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CROSS-SECTORAL SOLUTIONS: CHALLENGES AND BEST PRACTICES

from Country and Regional Experiences

MODERATOR

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BACKGROUND

At country level, implementing One Health requires a genuine and effective collaboration across different government sectors, in particular those responsible for human health, animal health (mostly focused on domestic animals and animals for food) and health and illnesses of wild life. Such effective collaboration aims to fostering the containment of infectious diseases crossing between human and animals. Government sectors are often built up in silo where sectoral plan and annual budget are used by individual sector, joint planning and budgeting across sectors to tackle a common challenge is often difficult for which sometimes a special coordinating committee was applied.

At supra-national or regional level, implementing One Health faces further similar huge challenges, this requires trust and effective collaborative works across sovereign Nations, where sometime trade interests such as sanction on export of poultry and cattle are at stake that frank and accurate infectious diseases in animal are often obscured or not promptly reported. Collaborative surveillance and effective responses, experienced by Mekong Basin Diseases Surveillance (MBDS) is invaluable in the past decades how these challenges are overcome. Further challenges are efforts to mobilize adequate, and sustain in long term where third party funding such as Rockefeller Foundation plays significant role, funding to keep the network effective.

OBJECTIVES

Such global public goods as One Health, fostering diseases surveillance and response require redouble efforts ensuring on cross-sectoral action and regional actions are taken place effectively. This parallel session contributes to the understanding how challenges were overcome at country and regional levels and how development partners support to overcome such challenges.

COUNTRY EXPERIENCES

- **One Health approach to curb anthrax in Bangladesh**
  Baizid Khoorshid Riaz, Assistant Professor,
  National Institute of Prevention & Social Medicine, Bangladesh
- **Effectiveness of control measures for highly pathogen Avian influenza in Thailand**
  Suvichai Rojanasthien, Associate Professor,
  Faculty of Veterinary Medicine, Chiang Mai University, Thailand
- **One Health collaborative mechanism at the international level in Vietnam**
  James Kile, Veterinary Medical Epidemiologist,
  U.S. Centers for Disease Control and Prevention, Vietnam

REGIONAL EXPERIENCES

- **Making Regional Networks Work**
  Bounlay Phommasack, Chair of MBDS and Director General,
  Department of Disease Control, Ministry of Health, Lao PDR
- **Overcoming challenges: role of development partners fostering One Health**
  Annette Dixon, Country Director for Thailand, Cambodia,
  LAO PDR, Malaysia and Myanmar, The World Bank, Thailand

Annette Dixon, a New Zealand national, joined the World Bank in 1999. She has worked across the countries of Europe and Central Asia for ten years, including as Director for Operations and Strategy, and as Country Director for Central Asia, where she was based in Kazakhstan.

In December 2008, Ms. Dixon took up the position of Country Director for Southeast Asia (covering Cambodia, Lao PDR, Malaysia, Thailand, and the Greater Mekong Sub-Region) and as Representative in Bangkok for Myanmar in the East Asia and Pacific Vice Presidency (EAP).

Ms. Dixon brought to the Bank significant social policy and management experience, gained during her service in the Government of New Zealand, where she was Chief Executive of the Ministry of Youth Affairs. She also served as General Manager, Sector Policy, and Deputy Director-General in the Ministry of Health; and for five years was an advisor in the Department of the Prime Minister. Prior to becoming a senior public servant, Ms. Dixon worked for ten years with non-governmental organizations.

Ms. Dixon holds a Master of Public Policy in Politics, Economics, and Law from Victoria University, Wellington, New Zealand. She was also awarded the Harkness Fellowship, which she undertook at The George Washington University, Washington DC in 1994/95.

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BAIZID KHOORSHID RIAZ

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Public health & hospital administration specialist. Government servant. Presently working as an Assistant Professor at National Institute of Preventive & Social Medicine (NIPSOM), Dhaka with additional charge as the Project Director of Expansion & Modernization of Dhaka Medical College Hospital. Immediate past posting was at Prime Minister's Office (PMO) as a Director; the responsibility there was bureaucratic coordination between PMO & Ministry of Health & Family Welfare, Ministry of Social Welfare & NGO Affairs Bureau.

Participated as a member of Bangladesh delegation in World Health Assemblies in Geneva (2009 & 2010), RC Meetings of SEARO in Thailand (2010) & Nepal (2009), United Nations General Assembly (2011), UN High Level Meting on HIV/AIDS in USA (2011), International Family Planning Summit in UK (2012) & other summits. Also took part in several international conferences like Prince Mahidol Award Conference (2011) in Thailand, Flagship course on Universal Health Coverage (UHC) (2012) by World Bank Institute in France etc.

Scientific research papers published in several national & international journals. Assistant Managing Editor of the journal of Bangladesh Medical Research Council (BMRC) at present. Also served as Assistant Managing Editor of Bangladesh Medical Association Journal (BMJ). Fond of literature & cultural activities. Author of a number of books in literature titled 'Encyclopedia of Martyred Doctors of Liberation War of Bangladesh', 'Language Movement to Liberation War'etc. Composed several theme songs to build mass awareness on public health issues like immunization, malaria, HIV/AIDS, safe motherhood, child injury, breast feeding, autism etc. Won the prize of Best Orator in National Television Debate Competition (1989-90).

Performs as a part time newscaster of national television channel BTV. Elected as the Vice President (1991-92) & Literary Secretary (1989-90 & 1990-91) of Mymensingh Medical College Students Union. Completed medical graduation from Mymensingh Medical College of Dhaka University. Qualified for Japanese Development Scholarship (JDS) of JICA & thereby achieved Masters degree in Medical Administration from Nagoya University, Japan.

Dr. James Kile is a Veterinary Medical Officer with the U.S. Centers for Disease Control and Prevention (CDC). He serves as Chief of the Animal-Human Interface Initiative within the Influenza Program at CDC Vietnam. In this position, he supports surveillance and research of influenza and other zoonotic diseases through cooperative agreement One Health partnerships with both the Vietnam Ministry of Health and the Ministry of Agriculture and Rural Development.

Before joining the U.S. Government, Dr. Kile was a veterinary medical practitioner and a college educator. With the U.S. Department of Agriculture, he held positions as a food-borne disease epidemiologist, a developer of food safety policy, and a food safety program manager and division director. He also served at CDC Atlanta as an Epidemic Intelligence Service Officer.

Dr. Kile holds a DVM from the University of Tennessee, and a MPH from the University of Washington. He is board-certified as a Diplomate with the American College of Veterinary Preventive Medicine, and in Public Health with the National Board of Public Health Examiners. Dr. Kile has presented at international conferences related to One Health activities, and has publications related to outbreak investigations of vector-borne and zoonotic diseases.

JAMES KILE

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Dr Masato MUGITANI, Assistant Minister for Global Health, Ministry of Health, Labour and Welfare, Japan, is a medical doctor with professional and profound engagement in the global health, pandemic Influenza response, cancer policies, medical system and public health policies at global, regional and national level.

Dr Mugitani has demonstrated strong and committed leadership in global health, including the Chair of the Board for the Global Health Workforce Alliance, the Chair of the Committee A at the 63rd World Health Assembly in 2010, the Chair of the 2010 APEC Health Working Group (1st and 2nd meeting), and the Vice-chair of the Open-Ended working group of Member States on Pandemic Influenza Preparedness (May 2010-April 2011). He has also been serving as a board member of the International Agency for Research on Cancer (IARC) and a senior official member of Global Health Security Action Group (GHSAG).

MASATO MUGITANI

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Dr. Bounlay PHOMMASACK, Medical Doctor and Public Health Specialist, has spent nearly 30 years working at Provincial Health Department (nearly 15 years) and working at Ministry of Health (nearly 15 years). Currently working at the Ministry of health, holding two positions such as Director General of the Department of Disease Control (DDC), Ministry of Health of the Lao PDR, and Director General of the National Emerging Infectious Diseases Coordination Office (NEIDCO), under the National CDC Secretariat of the Government's Office.

Since 2010, Dr. BounlayPhommasack,was elected as Chair of the Executive Board of the MBDS (Mekong Basin Disease Surveillance), Chair of Inter-Ministerial Task Force for Tobacco Control in Lao PDR in 2008.

Since 1994 up to 2012, Dr. BounlayPhommasack has been invited by WHO to be Temporary Advisor in several disciplines ranking from: Healthy Cities, Partnership for Parasite Control, Communicable Diseases, Maternal Child Health and Tobacco Control.

Under ASEAN, currently Dr. BounlayPhommasackis the Head of Asean Expert Group on Communicable Diseases and Alternate Chair of SOMHD of the Ministry of Health, Laos.

BOUNLAY PHOMMASACK

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Dr. Suvichai Rojanasthien is an associate professor at the Faculty of Veterinary Medicine, ChiangMai University, Thailand. He is a bovine practitioner, a dairy herd health specialist, a Chairman of Thailand Veterinary Council. He began his career as an instructor and a bovine practitioner in Nong-pho dairy hospitals belonging to Faculty of Veterinary Medicine, Kasetsart University in Thailand from 1980 to 1983.

In 1988 he got Ph.D. in Veterinary Medicine from the Swedish University of Agricultural Sciences, Uppsala, Sweden. He was the director of the animal hospital, an assistance dean. Since 1996 he moved to work at the Faculty of Veterinary Medicine, ChiangMai University as an associate dean. He was the dean of the Faculty of Veterinary medicine, ChaingMai University during 2001-2005. His main interests are in animal health management, zoonosis and eco-health (one-health) approach. He has been extensively involving in research and development in the areas of animal-human interfaces for health management.

He has published more than 60 papers, reports and books locally. He is the editor committee of a local journal for dairy. He has been working in his carrier for 32 years. He is currently appointed to be a Chairman of Thailand Veterinary Council.

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MAKING REGIONAL NETWORKS WORK

Bounlay PHOMMASACK

The advanced of new technologies had brought an opportunity for countries around the world to live more closely in a "global village", which at the same time increased the risk for Emerging Infectious Diseases (EID) or increasing the risk for any public health emergency of international concerns (PHEIC) to spread faster than ever such as SARS 2003, Highly Pathogenic Avian Influenza (HPAI) H5N1, Pandemic Influenza H1N1 2009. The PHEIC means an extraordinary public health risk to other states through the international spread of diseases and potentially require a coordinated international response. Those EID diseases now becoming on going challenges for all the countries around the world. The International Health Regulation (IHR 2005), has shown and proved that Infectious Disease occurred in one country is no more the problem or the sole responsibility of that particular country. The key IHR (2005) Philosophy highlighted that the best way to prevent international spread of diseases is to detect public health threats early and implement effective measures when the problem is small and at local level. Because of the complexity of emerging infectious diseases, challenging the functioning of health system and the functioning of other related ministries, there is a need for close technical collaboration among countries in the region using APSED (2010), which is stands for "Asia Pacific Strategy for Emerging Diseases", composed of eight components. These eight components of APSED (2010) included: 1. Surveillance, Risk Assessment and Response, 2.Laboratory, Zoonosis, 4. Infection Prevention and Control, 5. Risk communication, 6. Public Health Emergency Preparedness, 7. Regional Preparedness and Response, 8. Monitoring & Evaluation. The first five components belong to APSED (2005) and the components of APSED (2010) composed of components of APSED (2005) plus the following three components as follows: Public Health Emergency Preparedness, Regional Preparedness and Response and Monitoring &Evaluation . APSED (2010) is a common regional goal to build sustainable national and regional capacities and partnerships to ensure public health security through preparedness and planning, prevention, early detection, and rapid response to emerging diseases and other public health emergencies.

With the aims to put collective efforts among countries in various regions for further mitigating the impact of emerging infectious diseases, breaking the continuous challenges of

emerging infectious diseases in the region, several regional networks have been established and developed, such as ASEAN+3FETN, CORDS, MBDS, APEIR, CAREID, KENAN Asia, REDI, LMI, etc… Such networks have provided an opportunity for countries in the region to strengthen technical capacity, develop coordination, exchange information, and solving problem together. These regional networks are very important for strengthening Core Capacity (CC) for the effective implementation of IHR (2005). Apart from making the regional network workable, there is also an urgent need to establish coordination mechanism among different regional networks to ensure smooth coordination, collaboration, information sharing and put common efforts for keeping the regional health security. Therefore, networking among different regional networks are also very important and necessary. Mechanism for collaboration among different regional networks need to be established. Once established, the forum will be an opportunity to identify issues and at the same develop tools, strategies for effective functioning, collaboration among regional networks.

ONE HEALTH COLLABORATIVE MECHANISMS

at the International Level in Vietnam

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BACKGROUND

Promoting and implementing One Health collaborative activities, between governments and/or across government sectors, can be both challenging and rewarding.

The concept of the interaction of humans, animals, and the environment affecting the health of all has,from a Western medicine perspective,been aroundsincethe ancient Greeksor earlier (1). In his treatise on "Airs, Waters, and Places", Hippocrates suggested that to investigate medicine properly, one must first consider the seasons, and then the wind, the water, and the ground.

In the mid-1800s, the term "zoonosis" has been credited to a German physician, who indicated there should be no dividing line between human and animal health (2,3).In the mid-1940s, a U.S.veterinarian further promoted this concept by establishingthe field of veterinary public health at the CDC (2).

In the 1960s, a veterinary epidemiologist spoke of"one medicine",calling for a unified human and veterinary approach to combat zoonotic diseases, and providing a modern foundation for the concept of One Health (2,4).

While the term One Health had already been in use by 2004, in that year, the Wildlife Conservation Society held a meeting of health experts from many fields, and referring to "One World-One Health" (5).

In 2007, a Joint Task Force including the American Veterinary Medical Association (AVMA) and the American Medical Association (AMA) adopted a vision, definition, and scope in support of One Health (6). This definition, "The collaborative effort of multiple disciplines - working locally, nationally, and globally - to attain optimal health of humans, animals, and our environment", was alsoreferencedin a 2008document on One Health bya joint United Nations' organizationalconsultation that included FAO, OIE, and WHO (7).

Also in 2008, WHO, FAO, and OIE published a zoonotic diseases guidefor establishing collaborations between animal and human health sectors (8). Theguideidentifies establishing a sustainable

coordinating mechanism for collaboration in three areas, 1) surveillance and information sharing, 2) coordinated response, and 3) risk reduction.

In 2010, FAO, WHO, and OIE developed a Tripartite Concept Note that further identified the "sharing of responsibilities and coordinating global activities to address health risks at the animal-human-ecosystems interface" (9). This concept note was shared with the international community at the International Ministerial Conference on Avian and Pandemic Influenza in Hanoi, Vietnam.

The Tripartite Concept Note provides a background, strategic alignment, collaborations and joint actions, and the way forward that partners may consider when conducting One Health activities. This includes identifying complementary animal-human agendas, and a strategic alignment identifying collaborative needs. Finally, the Concept Note identifies a number of collaborative and joint actions that may occur to meet these agendas and needs.

These One Health references and others form a background of information on what is One Health, as well as how to provide support and assistance domestically or internationally to conduct One Health surveillance and research activities with cross-Ministry partners.

This report describes the background and steps to a One Health collaborative mechanism at the national level in Vietnam, with international support, and used as a platform for cooperative public and animal health surveillance and research activities between the U.S. Centers for Disease Control and Prevention (CDC) and the Vietnam Ministries of Health (MOH) and of Agriculture and Rural Development (MARD).

INFLUENZA PROGRAM, US-CDC VIETNAM:

CDC began collaborative activities with MOHin 1997. CDCfurther established an Influenza Program (IP) in 2005, providing technical assistance and funding support for a national influenza surveillance system with the MOH National Institute of Hygiene and Epidemiology (NIHE).

Additional program expansion occurred in 2007 with MOH General Department of Preventive Medicine (GDPM) support for influenza pandemic preparedness and response. In 2009, CDC IP expanded again with a NIHE cooperative agreement for research of influenza and other infectious diseases, as well as the establishment of the Animal-Human Interface (AHI) Initiative for influenza and other zoonotic diseases.

The AHI Initiative established its first activities in 2010 and in 2011 through both the NIHE surveillance and research cooperative agreements. The activitiesincluded collaboration with the animal health sector. In 2012, CDC established a unique cooperative agreement with the MARD Department of Animal Health (DAH), for surveillance and research at the animal-human interface of influenza and other zoonotic diseases in Vietnam, and which also called for collaboration with the human health sector.

Mechanisms are in place at the human health and animal health sectors to conduct joint cross-Ministry surveillance and research activities of influenza and other zoonotic diseases.

COLLABORATIVE MECHANISMS:

While discussions of One Healthconcepts and approachescontinue at international levels, implementation of One Health activities occurs in many countries. The international partners and inter-Ministry sectors that develop and implement these activities must each identify and address their own mechanisms for achieving cross-sector One Health approaches to surveillance, response, control, and communication of zoonotic diseases.

Vietnam MOH and MARD already have experiences working cross-Ministry on a number of occasions, including continued zoonotic disease outbreaks in poultry and human cases of Highly Pathogenic Avian Influenza since 2003, and cases of Severe Acute Respiratory Syndrome (SARS) in 2003.CDC provided assistance and support during these periods, to both MOH and to MARD.

Using existing bi-lateralU.S. Government and Government of Vietnamrelations and framework, and developing more specific bi-lateral and multi-sector formal agreements, technical assistancesupport, and cooperative agreement funding mechanisms cross-Ministry, we designed and are implementing surveillance and research activities at the animal-human interface of influenza and other zoonotic diseases in Vietnam.

These activities supported cooperation and collaboration between both the animal (MARD) and human (MOH) health sectors. The mechanisms also work both ways, with MOH supporting and funding activities with MARD, and with MARD supporting and funding activities with MOH.

Following is a brief overview of the steps to develop aCDC-MOH-MARD One Health collaborative mechanism in Vietnam. Many of the steps occurred concurrently with other steps.

1. 2009-2010: Introduce AHI program in-country, with funding support and technical assistance from CDC.
2. 2009-2010: Meet with Ministerial partners of existing IP platforms; introduce and establish AHI activities through this platform.
3. 2010-2011: Meet with Ministerial partners of proposed IP/AHI platform.
4. 2010: Develop for signatures a Letter of Intent at the Ministerial level of both countries.
5. 2010-2011: Two AHI studies supported through established MOH cooperative agreements with CDC.
6. 2010-2012: Develop proposed program with funding support and technical assistance from CDC.
7. 2011: Conduct a workshop with cross-Ministerial Department level partners that would be participating in AHI activities with CDC.
8. 2011: Develop for signatures a Letter of Agreement at the Department level of cross-Ministerial partners.
9. 2012: AHI cooperative agreement awarded by CDC to Vietnam Department of Animal Health (MARD).
10. 2012-2015: Implement program activities at international partner level and at cross-Ministerial level.

ACCOMPLISHMENTS:

Since 2009, there have been a number of accomplishments in developing and implementing One Health CDC-MOH-MARD collaborative activities in Vietnam. First, using the CDC-NIHE cooperative agreement, in 2009-2010, NIHE and DAH conducted a pilot AHI cross-section study of the sero-prevalence and subtypes of Influenza A viruses in people, pigs, and poultry in a northern province.

In 2010, representatives of MARD and DAH signed a Letter of Intent, along with representatives of U.S. Department of Health and Human Services and CDC, for research of influenza viruses and other zoonotic diseases in Vietnam.In 2011, representatives of the main MOH and MARD sectors that would be working together on CDC cooperative agreement projects, signed a Letter of Agreement for an inter-agency and intra-agency partnership for influenza and other zoonotic diseases projects and activities in Vietnam.

Also in 2011, NIHE conducted along with DAH, a 4-month extension of the AHI pilot study to further look over time at Influenza A virus subtypes and sero-prevalence in people, pigs, and poultry. Results of both the 2010 and 2011 studies identified a number of influenza viruses in humans and animals, although at low levels in the community. There was also a potential reverse zoonotic transmission of Influenza A/H1N1 2009 from humans to pigs. Results of these studies have been presented at international conferences.

With both NIHE and DAH cooperative agreements in place in 2012, CDC plans a number of AHI surveillance and research studies with our MOH and MARD partners, through both mechanisms and with both sectors conducting the study activities together. The studies will be concentrating on the prevalence and subtypes of Influenza A viruses of people, pigs, and poultry in rural communities, the risks and transmission factors, and the phylogenetic co-evolution of the influenza virus in both humans and animals in Vietnam.

DISCUSSION:

Building upon existing bi-lateral government relations and in-country CDC programs with MOH, the AHI Initiative has enhanced and added to the existing cooperative partnerships. This occurred through both funding support and technical assistance. The AHI Initiative added One Health activities to the MOH cooperative agreement platform, and added a new cooperative agreement platform with MARD. The AHI Initiative established cross-Ministry agreements at appropriate organizational levels to provide for MOH and MARD collaborative One Health surveillance and research projects and activities. Collaborative mechanisms are in place with both Ministries to allow for activities from either sector, while utilizing the other sector for operations in their respective health areas.

Establishing and conducting One Health collaborative mechanisms and activities at the international level is both challenging and rewarding; with potential benefits to human, animal, and environmental health, at the national, regional, and global levels.

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ONE HEALTH APPROACH
to curb anthrax in Bangladesh

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KEY MESSAGE: *This study aimed to identify the gaps in responding to anthrax in Bangladesh. Ineffective institutionalization of one health approach was a barrier to curb the epidemic. The microplanning of EPI can be utilized to reform the animal vaccination strategy.*

INTRODUCTION

From August 2009, 21 outbreaks of human and animal anthrax reported from different districts were investigated from the national level. This study aimed to identify the gaps in responding to anthrax in Bangladesh.

METHODS

The results from the analysis of outbreak investigation reports and key informant interviews were triangulated to identify the strengths and challenges for anthrax prevention.

RESULTS

Multi-disciplinary teams from IEDCR, DLS, and icddr,b including epidemiologists, physicians, veterinarians, and anthropologists investigated these outbreaks. They identified Bacillus anthraces from human and animal samples and linked slaughtering/handling raw meat or meat products of sick animals with the disease. Lack of community awareness about transmission risk, poverty, and social norms propagated these outbreaks. Poor vaccine production, acute shortage of animal vaccinators, and faulty vaccination planning grossly deficient to annually vaccinate 47 million susceptible animals, and immature institutionalization of one health approach were barriers to curb the epidemic.

CONCLUSION

Multi-sectoral outbreak investigations helped to understand the interrelated chains of the processes that led to anthrax outbreaks in Bangladesh. Effective institutionalization of the joint human, animal and environmental health concept could further strengthen the response by utilizing the combined synergy of relevant sectors. The experience of the Expanded Program on Immunization (EPI), its micro-planning, workforce and communication infrastructures can be utilized to improve animal vaccination coverage under the stewardship of DLS. Given the limited practical examples to operationalize one health worldwide, multi-sectoral outbreak investigation can be considered as a useful initial model.

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EFFECTIVENESS OF CONTROL MEASURES

for Highly Pathogen Avian Influenza in Thailand

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Thailand was severely affected by highly pathogen avian influenza H5N1 since 2004. The last reported outbreak of the disease was in 2008. Control measures which have been performed successfully without vaccination campaign, being clarify. Since the first outbreak, the national strategic plan was developed in order to tackle the problems in an integrated, holistic, and sustainable manner. At local level, the provincial committee was set up. The committee consists of representatives of all stakeholder including governor, public health, livestock official and the administrations. Local strategic plans were set up. Stamping out was performed effectively. The disease reporting systems and active surveillance programs were introduced widely. There was sub-

The centre for prevention and control of zoonosis

The meeting of zoonosis prevention and control committee

The meeting of zoonosis prevention and control committee

The risk behavior of fighting cock owners

The good standard fighting cock farm

clinical infection in ducks. Movement controls was performed but it could not applied to very small consignments of poultry. Farm biosecurity had been promoted. However, it remains weak in most of the small farms/households. Disinfectants were used widely by farmers and government officials during and after outbreaks but were often used inappropriately. Controls on visitors and vehicles, the limited quarantine of newly introduced poultry, absence of all in all out management in some farms also create vulnerabilities not only for HPAI but for other diseases as well. Only large farms had formal biosecurity plans. Hygiene had been improved in registered cock fighting rings in Thailand but a significant amount of cock fighting still occurs at unregulated arenas. The integration and progress of actions between local government officials and also with farmers was the most successful factor for the control and preventive measures for highly pathogen avian influenza in Thailand.