

# Meeting Report

## Informal Consultation on a Draft Asia Pacific Laboratory Action Plan (2011–2015) For Emerging Infectious Diseases



19 to 20 May 2011  
Manila, Philippines

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REPORT

INFORMAL CONSULTATION ON A DRAFT ASIA PACIFIC LABORATORY  
ACTION PLAN (2011–2015) FOR EMERGING INFECTIOUS DISEASES

Manila, Philippines  
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## **NOTE**

The views expressed in this report are those of the participants who attended the Informal Consultation on a Draft Asia Pacific Laboratory Action Plan (2011–2015) for Emerging Infectious Diseases and do not necessarily reflect the policies of the Organization.

This report has been prepared by the World Health Organization Regional Office for the Western Pacific for governments of Member States in the Region and for those who participated in the Informal Consultation on a Draft Asia Pacific Laboratory Action Plan (2011–2015) for Emerging Infectious Diseases, which was held in Manila, Philippines from 19 to 20 May 2011.

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Keywords:

Laboratories – Standards / Communicable Diseases, Emerging

## SUMMARY

An Informal Consultation on a Draft Asia Pacific Laboratory Action Plan (2011–2015) for Emerging Infectious Diseases was held from 19 to 20 May 2011 in Manila, Philippines.

The International Health Regulations (2005) are a legal framework for collective action to ensure global health security under which the World Health Organization (WHO) and Member States are mandated to have in place capacities to prevent, detect, assess and respond to events that may constitute a public health emergency of international concern. An important component of early detection and response is having in place timely and accurate public health laboratory services. Emerging infectious diseases are increasing and laboratories play a central but supportive role in their early detection and response.

The Asia Pacific Strategy for Emerging Diseases (APSED) is used by Member States and WHO to strengthen national and regional capacities for early detection and response to public health threats and hence fulfil their obligations under the International Health Regulations (2005). Laboratory is a focus area in APSED. The Association of Southeast Asian Nations (ASEAN) also has a Medium-Term Plan for Emerging Infectious Diseases which includes the ASEAN Plus Three Partnership Laboratories.

Laboratory capacity within the Region varies among countries. Public health diagnostic laboratories exist, but they are often compartmentalized in that they are segregated into specific functional units based on known pathogens such as polio, measles, Japanese encephalitis and influenza. These types of laboratories normally carry out tests for specific pathogens and may therefore miss pathogens out of their range. Many recent emerging infectious diseases have been viruses. Since emerging novel pathogens do not emerge announcing their identity, there is a clear need to ensure robust laboratory capacity for detecting known and unknown pathogens.

Experts suggest that a sound approach to early identification of a causative organism is to have an open mind without being microbe specific. Proficiency in quickly recognizing usual organisms in a given situation is essential for being able to suspect an unusual or an emerging or re-emerging organism. The key to laboratory capacity development is therefore an integrated public health laboratory system comprising public health diagnostic laboratories capable of accurately detecting known pathogens with in-country networks to support biosafety and external quality assurance. Diagnostic laboratories would cast a wide net to capture/isolate/culture all possible pathogens and subsequently identify known pathogens using panels of typing reagents or methods. The pathogen that could not be identified by known panels would need specialized methods from a reference laboratory for further identification. The integrated system would therefore also include reference laboratories, whether national, regional or global.

As ASEAN and APSED laboratory workplans exist, both WHO and ASEAN agreed that it would be better to save Member States from implementing parallel workplans by developing a harmonized workplan. The outcome of this consultation was therefore a draft five-year workplan to reflect the recommended approach of an integrated public health laboratory system for the effective and efficient detection of known and unknown pathogens.

## 1. INTRODUCTION

Due to the changing nature of the world, with the emergence of new diseases and re-emergence of old ones, the fast movement of people and goods and threats to public health, the International Health Regulations 2005, or IHR (2005), were revised. The IHR (2005) are a legal framework for collective action to ensure global health security under which the World Health Organization (WHO) and Member States are mandated to have in place, capacities to prevent, detect, assess and respond to events that may constitute a public health emergency of international concern. An important component of early detection and response is having in place timely and accurate public health laboratory services.

The Asia Pacific Strategy for Emerging Diseases (APSED) serves as a road map to guide countries in building the IHR (2005) core capacity requirements, thus ensuring regional and global health security. Laboratory strengthening remains a focus area in APSED (2010).

The Association of Southeast Asian Nations (ASEAN) is in the process of finalizing the ASEAN Medium-Term Plan on Emerging Infectious Diseases (2011–2015). WHO has worked with ASEAN on the network of partnership laboratories, which ensures that the less developed countries can access support from neighbouring countries.

Rather than create new systems and structures and have parallel workplans, WHO and ASEAN agreed to build on existing structures and, as far as possible, synchronize their workplans. To this end, an Informal Consultation on a Draft Asia Pacific Laboratory Action Plan (2011–2015) for Emerging Infectious Diseases was held from 19 to 20 May 2011 in Manila, Philippines, to draft a harmonized plan that could be used by all Member States.

### 1.1 Objectives

To set the direction for laboratory strengthening for emerging infectious diseases for the next five years by synchronizing the APSED workplan and the laboratory component of the ASEAN Medium-Term Plan on Emerging Infectious Diseases.

### 1.2 Opening remarks

Dr Chin Kei Lee, Team Leader, Emerging Disease Surveillance and Response, WHO Western Pacific Regional Office, while delivering the Regional Director's message, expressed his pleasure in welcoming participants from Member States and partner organizations, including the ASEAN Secretariat, the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE) and the United States Agency for International Development (USAID). He said that the consultation would help in developing a plan to set the direction for laboratory strengthening in the area of emerging diseases for the next five years. As a region with limited resources in some settings but prone to emerging and re-emerging infectious diseases, there is a need to be innovative and capitalize on the available resources and expertise. He indicated that the ASEAN Plus Three Partnership Laboratories component of the ASEAN Medium-Term Plan (2011–2015) and the APSED (2010) five-year plan are close to finalization. Both WHO and ASEAN agreed that it was the right time to set a unified direction.

On behalf of the people of ASEAN, Dr Ferdinal Fernando, Assistant Director/Head of the Health and Communicable Division of the ASEAN Secretariat, stressed the importance of having a harmonized laboratory workplan in the Region for a unified approach and cost-effective implementation at the country level. He informed the participants that the medium-term plan for the ASEAN Plus Three Partnership Laboratories was being developed under the overall ASEAN health programme and closely overseen by the ASEAN Expert Group for Communicable Diseases. In this context, he said that this combined effort by WHO and ASEAN to come up with a harmonized draft plan was indeed timely.

## 2. PROCEEDINGS

### 2.1 Session One: Setting the scene

#### 2.1.1 Asia Pacific Strategy for Strengthening Health Laboratory Services

*Dr Gayatri Ghadiok, Technical Officer, Essential Health Technologies,  
WHO Western Pacific Regional Office*

Dr Ghadiok presented the Asia Pacific Strategy for Strengthening Health Laboratory Services (2010–2015). She stated that this biregional strategy guides Member States in developing their national policies, strategies and plans, aiming to provide comprehensive laboratory support to public health and curative services. She highlighted some issues faced in the Region, such as the low priority given to laboratory services in national health strategies, the insufficient number of laboratory professionals and technicians, fragmented services, and inadequate quality awareness and maintenance. She also stated the seven strategic elements of the Strategy, those being: (1) establish a coherent national framework; (2) ensure sustainable financing; (3) build capacity; (4) assure quality; (5) promote rational use of laboratories; (6) strengthen safety; and (7) support research and ethics. She concluded her presentation by stressing the importance of government commitment and leadership, planning, implementation, monitoring and financing.

#### 2.1.2 Asia Pacific Strategy for Emerging Diseases (APSED)

*Dr Chin Kei Lee, Team Leader, Emerging Disease Surveillance and Response,  
WHO Western Pacific Regional Office*

Dr Lee said the IHR (2005) made it legally binding for the world's countries and WHO to share responsibilities and mount a collective defence against disease spread. He noted that 398 outbreaks had been verified by WHO from 1996 to 2009. APSED is a biregional strategy for countries to strengthen national capacities required for managing emerging diseases and is a common framework for Member States to meet the IHR (2005) core capacity requirements. APSED (2010) builds on a common approach to maximize the benefits already achieved under APSED (2005). He described the process of developing APSED (2010) and noted that it was the outcome of consultations at the country and regional levels.

The scope of APSED (2010) was expanded to include eight focus areas compared with five in the original APSED. Laboratory continues to be a focus area. Key components of the laboratory focus area include safe and accurate diagnosis, laboratory support for surveillance and response, and coordination and networking. He concluded by saying that timely, accurate

laboratory diagnosis in a safe environment is the cornerstone of any health system for emerging infectious diseases.

#### 2.1.3 Draft ASEAN Medium-Term Plan on Emerging Infectious Diseases (2011–2015)

*Dr Ferdinal Fernando, Assistant Director/Head, Health and Communicable Diseases Division, ASEAN Secretariat*

Dr Fernando gave the rationale/critical basis for the direction of the Medium-Term Plan and described its salient points and the way forward. He informed the group that the Strategic Framework on Health Development for ASEAN comes under the ASEAN Socio-cultural Community Blueprint. The ASEAN Expert Group on Communicable Diseases drafted the Medium-Term Plan to build the ASEAN mechanism for surveillance, prevention, preparedness and response to emerging infectious diseases. This effort has been supported by the ASEAN Plus Three Partnership Laboratories, the ASEAN Risk Communication Resource Centre and initiatives designed to strengthen collaboration between human and animal health sectors for zoonotic diseases.

Focus areas for the ASEAN Plus Three Partnership Laboratories are capacity-building, information sharing, policy, quality assurance, biosafety and biosecurity, human–animal collaboration and research. Under the auspices of the ASEAN Plus Three Emerging Infectious Diseases Programme Phases I and II, the Ministry of Health of Malaysia coordinated the strengthening of laboratory capacity and quality assurance and also the laboratory networking.

#### 2.1.4 Laboratory capacity-building and networking – Tripartite (FAO, OIE, WHO)

*Dr Mia Kim, EMPRES Laboratory Unit, Deputy Director, Food and Agriculture Organization of the United Nations( FAO)*

Dr Kim presented the approach to laboratory strengthening taken by the tripartite. She noted that timely, reliable laboratory results are needed to inform and establish appropriate surveillance and response activities. The flow of laboratory-related information between the human and animal health sectors needs to be strengthened, and data sharing through better collaboration/coordination efforts will facilitate better surveillance. The tripartite proposes laboratory strengthening through national internal quality control and external quality assurance, support for regional laboratory networks and information sharing, and support for surveillance of infectious diseases and acute public health events, risk assessment and response systems. She stressed the need for adopting a programmatic approach to strengthening laboratory services and network building in the Region.

## 2.2 Session Two: Laboratory strengthening for emerging infectious diseases in the Asia Pacific – where do we want to be?

### 2.2.1 Keynote address: Laboratory strengthening for emerging infectious diseases in the Asia Pacific – where do we want to be?

*Professor Chua Kaw Bing, Principal Investigator, Temasek Lifesciences Laboratory, National University of Singapore*

Professor Chua delivered a comprehensive talk on strengthening country and regional public health laboratory systems to meet the challenge of emerging infectious diseases.



He noted that most of the emerging infectious diseases over the past decades have been viral in origin and that building capacity to detect and identify viruses is a priority. However, at the same time, the approach should be towards developing a sustainable system.

He defined “emerging infection” as a new, re-emerging or drug-resistant infection whose incidence in humans has increased within the past two decades or whose incidence threatens to increase in the near future. Major factors contributing to the emergence or re-emergence of infectious diseases have been changes in human demographics and behaviour, advances in technology and changes in industrial practices, economic development and changes in land-use patterns, dramatic increases in volume and speed of international travel and commerce, microbial adaptation and changes, and variations in public health capacity required for infectious diseases at the local, state, national and global levels.

Emerging infectious diseases may be categorized as “known” or “unknown/new”. Some known diseases such as West Nile Virus, Rift Valley Fever or chikungunya appear in new locations. Other known diseases are caused by agents newly identified such as cervical cancer caused by human papillomavirus and peptic ulcer by *Helicobacter pylori*. Some ‘unknown/new’ diseases are caused by new subtypes of existing microbes, such as the toxic shock syndrome-causing strain of *Staphylococcus aureus*, enterohaemorrhagic *Escherichia coli* (O157:H7) and new subtypes of influenza A, as well as new infectious agents such as Ebola virus, Marburg virus, HIV, Hendra virus, Nipah virus and severe acute respiratory syndrome (SARS) coronavirus.

Professor Chua explained that the generic public health approach towards an emerging infectious disease outbreak starts with “early recognition” of the outbreak through surveillance, followed by “rapid identification” and characterization of the causative agent in a laboratory, and “appropriate response” to control the outbreak and prevent its recurrence in the future. Early recognition requires good surveillance at the medical (routine or active, nationwide or sentinel, epidemiology-based, disease-based, laboratory-based or indicator-based) or at the non-medical (veterinary or wildlife) level. Early recognition of an outbreak requires awareness and sensitivity to the unusual epidemiological incident, ecological or biological event, clinical presentation, laboratory or pathological finding.

He recommended that a sound approach to early identification of a causative organism is to have an open mind and to not be microbe specific. Proficiency in quickly recognizing usual organisms in a given situation is essential for being able to suspect an unusual or an emerging or re-emerging organism.

Rapid and accurate identification of the causative agent is the fundamental core function of a public health laboratory in an emerging infectious disease outbreak and requires an integrated team approach by combining the efforts of clinical workers including nurses, epidemiologists, laboratory workers including microbiologists, pathologists, technologists and also scientists from the private, military or academic sectors. With emerging infections, especially for viral diseases, close coordination of effort between human and animal health sectors is also essential.

Professor Chua also discussed the broad strategies for an integrated system of public health laboratories, which involves comprehending the country’s needs; reviewing existing laboratory systems and capacity in relation to a country’s public health goal, services and activities; developing or enhancing the integrated system; and streamlining and strengthening the laboratory approach and testing methods.

In terms of diagnostic types and test methods, he discussed options for “catch most”, “catch almost all” or “catch all” methods based on the country’s needs. Professor Chua elaborated on the inter-relationship and linkages of public health, medical diagnostic, reference and research laboratories in a country or community and stressed their importance in novel pathogen identification and characterization.

He offered three possible options for laboratory capacity development.

Option 1: For a country with a “small” population, but with limited financial and/or human resources, a “unified” primary public health diagnostic and analytical laboratory and hospital-based clinical diagnostic and analytical laboratory will probably be adequate and also more cost-efficient to provide both hospital (medical) diagnostic and public health diagnostic services. A regional network of reference laboratories will support the need for laboratory reference functions.

Option 2: An integrated public health laboratory system covering all categories of laboratories needs to be developed or established in a country with a “huge” or a “critical” population size, and with adequate financial and human resources. It is a system that embraces a number of public health laboratories in the country in a national network with the central hub in the form of a National Public Health Diagnostic Laboratory. The reference functions in such a system is ideally coordinated and supported by a centralized National Public Health Reference Laboratory System.

Option 3: The third option is a “stand alone” national public health diagnostic laboratory that can expand to establish a network of subnational public health diagnostic laboratories according to the country’s needs, financial and human resources, demography and geographical structure. Under this option, it is advisable to establish specific reference laboratories with reference to a specific disease or pathogen of local importance and interest and draw support from the regional network of reference laboratories for reference functions not available under the option.

## 2.2.2 Group Work 1

Participants were divided into groups to discuss the following:

- (1) Describe the current status of laboratory capacity for detecting emerging infectious diseases in your country.
- (2) Are laboratory data regularly and routinely added to your communicable disease surveillance system? What would be the benefits of adding laboratory data?
- (3) The working paper and Professor Chua’s keynote address outlined three options for laboratory capacity strengthening. Where would you like to see your laboratory capacity in five years’ time?
- (4) It is important for a laboratory to produce high-quality results. What are some of the steps to ensure this? What are some challenges to these steps?
- (5) You want to improve your laboratory’s networking in country and internationally. What are some of the issues and challenges you need to address?

*(1) Describe the current status of laboratory capacity for detecting emerging infectious diseases in your country.*

#### Brunei Darussalam

Brunei Darussalam has four districts, each with its own hospital laboratory (biosafety level 2). The hospital laboratories do diagnostic and analytical work, including molecular laboratory testing for avian influenza and H1N1.

#### Cambodia

There is a national public health laboratory but with a shortage of reagents. Testing currently occurs for Japanese encephalitis (JE), measles and influenza. There are insufficient numbers of trained staff. Cases are investigated and specimens collected through the rapid response teams and sentinel site system. The national public health laboratory utilizes international external quality assurance systems and is in the process of developing panels for national external quality assurance.

#### China

The Centers for Disease Control and Prevention laboratories are mainly involved in surveillance and outbreak response.

#### Indonesia

The national laboratory is a National Influenza Centre. There are sentinel laboratories including hospitals, universities and district laboratories. These participate in the outbreak response and surveillance of influenza, polio and measles.

#### Japan

It is economically feasible to establish facilities for detecting emerging diseases in Japan. State-of-the art facilities exist but there is a lack of policies for ensuring quality.

#### Lao People's Democratic Republic

The National Centre for Laboratory and Epidemiology, a public health laboratory, monitors dengue, Japanese encephalitis, influenza, enterobacteria, measles, rubella and anthrax.

#### Malaysia

The country has five regional public health laboratories and is in the process of establishing a reference laboratory. Material resources are not an issue. The national public health laboratory participates in international external quality assurance (EQA) and coordinates national EQA (malaria, tuberculosis) but is not accredited. The national public health laboratory is an ASEAN Plus Three Partnership Laboratory – a reference laboratory for 13 diseases. Current issues include coordination of laboratories, information technology (current systems have problems) and national EQA.

## Mongolia

There is a central public health laboratory for zoonotic and non-zoonotic diseases and the capacity is closest to the situation described in Option 1. The non-zoonotic component is linked to the hospital laboratory.

## Philippines

The Research Institute for Tropical Medicine (RITM) acts as a national reference laboratory for 11 diseases. Five regional laboratories are in place for molecular detection of influenza; there is limited national networking for data management and a shortage of resources. Regions send specimens to the National Epidemiology Center which can further refer the specimens to the national reference laboratory.

## Singapore

Resources are not an issue for Singapore. The focus is on dengue, chikungunya and malaria. There is a reference centre for dengue. More than 300 general practitioners participate in the system for collecting specimens and sending them to laboratories. There is ongoing research for new pathogens with collaboration with Malaysia (and perhaps engaging Indonesia). The public health laboratory supports community-based surveillance. There are face-to-face meetings between laboratory and epidemiology staff. The public health laboratory works with the Ministry of Defence on bio-threats. Microbiologists are also attached to the public health laboratories. A good protocol is needed for looking for new agents/pathogens.

## Thailand

The country has approximately 77 provinces with 1000 government hospitals with diagnostic laboratories. The public health laboratory network is a separate entity. The National Institute of Health (NIH) functions as the public health reference laboratory including for research. NIH follows APSED (2010) and IHR (2005) to influence policy-makers. Thailand and WHO work together to assess and enhance capacity. There are, however, weaknesses in information technology.

## Viet Nam

There are hospital laboratories and preventive (four regional public health) laboratories. The two systems provide information for both outbreak investigation and surveillance.

*(2) Are laboratory data regularly and routinely added to your communicable disease surveillance system? What would be the benefits of adding laboratory data?*

Replies to this question varied by country. Many countries said data were added although this applied to selected diseases/syndromes such as measles, acute flaccid paralysis, influenza-like illness, JE and polio. A few countries said laboratory data were not taken into consideration in surveillance.

Laboratory data would facilitate the monitoring of trends; improve early detection of outbreaks; allow monitoring of subtypes/strains; and facilitate integration or harmonization of laboratory and epidemiology data in surveillance.

*(3) The working paper outlines three options for laboratory capacity strengthening. Where would you like to see your laboratory capacity in five years' time?*

Many countries said they were already in Option 3 and wished to move to Option 2. However on further examination and discussion and findings from other group work, there appeared to be a need for further strengthening the capacity of those in Option 3.

*(4) It is important for a laboratory to produce high-quality results. What are some of the steps to ensure this?*

It was suggested to establish national and/or regional disease priorities and to have the national public health laboratory participate in international EQA, provide QA for subnational laboratories and provide proficiency tests to subnational laboratories. There is a need for human resources training. It was also suggested that a regional centre should provide "standard" protocols with EQA panels especially for regional infectious threats and new outbreaks.

*(5) You want to improve your laboratory's networking in country and internationally. What are some of the issues you need to address?*

One issue raised was the lack of a common national platform and lack of a sustainable regional coordinating mechanism for laboratories. Information sharing remains a problem and there is a need to link data from human health and animal health laboratories. Systems need to be in place to maintain the links, rather than relying on personal links.

### 2.3 Session Three: Workplan for 2011–2015

#### 2.3.1 ASEAN and APSED workplans

*Dr Shalini Pooransingh, Technical Officer, Emerging Disease Surveillance and Response, WHO Western Pacific Regional Office*

Dr Pooransingh began the third session with a presentation on the APSED and ASEAN laboratory workplans.

The APSED workplan includes the following components: accurate laboratory diagnosis, laboratory support for surveillance and response, coordination and laboratory networking and biosafety. The expected results from these components are improved capability for diagnosing diseases accurately; laboratory diagnosis as an integral part of the surveillance activity; established and/or strengthened national and international networks; and biosafety and biosecurity practices in place.

Focus areas under the laboratory component of the ASEAN Medium-Term Plan include capacity-building, information sharing, policy, quality assurance, biosafety and biosecurity, human and animal health collaboration and research. ASEAN Plus Three Partnership Laboratories collaborate on research and share the results with one another.

She pointed out the concordance between the ASEAN focus areas and the APSED components, but noted that the ASEAN plan focuses on activities at the implementation level while APSED focuses on milestones. She noted that during Day 2 of this consultation there would be an opportunity to develop a harmonized workplan for the next five years.

### 2.3.2 Summary of Day 1

*Ms Jintana Sriwongsa, Senior Officer, Health and Communicable Diseases Division, ASEAN Secretariat*

Ms Sriwongsa stated that an integrated infectious diseases laboratory system will provide the necessary diagnostic support, especially for unknown and new pathogens. Most countries in the Region have a public health diagnostic laboratory even though they are at different stages of developing capacity to detect emerging infectious agents.

Laboratory support for surveillance has to contend with the challenge of vertical disease programmes, weak information technology infrastructure, and the weak link between epidemiology and laboratory. There is a need to have a system that keeps an open mind on diagnosis, based on clinical syndromes rather than being organism-specific. Coordination and laboratory networking requires establishing links between subnational and national, national and international, and animal and human health laboratories, and between the Ministry of Health and private facilities, military hospitals and academic units.

Ms Sriwongsa restated countries should aim for an integrated infectious disease laboratory system, i.e. national (in-country) public health laboratory capacity for surveillance and timely response to outbreaks with access to a reference centre. This capacity should be achieved in a graded, step-wise manner.

### 2.3.3 APSED laboratory workplan

*Dr Chin Kei Lee, Team Leader, Emerging Disease Surveillance and Response, WHO Western Pacific Regional Office*

Dr Lee presented the APSED laboratory workplan to the participants. He said that making public health laboratory services efficient, reliable and safe was one of the eight focus areas of APSED (2010) aimed to reduce risk; strengthen effective preparedness, early detection and rapid response to emerging diseases; and build sustainable partnership against these infections. Timely, accurate laboratory diagnosis in a safe environment is a cornerstone of any health system for emerging diseases. He also reminded the participants of the key components of the laboratory focus area in APSED (2010): safe and accurate laboratory diagnosis; laboratory support for surveillance and response; and coordination and laboratory networking.

He then emphasized the need to determine the goal and chart out the path accordingly. He said that the Regional workplan, to be prepared by mid-July, has to be a product of a bottom-up approach, the harmonized summation of national plans, which could then be taken to the APSED Technical Advisory Group meeting to be held in July 2011 for technical refinement. He stated that participants have been able to discuss and deliberate and the need for an integrated public health laboratory system was voiced. Now is the time to outline the steps to achieve the vision. He stressed the need for good teamwork so as to enable the less resourced countries to implement the plan.

### 2.3.4 Group Work 2

Participants were divided into three groups to discuss the three components of the APSED laboratory focus area: coordination and laboratory networking; laboratory support for surveillance and response; and safe and accurate laboratory diagnosis.

Groups were asked to focus on what to achieve under each component for the next five years and to group these activities in stages over time.

The outcome of Group Work 2 was a draft workplan for laboratory strengthening for emerging infectious diseases for the next five years. See Annex 3.

## 2.4 Session Four: Way forward

### 2.4.1 Implementation of the APSED laboratory workplan – Emerging Pandemic Threats programme

*Dr Christopher Oxenford, Laboratory Quality and Management Strengthening, USAID Focal Point, WHO Lyon*

Dr Oxenford said that the threat of zoonotic diseases was well recognized and that the time and place of their emergence could not be predicted in a world where the dynamics and intensity of animal–human interactions were changing. Recognizing and controlling potential zoonotic pathogens in animals can help in mitigating their impact on human health. Global systems requiring countries to report significant disease events in humans and animals are part of the response. Working with countries to build capacity to respond to the threat of emerging pathogens is a core business of FAO, OIE and WHO. USAID has supported an Emerging Pandemic Threats (EPT) programme to enhance the global response to novel pathogens by targeting areas with potential for emerging pathogens, namely: Amazon and Congo Basin, the Gangetic Region and South-East Asia.

Being implemented jointly by FAO, OIE and WHO in a manner consistent with their current mandates, IDENTIFY (laboratory component of the EPT programme) aims to strengthen laboratory capacity and to build laboratory networks to improve the detection of the normative diseases affecting humans and animals to allow for the rapid detection of the emergence of a new or unusual pathogen in the Region. The project is to be implemented within the framework of existing regional plans and strategies and with close coordination among the regional partners. On the public health side, the strategies include APSED (2010) and the Asia Pacific Strategy for Strengthening Health Laboratory Services. Strengthening laboratory capacity and enhancing the links between the public health and animal health sectors are both goals of APSED. Working within a regional framework means multiple donors can support programmes with better coordination and cost-efficiency.

### 2.4.2 Coordination with the animal sector – regional approach

*Dr Pawin Padungtod, Regional Project Coordinator, Emergency Centre for Transboundary Animal Disease, FAO*

*Dr Andrew Davis Programme Coordinator, World Organisation for Animal Health*

Dr Padungtod began his presentation by introducing the Emergency Center for Transboundary Animal Diseases (ECTAD) to the participants. Established in 2004 in response to the highly pathogenic avian influenza (HPAI) crisis, its main focus areas are human–animal interface, livelihood, emerging infectious diseases and transboundary animal diseases. The role of laboratories in the animal health service is to find the disease with pandemic potential in animals fast, culling quickly and humanely to stop the disease from spreading. In terms of disease eradication, laboratories are responsible for the detection of the disease and a comprehensive study of its epidemiology. Many factors affect animal disease surveillance including diagnostic capacity, reporting, government commitment and community participation.

The regional laboratory network for animal influenza diagnosis helped harmonize accurate and timely diagnosis and create a better understanding of disease epidemiology at country and regional levels through its strategic framework for capacity-building for HPAI diagnosis. He mentioned that implementing the “One Health” concept through FAO-OIE-WHO collaboration and use of a programme approach were the key issues.

Dr Davis briefed the audience on the key facts about OIE, its origin, history and its function in laying down OIE International Standards pertaining to animal health codes in 36 Member States or areas and 37 collaborating centres in 20 Member States or areas on 35 different topics. He also familiarized the participants with OIE activities such as training, workshops and networking events to support national laboratories. He concluded his presentation by reiterating the need for coordinated efforts between animal and human health for better disease prevention and control.

### 3. CONCLUSIONS AND NEXT STEPS

#### 3.1 Conclusions

Dr Lee stated that there was agreement among all participants about the need to establish or strengthen a public health laboratory system in each country. He described such a system to be a diagnostic, analytical or reference laboratory or a combination of these but financed from public funds for the good of the public. The system is meant to support the preventive and mitigating efforts and protect the public from emerging infectious diseases. So far, laboratory support has been limited mostly to outbreak investigation and response, but the strengthened system under APSED (2010) is meant to support the surveillance work between outbreaks. This will not only strengthen early warning but also enhance the proficiency of the laboratory system and human resources to function better during an emergency. It will also aid in surge capacity. A collective approach and linkages are important. Therefore, networking between the national and subnational units, with vertical disease reference laboratories inside and/or outside the country, with animal health laboratories, and with the private sector and academia, is important and should ensure capacity to detect/identify unknown pathogens.

Dr Lee assured the participants that their feedback would be used in preparing the first draft of the workplan and would be sent to the Member States through WHO country offices for use in country action plans. The synthesized draft would be prepared at the Regional Office for its review during the APSED Technical Advisory Group meeting at the end of July 2011 in Manila.

#### 3.2 Closing remarks

Dr Ferdinal Fernando said that ASEAN had been preparing the Medium-Term Plan for quite some time after identifying the needs and the required steps to move forward in Member States. He assured the participants that the output of this consultation would be a harmonized plan that could be utilized by all Member States. He agreed that a public health laboratory system that adopts a collective approach is needed for ease of implementation and for cost-efficiency to achieve the same outcome. He also said that the draft output from this exercise would be reviewed by the ASEAN Expert Group for Communicable Diseases and subsequently by Senior Officials in their annual meeting. Implementation of activities identified by the ASEAN Plus Three Partnership Laboratories but not included in the joint workplan would be



considered for support from the ASEAN Secretariat. Before concluding his remarks, he thanked all the participants for their active contribution in this consultation.

Dr Lee voiced his appreciation of the enjoyable collaboration with the ASEAN Secretariat and its Member States. He said that harmonization may be a philosophical concept but that both documents, the APSED workplan and the ASEAN Medium-Term Plan, reflect the same approach. The combination of WHO's technical capacity and ASEAN's political strength is valuable. The draft workplan will protect Member States from having to implement two parallel workplans. Thanking all the participants, and ASEAN Secretariat, FAO, OIE and USAID representatives, Dr Lee concluded by saying that it was the end of this consultation but the start of the laboratory action plan for emerging infectious diseases and hence increased capacity for the detection of known and unknown pathogens in countries and the Region, thereby contributing to national, regional and global health security.

## PROGRAMME OF ACTIVITIES

<b>Day 1</b>	<b>19 May (Thursday)</b>
08.30 – 09.00	Registration
<b>09.00 – 09.45</b>	<b>Opening Session</b>
	Welcome - <i>WHO WPRO</i>
	Opening Remarks - <i>Dr Chin Kei Lee, Team Leader, Emerging Disease Surveillance and Response, WHO WPRO</i> - <i>Dr Ferdinal Fernando, Assistant Director/Head, Health and Communicable Diseases Division, ASEAN Secretariat</i>
	Introduction of Participants
	Administrative Announcements
	Objectives and Agenda - <i>Dr Shalini Pooransingh, Emerging Disease Surveillance and Response, WHO WPRO</i>
09.45 – 10.15	Group Photo and <i>Tea/Coffee break</i>
<b>10.15 – 10.55</b>	<b>Session 1 – Setting the scene</b>
10.15 – 10.25	Asia Pacific Strategy for Strengthening Health Laboratory Services - <i>Dr Gayatri Ghadiok, Technical Officer, Essential Health Technologies Adviser, WHO WPRO</i>
10.25 – 10.35	Asia Pacific Strategy for Emerging Diseases (APSED) - <i>Dr Chin Kei Lee</i>
10.35 – 10.45	Draft ASEAN's Medium Term Plan EID (2011 – 2015) - <i>Dr Ferdinal Fernando</i>
10.45 – 10.55	Laboratory capacity building and networking - Tripartite - <i>Dr Mia Kim, EMPRES Laboratory Unit Deputy Director Food and Agriculture Organization of the United Nations (FAO)</i>

- 10.55 – 12.00**                    **Session 2 – Laboratory strengthening for EIDs in Asia Pacific – where we want to be?**
- 10.55 – 11.30                    Keynote: Laboratory strengthening for Emerging Infectious Diseases in Asia Pacific – where we want to be?  
   - *Professor Chua Kaw Bing, WHO Consultant*
- 11.30 – 11.45                    Question and Answer Session
- 11.45 – 12.00                    Introduction to Group Work
- 12.00 – 13.00**                    ***Lunch***
- 13.00 – 15.30                    Group Work 1
- 15.30 – 16.00                    *Tea/Coffee break*
- 16.00 – 16.45                    Plenary - Feedback Group Work 1
- 16.45 – 17.00                    **Session 3 – Workplan for 2011 – 2015**
- APSED and ASEAN workplans
- *Dr Shalini Pooransingh*
- 18.00**                                ***Reception***

**Day 2                    20 May (Friday)**

- 08.15 – 08.30                    Summary Day 1
- Session Three – Workplan for 2011 – 2015**
- 08.30 – 08.40                    APSED laboratory work plan  
   - *Dr Chin Kei Lee*
- 08.40 – 08.45                    Introduction to Group Work 2
- 08.45 – 09.30                    Group Work 2
- Laboratory support to surveillance and response  
   - Accurate laboratory diagnosis and biosafety  
   - Coordination and Laboratory Networking
- 09.30 – 10.00                    *Tea/Coffee break*

- 10.00 – 11.00      Group Work 2 continued
- Laboratory support to surveillance and response
  - Accurate laboratory diagnosis and biosafety
  - Coordination and Laboratory Networking
- 11.00 – 12.00      Plenary – Feedback from Group Work 2
- 12.00 – 13.00      *Lunch***
- 13.00 – 14.30      **Session Four – Way Forward****
- 13.00 – 13.15      Implementation of APSED laboratory workplan – EPT program
- *Dr Christopher Oxenford, Laboratory Quality and Management Strengthening, WHO LYON*
- 13.15 – 13.30      Coordination with animal health sector – regional approach
- *Dr Pawin Padungtod, Regional Project Coordinator, Emergency Centre for Transboundary Animal Diseases, FAO Regional Office for Asia and the Pacific*
  - *Dr Andrew Davis, Programme Coordinator, World Organisation for Animal Health (OIE)*
- 13.30 – 13.45      Conclusions and next steps
- Closing Session**
- WHO
  - ASEAN Secretariat
- 14.30 – 15.00      *Tea/Coffee*

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## APSED (2010) Workplan – DRAFT

### Focus Area 2 Laboratories

#### 1. Vision *[What is to be seen by 2015 through providing a Vision statement supplemented by key bullet points to "visualize" the statement.]*

All Member States will have laboratory capacity for the early detection and response to known pathogens and capacity for the early identification and response to unknown /novel pathogens. By 2015,

- **Public health diagnostic laboratories** in Member States will have a central role in surveillance and outbreak response and will be capable of detecting known pathogens
- **National and or/ regional reference laboratories** will support public health diagnostic laboratories' capacity building in terms of biosafety and quality assurance
- **Regional reference laboratories network** will support public health laboratories in the identification of unknown pathogens and during the regional outbreak response

#### 2. Components *[List the components of the focus area]*

- 2.1 Public health diagnostic laboratories enhanced
- 2.2 National/regional networks support safe and accurate diagnosis
- 2.3 Regional coordination and laboratory networking

**3. Stages** [describe the stages in moving from the current status to the Vision, including the use of a "short" phrase/sentence to name each "Stage"]

**Stage 1: Public health diagnostic laboratories role in surveillance and response defined**

Laboratories play a central but supportive role in the early detection of and outbreak response to emerging diseases. Most countries in the Region have some form of public health laboratory supporting public health services, but this is often fragmented and compartmentalized. Laboratory capacity also varies within and between countries. Not all of these laboratories are currently engaged in early identification and participation in the outbreak response for known and unknown pathogens. In this stage, laboratory diagnosis must support public health surveillance and response. The model proposed is one where public health diagnostic laboratories may exist at the sub national and national levels supported by a national or regional public health reference laboratory system.

**Stage 2: Ensuring safe and accurate diagnosis**

Laboratory diagnosis must be made in an environment where safe laboratory practices and quality assurance are ensured through the strengthening of the national laboratory biosafety programme and national and international external quality assurance (EQA) programmes. If a country has a national reference laboratory this laboratory will support the capacity building of in-country laboratories in biosafety and quality assurance. A national network will exist. If countries do not have a national reference laboratory this function will be provided by the regional laboratory network.

**Stage 3: Identifying unknown pathogens**

In order to comply with IHR (2005), Member States should have capacity to early detect (novel) pathogens that may lead to an event of national or international concern. If a national reference laboratory system is present in-country, this will be linked to a regional network of reference laboratories. In countries without a national reference laboratory, their diagnostic laboratories will be supported by the regional network. At this Stage, the diagnostic laboratory is able to use a multiple panel of reagents and methods to identify known pathogens after which the isolates are sent to reference laboratories for further identification and characterization. Reference laboratories are needed to identify new pathogens. National, regional and global networks are the key to supporting public health surveillance and response functions.

4. Activities [for each component, list higher and similar-level priority activities according to the stage of implementation]			
Component	Stage 1 Activities	Stage 2 Activities	Stage 3 Activities
<p>2.1</p> <p>Public health diagnostic laboratories enhanced</p>	<ul style="list-style-type: none"> <li>• Link laboratory diagnosis to indicator based surveillance</li> <li>• Make laboratory diagnosis part of the outbreak investigation</li> <li>• Develop a plan for laboratory surge capacity during outbreaks</li> </ul>	<ul style="list-style-type: none"> <li>• Designate a biosafety focal point</li> <li>• Develop national level biosafety capacity</li> <li>• Define roles of laboratories within network including international reference laboratories for known and unknown diseases</li> <li>• Select certain diseases to develop EQA at the national level</li> </ul>	<ul style="list-style-type: none"> <li>• Develop data management tools and standardized reporting formats to incorporate laboratory findings into indicator based surveillance</li> <li>• Apply a multi panel approach to laboratory diagnosis of pathogens in diagnostic laboratories</li> <li>• Develop sub national level biosafety capacity</li> <li>• Enhance drug resistance surveillance</li> </ul>
<p>2.2</p> <p>National /regional network supports safe and accurate diagnosis</p>	<ul style="list-style-type: none"> <li>• Form a National Steering Committee <ul style="list-style-type: none"> <li>- Establish inventory/ profile of labs to be included in network</li> <li>- Establish national laboratory standards</li> <li>- Establish roles and responsibilities of network members</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Establish a system for referral of specimens /pathogens</li> <li>• Participate in strategic planning for laboratories to meet national and regional EQA public health needs</li> <li>• Establish/enhance the laboratory quality system ( policy, standards, training needs, audit)</li> <li>• Establish a biosafety association to represent users with link to a regional association</li> <li>• Identify sources of technical support for priority disease diagnosis</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain EQA and expand the disease list</li> </ul>

		<ul style="list-style-type: none"> <li>• Initiate EQA development for selected diseases</li> </ul>	
<p>2.3</p> <p>Regional coordination and Laboratory Networking</p>	<ul style="list-style-type: none"> <li>• Identify a Regional Coordinating Mechanism</li> <li>-Identify existing reference laboratories (ASEAN+3, disease-specific, animal health, unknown diseases)</li> </ul>	<ul style="list-style-type: none"> <li>• Establish roles and responsibilities of reference laboratories within the network</li> <li>• Establish referral system, communication and data flow for all networks</li> </ul>	<ul style="list-style-type: none"> <li>• Increase regional laboratory participation in GOARN</li> </ul>