia, Lao PDR, Malaysia, Myanmar, Thailand (RRL), Vietnam (NCVD, RAHO6), Singapore participated the program. The results were summarized based on the Internal Quality Control (IQC) of antigen (Serotype O, A, and Asia-1) and antibody detection (LP and NSPs) by ELISA. Problems and constraints observed during the activities included lack of systematic equipment calibration, technical errors, budgeting, logistics problem and delayed result submission. The distribution of the reports from the inter-laboratory comparisons is scheduled in December 2012. Dr. Kamolsiripichaiporn's presentation appears as Annex 10.

---

## PROGRESS OF THE REGIONAL BIOSAFETY PROGRAM

Dr. Stuart Blacksell, Regional Biosafety coordinator for FAO Regional Biosafety Program, presented the scope of activities and finding from the 2012-2013 FAO-Regional Biosafety Program. The overall objectives of the Regional Biosafety Program were to 1) enhance the quality biosafety management and practices and good laboratory practices (GLP) at the participating laboratories and 2) ensure the well maintenance of the biosafety equipment and access to essential biosafety supplies. The 2013 activities included biosafety assessment, trainings, developing of regional biosafety resource materials, annual biosafety cabinet (BSC) testing and certification, provision of equipment and supplies based from the expert's recommendations. In 2013, 28 laboratories from 11 countries in Southeast Asia and South Asia participated in the program. The number of serviced BSCs has expanded to from 130 in the year 2012 to 170 cabinets in 2013. Results from the laboratory assessment activities were presented. The major issues included the lack of institutionalized biosafety administration and management, lack of awareness and biosafety practices, improper waste management, workflow, and issues related the BSC usage and maintenance. Several on-site trainings had been offered during the year to enhance the staff awareness and proper biosafety practices. In addition, the Regional Train-the-Trainers workshop on biosafety management is scheduled in December 2013. The ongoing BSC testing and certification activities indicated reduced number of failed BSC, as compared to the previous year. The next round of laboratory assessment is scheduled in early 2014. Dr. Blacksell's presentation appears as Annex 11.

---

## DISCUSSION AND CONCLUSIONS FOR THE SESSION

**PT issue:** The meeting acknowledged the good progress on improvement of laboratory diagnostic services through the existing regional QA program. The success stories on the SEA-PT program should be used for advocacy and the program should be continued.

**Biosafety Issue:** The meeting discussed on the possibility to develop the sustained national capacity for BSC testing. The issue related to contradicted recommendations to the laboratories from different biosafety experts in the region was noted. It was recommended that the laboratories should seek advice from the Registered Biosafety Experts (RBE) and relied on the already existing international biosafety standards and guidelines. In addition, establishment of the twinning program with the reference laboratories, accredited by international biosafety standard, can be very helpful.

The meeting recognized the importance of human resources and the succession plan for the new generation, the certification of PT and biosafety staffs. It was recommended that budget for biosafety and QA management are the priority and should to be included when developing the lab policy and strategy. The recommendations should be also shared and advocated to the country authorities and policy makers, in order to gain support for the future activities.

### SESSION 3: ISSUES RELATED TO THE EMERGENCE OF AVIAN INFLUENZA (H7N9) VIRUS

#### ACTIVITIES IMPLEMENTED AND PLANNED: FAO

Dr. Pawin Padungtod, Coordinator for the Influenza A (H7N9) Emergency Surveillance in South and Southeast Asia, presented the activities under the project: Influenza A H7N9 Emergency Surveillance in South and Southeast Asia. In response to the emergence of avian influenza A (H7N9) in China, the USAID-funded project “Emergency surveillance of Influenza A H7N9 virus in South and Southeast Asia” was conducted during May to September 2013. The goals of the project were to identify animal source of AH7N9 virus and determine geographical distribution of the virus in South and Southeast Asia. Three countries in South Asia; Bangladesh, Bhutan, Nepal and five countries in Southeast Asia; Cambodia, Indonesia, Lao PDR, Myanmar and Viet Nam participated in the emergency surveillance.

A total of 1,330 retrospective samples, collected between September 2012 and April 2013 as part of other HPAI H5N1 surveillance in Viet Nam, Indonesia and Bhutan, were tested for the presence of influenza AH7N9 virus. All participating countries collected and tested additional 9,948 prospective samples, from May to September 2013. The target sampling sites were live bird markets, collecting points and processing plants with supplies from China or where H5 virus was found earlier. Chicken was the target species of the surveillance. Environmental samples were collected from each site together with oropharyngeal or cloacal swabs from individual bird. All samples were tested following the Regional Protocol for H7N9 Diagnosis using Real-Time Reverse Transcriptase Polymerase Chain Reaction (Real-Time RT-PCR) assay. Sample testing procedures include initial screening with influenza A (M gene) Real-Time RT-PCR using primers and probes readily available for HPAI H5N1 in each laboratory. Influenza A positive samples were then tested by H7 assay individually and confirmed with N9 assay. The result indicated that there was no H7 virus found in any country. Influenza A virus was found in every countries with positive proportion ranged from 2-36%. Dr. Padungtod’s presentation appears as Annex 12.

#### ACTIVITIES IMPLEMENTED AND PLANNED: OIE SRR SEA

Dr. Jaruan Kampa presented activities of OIE regarding of the emerging H7N9 crisis. Since the first notification by 4<sup>th</sup> April 2013 OIE has been working with the Chinese Veterinary authorities to gain a better understanding of this virus, its characteristics and provide update OIE recommendations regarding of OIE standards to member countries. OIE is in contact with its Reference Laboratories and OFFLU experts to receive up to date information from research studies as this becomes available. Recommendations from OIE for AI control are followed the OIE Terrestrial Animal Health Code (Terrestrial Code) and OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals

(Terrestrial Manual). The OIE Terrestrial Animal Health Code provides key information for AI Notification of diseases and epidemiological information, criteria for the inclusion of diseases, infections and infestations of AI. And all cases of avian influenza viruses be notified through WAHIS. Important information for importation of animals and animal products, animal health surveillance, procedures for self-declaration and for official declaration by the OIE are all provided by the manual. In OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Diagnostic Techniques and Requirements for vaccines are provided. For public communication OIE provide Question and Answer web information and update disease information through OIE Avian Influenza Portal (<http://www.oie.int/animal-health-in-the-world/web-portal-on-avian-influenza/>) and OFFLU (OIE-FAO <http://www.offlu.net/>). Dr. Kampa's presentation appears as Annex 13.

---

#### ACTIVITIES IMPLEMENTED AND PLANNED: AAHL

Mr. Chris Morrissy presented activities related to the activities conducted at AAHL, in response to the emergence of the AI (H7N9). Activities included optimization of the diagnostic protocols, updating of the regional diagnostic algorithm and SOPs, distribution of the diagnostic reagents and controls (in collaboration with FAORAP), conducting the PT activities, and providing technical support for establishment of the AI (H7N9) diagnosis at the laboratories in the region. The introduction of the H7 & N9 tests this year were made easier by the laboratories having in place AI tests for Type A and H5 and having these tests optimised by PT. The setting up of the H7 & N9 PCR highlighted the importance of using the correct reagents and that reagents can affect test sensitivity. The use of the correct SOP was important in setting up new tests (H7 & N9 PCRs). Problems observed during the activities were discussed and shared. Mr. Morrissy's presentation appears as Annex 14.

---

#### ACTIVITIES IMPLEMENTED AND PLANNED: OTHERS

##### **WHO**

Dr. Frank Konings, WPRO, shared the information related to WHO activities in responses to the emergence of the AI (H7N9). After initial International Health Regulations (IHR) notification by the Chinese National IHR Focal Point, WHO set the wheels in motion at all levels of the organization, including Country Office in China, Regional Offices and HQ. For laboratory, the Global Influenza Surveillance and Response System (GISRS), a network of Collaborating Centres and National Influenza Centers (NICs) has built the capacity for influenza surveillance, vaccine selection and research over the past decades. This preparedness proved to be crucial in the rapid response on the laboratory side, including virus (sequence) sharing, virus characterization and supporting national laboratories with protocols and reagents such as primers, probes and controls for H7N9. There is a need to remain vigilant as new cases have recently been identified. The system built for influenza can be exploited for other emerging infectious diseases such as MERS coronavirus.

##### **St. Jude Children's Research Hospital**

Dr. Stacey Schultz-Cherry, St. Jude Children's Research Hospital, provided the brief summary of the activities related to AI (H7N9) at St. Jude Children's Research Hospital. The activities included conducting risk assessment in several animal models, anti-viral resistance studies, development of vaccine candidates and production of recombinant antigens and monoclonal antibodies. The



institute and its network laboratories also conducted surveillance programs in human in several provinces of China, Bangladesh and Lao PDR.

---

## DISCUSSION AND CONCLUSIONS FOR THE SESSION

The meeting acknowledged the Government of China and the activities under OFFLU taskforce in providing rapid information sharing during the early stage of the emergence. The information was critical for setting up the reliable diagnostic protocols and the subsequent risk assessment and surveillance activities in the region. Great collaboration between animal health and public health sectors was also observed during the crisis. Existing network and built capacity has been of great benefit on setting up the diagnostic system in place quickly after the emergence of the virus.

## SESSION 4: LABORATORY SUPPORT CONTRIBUTING TO ONE HEALTH INITIATIVE AT THE REGIONAL LEVEL

---

### LABORATORY COMPONENT FOR REGIONAL RABIES CONTROL INITIATIVES

Dr. Changchun Tu, Changchun Veterinary Research Institute iterated in his presentation that the laboratory components for regional rabies control should include technical capacity, good management and effective biosecurity measures. For those countries and regions that have rabies endemic, they should establish standard methods and procedures based on their control program and financial availability. Management, biosafety and biosecurity are also important, but should not become an economic burden for the countries with insufficient budget. At least the personal protection (pre-exposure prophylaxis, i.e vaccination of rabies lab staffs) is mandatory. In order to help ASEAN countries build up their own lab capacity Changchun Vet Res Institute would like to provide training upon their requests. Dr. Tu's presentation appears as Annex 15.

---

### LABORATORY COMPONENT TO ADDRESS ANTI-MICROBIAL RESISTANCE (AMR) ISSUE IN A SUSTAINABLE MANNER

Dr Mary Joy Gordoncillo, Science and One Health Coordinator of the OIE Sub-Regional Representation for South-East Asia presented potential areas of work for the laboratories relevant to mitigating Antimicrobial Resistance in support to One Health Initiative on this in the region. She discussed issues on the emergence and spread of antimicrobial resistance, and the relevant role of the animal health sector in addressing these, emphasizing on the actions that may be taken by the laboratories in South-East Asia. She also cited some country examples where antimicrobial use and AMR surveillance and monitoring are already in place, and identified considerations to be taken should this be pursued by the Member States. Dr. Gordoncillo's presentation appears as Annex 16.

---

## DISCUSSION AND CONCLUSIONS FOR THE SESSION

Dr. Frank Konings, WPRO, shared the information related to WHO activities on AMR. AMR was the theme of World Health Day 2011. That day, WHO published a policy package that sets out the measures governments and their national partners need to combat drug resistance. At the regional

level, WPRO has established a cross-divisional AMR working group as it is relevant to many health issues, including, for example, artemisinin-resistant malaria, multi-drug resistant tuberculosis, antiviral resistant influenza and HIV as well as antibiotic resistance. Clearly, AMR work is a joint effort of all divisions and units. WPRO organized a meeting earlier this year to review the current status of AMR and its surveillance in the region, emphasizing antibiotic resistance. Most recently, WPRO also established a Technical Working Group (TWG) on AMR consisting of external experts to draft a roadmap for the region. Country situation assessments for AMR have been conducted in the Philippines and Cambodia establishing the current status of AMR in these countries, identifying gaps and supporting governments with strengthen their activities to prevent and control AMR. Specifically, for laboratory strengthening, focus will initially be on building capacity for bacterial culturing, testing and related quality assurance. It is important that the animal and human health sectors coordinate their AMR programs and activities as they are closely interrelated.

## SESSION 5: FUTURE DIRECTIONS OF THE REGIONAL LABORATORY CAPACITY BUILDING AND NETWORKING PROGRAM

The Meeting was asked to share the activities planned during 2013-2014 period that are relevant to the laboratory capacity building and networking programs for Southeast Asia countries. The coordinated work plan appears as Annex 17.

The conclusion and recommendations of the Meeting was drafted based on the outputs of the workshops and facilitated discussions. The draft recommendations were presented to all the participants for further discussion and finalization. The final recommendation appears below and as Annex 18.

## MEETING CONCLUSIONS AND RECOMMENDATIONS

1. The Meeting acknowledged the progress made by the relevant partners in:
  - a. Supporting ASEAN to implement activities under the “Regional Strategic Framework for Laboratory Capacity Building and Networking in Southeast Asia” which has been endorsed by ASEAN;
  - b. Facilitation of the Regional Quality Assurance (QA) and Proficiency Testing (PT) program for avian influenza (H5N1 and H7N9), NDV, FMD, CSF, PRRS, ASF and Rabies as well as the Regional Biosafety and Biosecurity Assessment and Improvement program;
  - c. Improvement of overall laboratory capacities, quality, and biosafety and biosecurity of countries in Southeast Asia;
  - d. Initiatives of FAO and OIE to assist the member countries in laboratory policy and strategy development as well as rabies control in Southeast Asia and AMR monitoring.
2. The Meeting noted the ability of the member countries to apply the improved laboratory and surveillance capacities to the emergency surveillance of the Avian Influenza A (H7N9). The support of relevant partners included the international organizations (FAO, OIE and WHO) and their Collaborating Centers (AAHL, Harbin AI Reference Laboratory, St. Jude Children Hospital, Southeast Poultry Research Laboratory-SEPRL, USCDC) as well as development partners such as USAID. The Meeting also agreed that continuation of surveillance to explore within and out of China to the Southeast Asian region as well as improvement of laboratory testing be required.

3. The Meeting recommended that:
  - a. Lab TAG continue to make available technical support to ASEAN in elaborating details and implementation of the “Regional Strategic Framework for Laboratory Capacity Building and Networking in Southeast Asia”, and coordinate with relevant ASEAN technical groups, including the ASEAN Laboratory Directors’ Forum, to report the progress of activities related to regional laboratory capacity building and networking;
  - b. Lab TAG continue to support member countries to:
    - i. Effectively address technical problems identified during participating Regional QA and PT program;
    - ii. Improve their laboratory biosafety and biosecurity systems which include facilities, equipment, management and personal practices;
    - iii. Advice on new technologies and techniques available to address priority and emerging issues in the region;
    - iv. Advocate through relevant development partners to mobilize resources to support implementation of “Regional Strategic Framework for Laboratory Capacity Building and Networking in Southeast Asia”.
  - c. FAO and OIE to:
    - i. Collaborate closely in supporting the member countries in laboratory policy and strategy development taking into considerations the following points:
      1. National budget to support priority laboratory activities including quality of laboratory services, biosafety and biosecurity, maintenance of equipment and facilities;
      2. Human resource development plan including career path and succession plan;
      3. Engagement of public health sector.
    - ii. Collaborate with relevant partners in developing advocacy materials on the importance of proficiency testing implementation to improve quality of laboratory services;
    - iii. Advocate through the ASEAN Laboratory Directors’ Forum to:
      1. Ensure member countries continue to actively participate in the Regional PT program, implement an IQC program, and efficiently manage technical problems to improve the quality of their diagnostic services;
      2. Gain their supports in implementing laboratory biosafety and biosecurity programs and to make appropriate decisions preceding the construction of new, or expansion of existing, BSL3 facilities which include feasibility and proper design;
      3. Ensure sufficient and sustainable funding of laboratory services including quality of laboratory services, biosafety and biosecurity, maintenance of equipment and facilities;
      4. Operationalize the “Regional Strategic Framework for Laboratory Capacity Building and Networking in Southeast Asia” at country level.
4. The Meeting agreed with the coordinated work plan (Attachment) and encourages the partners to implement their activities collaboratively.
5. The Meeting agreed that the next meeting of Lab TAG be organized back-to-back with “Laboratory Director Forum” and include the following topics:
  - a. Progress of activities related to:

- i. Laboratory policy and strategy development at country level;
  - ii. Regional QA and PT;
  - iii. Regional biosafety assessment and improvement program;
  - iv. Laboratory component of Regional Rabies Control Initiatives;
  - v. Contributions that the Lab TAG may be able to make in support of the RLN on the issue of AMR monitoring;
  - vi. Selected topics of new technologies related to laboratory diagnosis of priority or new or unknown diseases
- b. Emerging issues of regional importance, if any.

## LIST OF ANNEXES

Annex 1	Concept Note & Agenda of the 2013 Lab TAG meeting
Annex 2	List of participants_2013 Lab-TAG meeting
Annex 3	The 2012 Lab TAG conclusion and recommendation
Annex 4	Introduction and Objectives of 2013 meeting
Annex 5	Regional Lab Framework for ASEAN
Annex 6	Key updates on ASEAN issues and the ASEAN Regional Strategic Framework
Annex 7	Outputs from country-level Strategic Planning workshops; Laboratory Strategic Plans
Annex 8	Outcomes of the FAO review on policies for veterinary laboratories and potential needs in policy developments within SE Asia
Annex 9	Proficiency Testing- Part of Laboratory Quality Assurance
Annex 10	Regional Proficiency Testing Program by Inter-laboratory; Comparison on FMDV
Annex 11	The FAO Regional Biosafety Program
Annex 12	Emergency Assistance for Surveillance of Influenza A (H7N9) Virus in Poultry and Animal Populations in Southeast and South Asia
Annex 13	OIE activities implemented and planned for the emergence H7N9
Annex 14	H7N9 PCRs and Proficiency Testing
Annex 15	Laboratory Component for Regional Rabies Control
Annex 16	Laboratory Support to One Health Initiative in the Region- Mitigating Antimicrobial Resistance
Annex 17	Coordinated Workplan for 2013-14
Annex 18	Conclusions and recommendations