

FINAL

**ASEAN Regional Forum
Workshop on Disease Detection and Surveillance
Manila, Philippines
September 13-15, 2011**

Co-Chairs' Summary Report

1. Pursuant to the 18th ASEAN Regional Forum Ministerial meeting in Bali, Indonesia, July 2011, the ASEAN Regional Forum Workshop on Disease Detection and Surveillance was held on 13-15 September 2011 in Manila, Philippines. The Workshop was co-chaired by Mr. Antonio Morales of the Philippines, Dr. John Allen of Australia, and Dr. Hillary Carter of the United States.
2. The Workshop was attended by representatives and experts from the ASEAN Secretariat, Australia, Bangladesh, Cambodia, China, Indonesia, Japan, the Republic of Korea, Lao PDR, Malaysia, Mongolia, Myanmar, Papua New Guinea, the Philippines, Russian Federation, Singapore, Sri Lanka, Thailand, Timor-Leste, Vietnam, and the United States. Invited guests represented the following organizations: the World Health Organization, the United Nations Food and Agriculture Organization, SAFETYNET, and the REDI Center. Participants held the view that the intergovernmental organizations provided valuable international and regional context to the discussions.

International Efforts on Disease Detection and Surveillance

3. The Philippines, the United States, and Australia chaired the opening session of the workshop. In opening remarks, the co-chairs noted the importance of interagency cooperation and a cross-disciplinary approach in combating the spread of disease and the need to address both human and animal pathogens. They stressed that the involvement of the various government sectors, as well as national, regional, and international coordination, is necessary for effectively

preventing disease outbreaks and detecting the occurrence of disease at a timely manner. They emphasized the importance of timely detection and reporting of disease occurrence, and noted the need to increase the capacity of laboratories in the region for disease detection and identification. Finally, they highlighted the important role that the ASEAN Regional Forum plays in bringing together regional experts to share national experiences on biological issues, as demonstrated by this workshop.

4. Dr. Steven Newell, from the U.S. Naval Medical Research Unit (NAMRU-2) in Phnom Penh, Cambodia, introduced the topic of disease surveillance. He noted different approaches to surveillance, including facility-based, community-based, and sentinel surveillance, and described the different requirements and levels of efficiency of these approaches. He described the key components of a successful surveillance system and the importance of an integrated system of reporting, response, and feedback. Dr. Newell emphasized the great importance of having standard case definitions in place to avoid confusion and inaccuracy of reporting. He noted many challenges, including the need to integrate a system across all government levels, the need for timely and reliable information, the importance of cost-effective solutions, and most importantly, the role of motivated individuals at all levels of the health system. He noted the need to introduce simple diagnostic techniques to field workers to help raise their capacity to provide accurate reporting. Dr. Newell's presentation is listed as **ANNEX 1**.

5. Dr. Li Ailan, from the World Health Organization (WHO) Office for the Western Pacific, provided background on WHO's International Health Regulations (IHR) and an update on its implementation in the Asia Pacific region. The IHR, as a legal framework, seeks to protect against disease and disease outbreaks through the strengthening of national systems and core capacities for surveillance and response and through the strengthening of a functional international system to detect, assess, and respond to disease outbreaks. Dr. Li described the current status of IHR implementation in the region and described the objectives and areas of work of the Asia Pacific Strategy for Emerging Diseases (APSED), noting that the APSED had been updated in 2010 to address additional public health events and to encompass new focus areas, including regional preparedness, alert, and response. Dr. Li also described the work of the Global Outbreak Alert and Response Network (GOARN) in sharing information among technical institutions and aiding

in responding to events. She stressed the complementary roles among the IHR (as legal framework), APSED (as regional tool for IHR implementation) and the GOARN (supporting in-country capacity building in support of APSED goals). In response to questions, she noted that preparedness and response training could be an effective first step in building the multisector networks necessary for successful IHR implementation. Dr. Li's presentation is listed as **ANNEX 2**.

6. Dr. Leonilo Resontoc, from the Philippines Department of Agriculture, Bureau of Animal Industry, reported on the World Organisation for Animal Health (OIE), describing its mission, the reporting mechanisms, and the legal reporting obligations of its members. He described the mechanics of reporting through the World Animal Health Information System (WAHIS) and discussed how WAHIS is being utilized to report on the emergence of animal diseases and how WAHIS information feeds into the WAH Information Database (WAHID). OIE's strategic objective for 2011-2015 is to provide scientifically based recommendations on measures for the prevention, control and eradication of animal diseases including zoonoses, taking into account economic, social and environmental impacts of such measures. Dr. Resontoc emphasized the need for immediate notification of occurrence of disease to effectively control its further spread. He also noted OIE work in supporting regional projects, supporting epidemiological studies, and promoting multisector, multiagency, multilevel, and multidisciplinary approaches. Dr. Resontoc's presentation is listed as **ANNEX 3**.

7. Dr. Kachen Wongsathapornchai, from the United Nations Food and Agriculture Organization (FAO) Regional Office for Asia and the Pacific, presented on the work of FAO's Emergency Center for Transboundary Animal Diseases (ECTAD). ECTAD integrates work on diagnostic laboratory support; surveillance, early warning and outbreak response; and risk determination and mitigation. This includes operational research to identify risks (including market chain studies at domestic and cross-border levels, price monitoring for livestock products, wildlife studies, and field surveys) as well as support to risk mitigation through biosecurity improvements. Dr. Wongsathapornchai noted that while there were many epidemiology trainings occurring in the region, they were not evenly distributed among the countries, did not provide opportunities to apply concepts through field training, and were lacking at the sub-national level. He argued for a long-term approach to training, including in-service training and the application of

theory to pragmatic situations. Finally, Dr. Wongsathapornchai discussed Field Epidemiology Training Programs (FETPs), the Global Early Warning System for animal diseases, and FAO's work to coordinate with regional organizations such as ASEAN and SAARC. Dr. Kachen's report is listed as **ANNEX 4**.

8. Dr. Cui Lin of the National Health Laboratory, Ministry of Health of Singapore, described developments in molecular diagnosis for infectious disease and provided a technical briefing on equipment and methods that are currently available to test identified and unidentified pathogens, including Point of Care testing, automated lab procedures, multiplex testing, MALDI-TOF, and Next Generation Sequencing. She highlighted the advantages and challenges of each approach, while stressing that traditional techniques will continue to be essential. She noted that challenges, including financial limitations (including limited budgets and equipment), and technical obstacles (including lack of well-trained staff or expertise), can be overcome through centralization (of networks and labs), collaboration (cross-sectoral and international), coordination, and integration of efforts. This unified effort towards combating the spread of disease is encompassed by the concept of "One Health." Dr. Cui's presentation is listed as **ANNEX 5**.

9. Dr. John Allen of the Australian Animal Health Laboratory (AAHL) presented on quality management control. He provided an overview of the work and structure of the AAHL, describing design elements, oversight and management structure, efforts to strengthen community relations, and bilateral and regional cooperative activities. On capacity building and training, he advocated a people-centered approach that provides incremental advancement through an iterative process and opportunities for reinforcement through back-stopping laboratory visits. Dr. Allen discussed the essential elements for laboratory capability, methods for conducting external quality assurance proficiency testing, and the importance of the ISO 17025 Management System Standard. He stressed that it is possible to build up existing management structures to meet ISO 17025 accreditation standards. He noted that internal audits, (either horizontal across a single work area in an organization or vertical through a single process), though culturally difficult, were useful for ensuring compliance with regulations. During questions, Dr. Allen noted that rotations through different areas of an organization can be useful in familiarizing personnel in case surge capacity is needed during an emergency. Dr. Allen's presentation is listed as **ANNEX 6**.

10. Dr. Alden Henderson, of the United States Centers for Disease Control and Prevention (CDC) - Global Disease Detection (GDD) Center in Bangkok, Thailand, highlighted the importance of field epidemiology to build capacity in disease detection and surveillance. He noted that there is a need for well trained and dedicated field epidemiologists in order for countries to be able to have an effective disease detection and surveillance program. He further noted that there are already several training programs offered by international organizations, universities and NGOs on field epidemiology and that such trainings play an important role in recruiting health workers into the field and in developing professional networks among field epidemiologists. Dr. Henderson noted key competencies for Field Epidemiology Training Programs (FETP) and stressed the importance of having mentors who can train future epidemiologists. For successful FETPs, he recommended selecting the correct participants, using on-the-job training methods, developing localized training resources and using local trainers, training mentors, using adult education methods, and evaluating the effectiveness of training programs. During discussion, Dr. Henderson noted that risk assessment and risk communication were important elements of a successful FETP and that FETPs play a key role in evaluating national surveillance systems. Dr. Henderson's presentation is listed as ANNEX 7.

11. Dr. John Velasco of the Armed Forces Research Institute of Medical Sciences (AFRIMS) Virology Research Unit (PAVRU), Philippines, gave an overview of the uses of the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) software in the surveillance of infectious diseases. Through a Facebook demonstration, he noted the role of novel sources of information in the early detection, investigation, and control of incidents. He stressed that using new, non-traditional surveillance indicators (such as over-the-counter drug sales or internet search terms) could lead to timely intervention in the outbreak of diseases and lower the number of deaths. Dr. Velasco demonstrated how to use ESSENCE software to do analysis on multiple combinations of variables based on an available database. The advantages of ESSENCE include enhancement of detection of outbreaks, increase in the lead time in detecting cases, and ease in setting up data for easy analysis. He stressed, though, that ESSENCE is not a data collection tool and that the analysis is

dependent upon the quality of the data provided. ESSENCE is available for free from Johns Hopkins University. Dr. Velasco's presentation is listed as **ANNEX 8**.

12. Dr. Maria Consorcia Quizon, from the South Asia Field Epidemiology and Technology Network (SAFETYNET), gave an overview of SAFETYNET, a network that includes field epidemiologists from twelve countries in South and Southeast Asia. She noted SAFETYNET's mission, areas of coverage, current projects, including workshops on zoonotic disease management, and future activities, including the upcoming TEPHINET Scientific Conference in Bali, Indonesia. SAFETYNET is presently providing technical assistance and workshops supporting field epidemiology and supporting human and animal health collaboration specifically in surveillance and response. Dr. Quizon emphasized that SAFETYNET seeks to promote collaboration (preferably fully volunteered) on disease detection and surveillance, guided by commitment, trust, and respect. Dr. Quizon's presentation is listed as **ANNEX 9**.

13. During discussion of the technical presentations, participants noted the important roles that the media and the private sector can play in disease surveillance, as well as the need to collaborate closely with field staff. Participants also noted the difficulty in gaining public and political support for the creation of effective multisector networks. Participants discussed the role of ASEAN, noting that ASEAN (through ASEAN+3) was developing a terms of reference and workplan to initiate a network of FETPs and how the ASEAN partnership laboratory network will help strengthen the regional network and information sharing at the laboratory level and help with access to technology.

National and ASEAN Efforts on Disease Detection and Surveillance

14. China, Thailand, Vietnam, Indonesia, Philippines, Malaysia, and Bangladesh presented on their respective countries' national efforts to improve disease detection, and current strategies, initiatives, and challenges. Presenters discussed the specific characteristics and the biological challenges of each country. Among the common points raised by the presentations was the continuing threat emanating from infectious diseases as well as new threats coming from emerging health concerns. Presenters provided case studies and examples from their national experiences to highlight successful approaches as well as concerns. Presenters also

detailed their approaches to training, including through workshops, joint exercises, table-top exercises, and train-the-trainer approaches. Their presentations are listed as **ANNEXES 10 to 16**.

15. Presenters detailed the national policies, roles and responsibilities of national agencies, the structures of surveillance systems and types of surveillance techniques used, and the reporting requirements for specific diseases. In addressing biological threats, presenters noted the vital role of national legislation or policies; collaboration and cooperation through regional and international bodies; information sharing; and access to human and logistical resources. Presenters noted the value of new media, including internet and SMS based reporting systems for real-time, efficient sharing of data among field workers, central government agencies, and technical specialists. Presenters discussed the need for risk communication and managing public awareness through dissemination of information to the public. Finally, presenters highlighted the utility of the One Health approach.

16. These presentations raised a number of concerns and challenges, including the lack of sufficient financial resources, especially at the local level, and the need for coordinated financial planning to ensure national and local levels all have appropriate capabilities. Presenters identified challenges to achieving synergy across sectors, and developing effective SOPs for surveillance. Presenters also noted a lack of laboratory capacity, challenges to cooperation between animal and human health experts, the need to engage stakeholders in local governments and communities, and weaknesses in reporting networks and methodology. For animal health control issues, presenters noted the need to clarify the direct benefit to farmers. Presenters also noted concerns over the lack of an international regime on biosecurity and biosafety and the lack of a verification mechanism for the Biological Weapons and Toxins Convention (BWC).

17. Jintana Sriwongsa, from the Health and Communicable Diseases Division of the ASEAN Secretariat, presented on the ongoing initiatives and future programs of ASEAN regarding infectious diseases. Ms. Sriwongsa explained that ASEAN's programs in this area are centered on the vision of an ASEAN Community by 2015, particularly the Strategic Framework on Health Development (2010-2015) under the ASEAN Cultural Community Blueprint. Work under ASEAN and

ASEAN+3 are designed to complement national efforts. Emerging infectious diseases and pandemic preparedness have been identified as areas of collaboration with ASEAN partners. Ms. Sriwongsa concluded that regional efforts are needed, but that regional work should be prioritized and focused in order to address the concerns of member states, draw upon the comparative advantage of regional organizations, and to complement national efforts. Dr. Jintana's presentation is listed as **ANNEX 17**.

Promoting Cooperation Between Health and Law Enforcement Sectors

18. Dr. Irma Makalinao, from the University of the Philippines College of Medicine and consultant to the Philippine Anti-Terrorism Council, presented on the critical need for joint efforts of health and law enforcement communities in the prevention and preparation for a bioterrorism event. She noted international instruments, including the BWC, UN Security Council Resolution 1540, and the UN Millennium Declaration, that provide a common, international legal framework for addressing bioterrorism. She argued that the fight against terrorism and the elimination of Weapons of Mass Destruction (WMDs) are intertwined. She outlined the characteristics of biological weapons that make them attractive to terrorists and argued for a coordinated health and security response. Dr. Makalinao raised the issue of the "securitization of public health" regarding collaboration between the public health and security sectors. She noted that such collaboration has raised fears in the public health sector that the limited funds for public health might be diverted to the security sector. However, she argued that this fear is unfounded and said that the increasing role of the security sector in public health should be viewed as an opportunity to strengthen cooperation. Dr. Makalinao noted the special challenge of dual-use technologies in the medical field and the need to avoid sacrificing legitimate, peaceful medical research for security concerns. Successful balance between health research and security can be achieved with awareness raising, an understanding of shared responsibilities between the health and security sectors, cooperation and trust across sectors, and a platform for interaction. She advocated for enhancing working relationships among sectors through joint tabletop exercises and regular information sharing. Dr. Makalinao provided case studies on a food poisoning case that involved school children in 2005 and the "suspicious mail" incident that happened at the US

Embassy in 2009 to demonstrate the Philippines experience in developing such networks. Dr. Makalinao's presentation is listed as **ANNEX 18**.

19. During discussion, participants highlighted unique concerns on specialized events, such as fires at laboratories, and the important role of first responders. They called for further discussion during the next ARF Bio-workshop (focusing on response and recovery) and the upcoming Indonesian Biosafety Association workshop. Participants also called upon the ASEAN Secretariat to create a special workshop for the security sector on biological topics.

20. Dr. Mitsuyoshi Urashima, from the Jikei University School of Medicine in Tokyo, Japan, presented on lessons learned from the Aum Shinkrikyo sarin attack against the Tokyo subway in 1995. The presentation highlighted the many different actors involved in responding to the attack and the challenges in sharing information during the incident. He reported that at the time of the attack, there were no procedures in place that would guide health and law enforcement personnel in how to properly address such an attack in a coordinated manner. Interestingly, he also pointed out that since the exact cause of the illness experienced by the subway commuters was unclear, the health workers at the hospitals were not properly equipped with the necessary protective gear that would protect them from the sarin gas residue from the clothes of the victims. Dr. Urashima concluded that there needed to be direct and immediate information sharing among sectors at the site of the attack to ensure a proper response. He recommended practice, through drills and tabletop exercises, to develop connections between law enforcement and health sectors. Dr. Urashima's presentation is listed as **ANNEX 19**.

21. Christopher Lee, from the U.S. Federal Bureau of Investigation, presented on the risks across the biological spectrum, addressing agents of concern, the Do-It-Yourself (DIY) biology movement, and how to differentiate between clandestine drug and legitimate biological laboratory activities. He described the characteristics of agents useful for biological attack and identified the key bacteria, viruses, and toxins of most concern. Mr. Lee discussed the growing DIY amateur biology community and noted the difficulties for law enforcement in differentiating between legitimate DIY labs and illicit narcotic labs, as the materials and equipment can appear similar. The presentation highlighted the great

benefit of engagement between law enforcement and those engaged in the DIY Bio movement in diminishing suspicions on the nature of the labs. During discussion, Mr. Lee noted that information and materials for conducting DIY activities are readily available and not regulated. Mr. Lee's presentation is listed as **ANNEX 20**.

22. Mr. Lee moderated an exercise to demonstrate the importance of sharing information between the health and security sectors. Workshop participants divided into groups and assumed the roles of either health officials or security officials. The participants in each sector were given different information on potential biological events and discussed with their sector colleagues which information they would share with the colleagues in the other sector. Discussion in these groups highlighted the importance of interagency coordination, the need to empower local communities to respond to events, the need for strong political support for cooperation at the national level, the value of informal networks, and the utility of using already-existing networks to share information. Participants noted that concerns over patient confidentiality or the integrity of an enforcement investigation could hamper information sharing. Participants noted that the approaches used by developed countries will likely be different from approaches successful for developing countries, as some countries may deem certain kinds of information as too sensitive to share with others for national security reasons. Lack of capacity at local levels may impair a country's ability to detect incidents that are out-of-the-ordinary. Participants also noted the special difficulty in raising awareness of animal health emergencies. Participants highlighted how formal coursework in disaster management could provide experience in developing response plans and how to identify incidents. Participants also discussed the utility of trusting the 'gut-feelings' of professionals. Participants called upon the ASEAN Secretariat to assist in devising exercises based upon actual incidents in the region that required a joint law enforcement and public health response.

23. Mr. Lee also moderated a red cell/blue cell exercise, with participants dividing into groups to plan for or defend against a terrorist attack. The terrorist attacks devised by participants covered a range of biological agents and tactics, including how to recruit individuals with specialized expertise or access. Participants stressed that different countries have different characteristics and concerns and that therefore their responses will be different. The defenders identified the many

agencies and departments, at both local and national levels, that have roles in defending against biological terrorism, as well as the benefits of international information sharing and collaboration. This entails close coordination of action; good working relationships among the different agencies, sectors and levels of society; a common understanding of the threat; effective mechanisms in place that will assist in information sharing; and coordination and unified action towards stopping terrorists from carrying out their attacks. They identified limitations on their ability to act including the need to protect information, lack of capacity to respond, lack of appropriate legal authorities, and human rights concerns. They noted the importance of information sharing and intelligence gathering to detect attacks, awareness raising and media outreach to heighten the public's perception of risk or to prevent chaos, and improving expertise and infrastructure to address structural gaps. Participants also noted the need to consider novel methods in order to prevent falling behind the terrorists and planning for yesterday's attack.

24. Pulling together themes from the two exercises, Dr. Reg Butler, from the Australian Department of Agriculture, Fisheries and Forestry, presented on the One Health system and future trends for disease surveillance networks. He described the One Health system as a collaborative, multi-disciplinary, and multi-sector approach useful to responding effectively to emerging and re-emerging diseases that can cross between human and animal populations. Dr. Butler used the Australian response to the Hendra virus to demonstrate the One Health approach in action. He discussed several international and regional efforts to promote the One Health approach, highlighting current work under APEC through the draft One Health Action Plan. On future surveillance trends, he noted that genome sequencing techniques were aiding in quick discovery of pathogens. He concluded that the One Health system is like a spider web, with the team able to redesign, adapt, and self-repair the web or network in response to changes. Dr. Butler's presentation is listed as **ANNEX 21**.

Working Group Discussions

25. During the third day, the workshop participants divided into three working groups to discuss specific aspects of disease detection and surveillance in more detail and to share national experiences. The First Working Group addressed strengthening laboratory capacity for improved disease detection. Working group

participants started by identifying gaps in laboratory capacity and made recommendations for strengthening lab networks for improved disease detection in the region. The whole range of needs were discussed, including lack of laboratory capacity at the national and regional level; lack of human resources; limited sharing of information, resources and usage of reference laboratories; and limited quality management systems, biorisk management, standardization of procedures, and certification/ calibration of equipment.

26. Working Group One presented their conclusions to the full plenary, noting specific recommendations for addressing laboratory capacity; lack of human resources; limited sharing of information, resources and usage of reference laboratories; and quality management systems. [**ANNEX 22**]

27. Working Group Two participants discussed how to integrate human and veterinary health networks for comprehensive disease surveillance and reporting under a One Health approach. They discussed how best to strengthen coordination mechanisms across human and animal health and the challenges to implementing a One Health approach. They shared national experiences on how coordination is currently undertaken between animal and health sectors and discussed ways of improving such cooperation at both the national and regional level. One revelation was that quarantine programs practice One Health approach. In their operations, they deal with animals, plants, and humans and One Health is actually a “scaling up” of quarantine activities. Therefore quarantine programs can serve as a model for one health.

28. Participants in Working Group Two presented to the full plenary [**ANNEX 23**] on gaps, including: weak policies and laws; animal disease surveillance poorly done with a focus on production animals; wildlife surveillance poorly done; rumour data not captured in surveillance systems; absence of MOUs / MOAs; and unclear how to operationalise One Health. Participants also note general gaps in information; funding or donors; centre-building; stakeholders, including academe; tools, equipment, data integration; personnel competence, training, numbers; communication; and commitment. For future steps in encouraging a One Health approach, Group Two advised: identifying champions; building One Health from the grass roots to the global level; that each individual should embrace One Health in their projects and include other sectors in their activities; establishing one health

agencies/ units, either real or virtual; joint training- inter-agency; capacity building; and more regional One Health initiatives, such as the network in South Asia among Sri Lanka + 5. The group proposed the following best practices:

- Regular meetings--formal/informal
- List of priority diseases between sectors
- Website daily reporting
- Mandate from highest level-strong legislation
- Risk communication (horizontal and vertical) -reporting to the public e.g. H1N1 “pig flu”
- Defining responsibilities of each agency
- One health taskforce for zoonotic disease campaigns e.g. rabies Philippines
- Localizing WAHIS: Info needs identified; Timeliness and accuracy of data; Responsibilities at each level; Training – monitor and evaluate; Action at the grass roots level
- Quarantine: Strong policy and laws; quarantine – an example of one health all hazards approach as it deals with movements of humans animals wildlife plants – e.g. CIQS; conduct surveillance at points of entry-human animal wildlife plant; data capture; and sharing information between points of entry & between countries-horizontal and vertical
- Use of Key Performance Indicators – establish and monitor
- Establish one health rapid response teams

29. Working Group Three discussed strategies for creating and sustaining linkages between law enforcement and health networks. The group discussed the triggers that would cause professionals from either public health or law enforcement to seek to share information with colleagues in the other sector. The participants shared information on the formal and informal channels for sharing information in their country, and noted the value of being able to reach out to friends with professional expertise. Participants also stressed the value of trusting the intuitions of professionals, especially in responding to gray areas where there may not yet be clear indications of a threat. The group discussed the limitations of law enforcement to prevent incidents, noting the key role intelligence agencies play.

30. Group Three’s presentation to the full plenary [[ANNEX 24](#)] identified the following key triggering factors for cooperation: occurrence of priority or specific

diseases; abnormal disease outbreaks or progression; need for containment, quarantine, logistics; suspicious deaths of unknown causes; need for expert consultation and information; crimes or events affecting multiple sectors (food/agriculture/human/animal, etc.) and the presence of intelligence or evidence indicating a threat. The presentation noted that successful mechanisms for cooperation: should occur at all levels: local, state, national, and regional; multiple existing mechanisms and models are already in place; communication must be ongoing and relationships maintained; the importance of building trust between professionals; need to engage law enforcement early; and should involve all sectors. The participants provided the following recommendations:

- Need for joint training/exercises at all levels to ensure awareness, recognition, response and coordination;
- Trainings should reflect appropriate roles and responsibilities;
- Identify existing laboratory capacity throughout region and enhance capabilities;
- Consider use of coordinating bodies at all levels to share resources, maximize benefit;
- Must tailor specific systems to each locality/nation/region, though common guidelines can be useful;
- Recognize role of professional judgment;
- Develop notification triggers and mechanisms at all levels;
- Enhance cooperation under ASEAN and international mechanisms, including WHO, OIE, FAO, BWC ISU, and UNSCR 1540, as appropriate; and
- Encourage the WHO to address bioterrorism issues under IHR 2005.

Conclusions and Steps Forward

31. The three working groups presented their conclusions to the full plenary session and discussed the development of an ARF best-practices document on Implementation of a Disease Surveillance System. The chairs announced that this document would continue to be developed with an aim of having the document proposed for consideration at the ARF Inter-Sessional Meeting on Counter-Terrorism and Transnational Crime and the ARF Senior Officials' Meeting and finally for recommendation to ARF Ministers for endorsement at the 19th ASEAN

Regional Forum Ministerial Meeting in Cambodia in 2012. The Philippine Chair noted that the three Co-Chairs look forward to next years' ARF Bio-workshop, which will focus on response and recovery to a biological event.