ONE HEALTH
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VIET NAM ONE HEALTH PARTNERSHIP FOR ZOONOSES

ONE HEALTH
NEWSLETTER - VIET NAM

Quarter I/2018

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PMAC 2018 – GLOBAL EFFORTS TOWARDS A WORLD SAFE FROM THREATS DUE TO EMERGING INFECTIOUS DISEASES

Zoonotic and AMR-related diseases accounted for more than 95% of all emerging infectious diseases reported during the second half of the 20th century. In this century, the emergence of SARS, pandemic influenza, MERS, and the spread of Ebola and Zika reflect the world's increasing vulnerability to novel zoonotic threats. The simultaneous emergence of pathogens resistant to antibiotic therapies raises the prospect of a "post-antibiotic" world.

While the drivers underlying the emergence of zoonotic and antibiotic-resistant diseases are complex, human behaviors and their impact on animal populations and the environment are understood to be central to the emergence of both disease threats. There is an urgent need to bring a comprehensive One Health risk mitigation approach to address zoonotic and AMR-related diseases that addresses the direct consequences of animal-human interactions and contributory pressures related to environmental and climate changes. The Global Health Security Agenda (GHSA) and related One Health movement provide important frameworks for mobilizing international action.

Figure 1. PMAC 2018 in Bangkok, Thailand, with the theme " "Making the World Safe from the Threats of Emerging Infectious Diseases" (Source: https://asia.ilri.org/)

The Prince Mahidol Award Conference (PMAC) 2018 provided an important setting for fostering policy and strategic action by engaging about 1,200 multi-sectoral experts coming from 85 countries. This was also an opportunity for experts in zoonosis and AMR, as well as climate change and related environmental fields from the public and private sectors, international organizations, foundations, academia and non-governmental organizations, as well as critical players in Global Health Security Agenda (GHSA), to work together.

The **Bangkok Statement** calls for actions at the global level that:

- Are built on a bold vision that embraces not only a renewed commitment to address the threats posed

by emerging infectious diseases and antimicrobial resistance, but is also fully aligned with and reinforcing of the commitments made in the 2030 Agenda for Sustainable Development, including to leave no one behind, and the UN Political Declaration on AMR in 2016.

- Renew efforts to craft policies and regulatory frameworks to address more directly the multi-sectoral responses to emerging infectious diseases and antimicrobial resistance.
- Reach across the public and private sectors and civil society to fully harness their collective power for change, and invests in research to develop new, affordable, available and more effective countermeasures and health technologies to prevent, diagnose, treat and minimize the impact of these threats, ensuring a full social return on public investments, safeguarding human security for everyone, especially vulnerable populations.
- Invest in and promote "whole of society" approaches to ensure preparedness strategies and capacities are in place to detect, respond to and mitigate the effects of emergent health threats across the entirety of society by establishing and strengthening relationships between health and non-health sectors, establishing multi-sectoral policies and practices for effective preparedness and response to health emergencies, and strategically utilizing technical and financial resources to support systems strengthening and social resilience ■

The Prince Mahidol Award Conference (PMAC) is an annual international conference focusing on policy-related health issues. The PMAC 2018 was co-hosted by the Prince Mahidol Award Foundation, the Thai Ministry of Public Health, Mahidol University, the World Health Organization, the World Bank, U.S. Agency for International Development, Japan International Cooperation Agency, and the Rockefeller Foundation, with support from other key related partners. The Conference was held in Bangkok, Thailand, from 29 January – 3 February 2018 with the theme of "Making the World Safe from the Threats of Emerging Infectious Diseases".

(Source: http://pmac2018.com/site)

COOPERATIVE EFFORTS IN VIET NAM TO COMBAT ANTIMICROBIAL RESISTANCE

Viet Nam is a rapidly-developing country with growing demand from the population for health services. This is accompanied with an increase in the scale and global linkages of food production, as well as rising local pharmaceutical production and global trade in pharmaceuticals. In a context where the antibiotic resistance (AMR) has become more and more difficult to control, a number of national efforts have been recorded in applying a One Health approach to combat AMR in Viet Nam. These efforts include the promulgation of the National Action Plan on Antibiotic Resistance, 2013-2020 (2013), the establishment of the National Steering Committee on AMR (2015), the promulgation of the National Action Plan for the reduction of antimicrobial use and control of antibiotic resistance in livestock production and aquaculture, 2017-2020 (2017).

One of the global concerns that is considered as a key issue in prioritized partnership activities between the United Kingdom and Viet Nam is the prevention and control of antibiotic resistance. In recent years, the Government of Viet Nam has shown its strong and sustainable commitment to this issue, which has supported the country to be chosen as one of the pilot nations for the Fleming Fund – the most well-known program for AMR surveillance at the global level. The aim of this Fund is to support high quality and harmonized AMR surveillance systems in developing countries, contributing to WHO's Global AMR Surveillance System (GLASS) as well as other efforts to reduce the burden of diseases.

On 5 February 2018, during her business trip to Ha Noi for strengthening cooperation in the human health sector between the United Kingdom and the Government of Viet Nam, Dame Sally Davies, Chief Medical Advisor to the UK Government, attended the inauguration ceremony of the National Reference Laboratory for AMR. This Lab, which is located

Figure 2. Minister of Health Nguyen Thi Kim Tien and Dame Sally Davies, Chief Medical Advisor to the UK Government, opening the National Reference Lab for AMR in the National Hospital of Tropical Diseases – Hanoi, 5/2/2018 (Source: https://twitter.com/AnnaPearsonUK)

Figure 3. Vice Minister of MARD Vu Van Tam speaking at the Inception Workshop of the project "Engaging the food and agriculture sectors in sub Saharan Africa and South and South East Asia in the global efforts to combat antimicrobial resistance using a One Health approach" - Ha Noi, 27/2/2018 (Source: http://www.fao.org/vietnam/news/)

in the National Hospital of Tropical Diseases, was established under a project supported by the Fleming Fund. On this occasion, Mdm. Davies expressed her appreciation for the achievements that Viet Nam has made to combat AMR and her expectation for continued support to the National Action Plan on AMR in the coming time.

The project ***"Engaging the food and agriculture sectors in sub Saharan Africa and South and South-East Asia in the global efforts to combat antimicrobial resistance using a One Health approach"*** is funded by the UK Government through the Food and Agriculture Organization (FAO) of the United Nations, with the aim of reducing the development and bilateral human-animal transmission of antimicrobial resistant microorganisms and/or determinants via the food chain and the environment. The Inception Workshop was organized on 27 February 2018 and chaired by Vice Minister Vu Van Tam, Ministry of Agriculture and Rural Development (MARD), with the attendance of participants from agencies under MARD, the Ministry of Health (MOH), the Ministry of Natural Resources and Environment (MONRE), and participants from research areas (Vinh Phuc, Thai Nguyen, Binh Dinh, Dong Nai and Dak Lak provinces), together with other international partners (FAO, WHO, OUCRU, ILRI, USAID, the UK Embassy in Viet Nam, etc.). The project duration is from December 2017 to the end of March 2019.

All of the above mentioned on-going efforts are expected to actively support the battle against AMR and to make a significant contribution to this work at both national and international levels ■

STIMULATING RESEARCH ACTIVITIES WITHIN THE FRAMEWORK OF THE PROJECT "STRENGTHENING CAPACITY FOR THE IMPLEMENTATION OF ONE HEALTH IN VIET NAM – PHASE 2" (SCOH2)

As set out in the Partnership Framework of the Viet Nam One Health Partnership for Zoonoses (OHP) signed in Hanoi between the Government of Viet Nam and related national and international partners on 1 March 2016, one of the objectives of the OHP is to provide recommendations to decision makers on One Health policy, strategy and research projects in Viet Nam, strengthening institutional capacity for implementation of One Health in public health protection.

In line with this objective, the project "Strengthening capacity for the implementation of One Health in Viet Nam, Phase 2" (SCOH2) includes the objective of supporting One Health policy, research and field activities related to preventing, detecting, and

Figure 4. The 1st TAC meeting under the SCOH2 project – Hanoi, 6 February 2018 (Source: OHP Secretariat)

responding to emerging and serious infectious disease threats. Output 2.4 of the SCOH2 project calls for commissioned research studies completed with technical and financial support, under the direction of a Technical Advisory Committee (TAC). The TAC is comprised of experts and technical officers from related national agencies in Viet Nam together with counterparts from international members of the OHP. As in the previous phase, research activities commissioned by the SCOH2 project aim to complement, amplify and avoid duplication with other One Health research activities of OHP members or more broadly.

On 6 February 2018, the 1st TAC meeting was held with the objective of clarifying the expected scope and approach to policy research and advocacy under the project, and identifying and brainstorming on possible thematic areas and research questions.

A number of comments and suggestions after the meeting could be summarized as:

- Attention should be given to identifying relevant decision makers in Viet Nam, including the roles of elected bodies such as the National Assembly and People's Committees and related standing committees working groups, etc. Experience has shown that these stakeholders are open to receiving relevant research findings and recommendations in order to inform their policy and legislative activities.
- As part of the SCOH2 research activities, it might be relevant and valuable to organise workshops to bring together related experts and their data, for example applying tools developed by CIRAD, and preparing a paper to capture the discussions of the workshop and the contributions of related research efforts.
- Consideration could be given to a training session for OHP members on how to develop and disseminate policy briefs.
- Seeking opportunities to link with other partners and existing initiatives; as well as involving graduate students who are also looking for relevant research opportunities.
- Consideration should be given to utilize the available budget to produce most solid research evidence for policy advocacy; and focus on one overall policy issue covering key research issues (such as antimicrobial resistance, rabies prevention and control, One Health and the environment, etc.)

The research findings will be disseminated and advocated for policy development that includes: briefings provided to leaders, donors and related stakeholders, presenting findings and policy reports in OHP's activities such as quarterly newsletter and website, in policy briefs, meetings of One Health partners, "Research-to-Policy" workshops, Annual One Health Forum, annual updated report on the progress of National One Health Strategic Plan, 2016-2020 as well as briefings to leaders of the two Ministries, to donors and to related partners ■

NEWS IN BRIEF

Highlighted Global Health Security Agenda (GHSA) activities in the first Quarter of 2018:

- The meeting "Accelerating progress on the Real-Time Bio-Surveillance Action Package of GHSA" was held on March 26-28, 2018 in Tbilisi, Georgia with the purposes of (i) Strengthening partnerships with GHSA partner/contributing countries on the Real-Time Surveillance; (ii) Strengthening collaboration with non-governmental organizations and international partners, and exchanging best practices and sharing experiences; (iii) Promoting collaboration at country and regional levels with other Action Package activities in a crosscutting manner as a sustainable pathway to the overall health security Action Package; (iv) Sustaining surveillance through the provision of funding as a cost-effective investment; and (v) Discussing expectations and the strategy for the Real-Time Surveillance Action Package.
- Also in this quarter, four one-hour virtual "Town Hall" meetings were hosted by the GHSA Steering Group during the period from 20 to 27 March, in order to discuss the development of the GHSA 2024 framework with GHSA partners. In these meetings, Steering Group members shared updates on the efforts to develop the next phase of GHSA as well as discussed other issues of interest raised by meeting participants. The proposed GHSA 2024 Development Timeline is:
  - Mar-Apr, 2018: GHSA community-wide consultation on GHSA 2024.
  - Apr 2018: Subgroup completes an update to the GHSA 2024 Framework based on feedback.
  - May 2018: SG Meeting – Finalize the GHSA 2024 Framework.
  - Summer: GHSA-wide sharing of the finalized GHSA 2024 Framework and TORs ; identify new leadership.
  - Fall: Present the GHSA 2024 Framework at the GHSA Ministerial Meeting in Indonesia.
  - Nov-Dec, 2018: Transition to the GHSA 2024 structure and objectives ■

A project on assessing veterinary health management and veterinary drug use in Vietnamese pig farms was launched on 2 March 2018 at the Ministry of Agriculture and Rural Development. The "Health and Antibiotics in the Vietnamese Pig Production" Project, known as VIDAPIG, is a collaboration between the University of Copenhagen, the National Institute of Veterinary Research (NIVR), the National Institute of Nutrition (NIN) and the International Livestock Research Institute (ILRI). It will carry out research to identify and evaluate factors affecting veterinary health and veterinary drug use, with the aim of establishing antimicrobial usage practices that are based on a One Health approach across the smallholder pig sector. The project will be implemented from February 2018 to January 2020 in Bac Ninh Province ■

On 25 March 2018, a One Health Olympic Competition for students was organized by the Vietnam One Health University Network (VOHUN) in collaboration with the Vietnam National University of Agriculture (VNUA). The aim of this competition was to help students to (i) Understand and share One Health knowledge and skills; (ii) Learn and share information as well as culture among faculties and universities; (iii) Have soft-skills trained after the competition. Professional experts in One Health were also invited to evaluate and encourage students in their One Health understanding and application ■

Figure 5-6-7-8. One Health Olympic Competition for students (Source: VOHUN)

STRENGTHENING COLLABORATION FOR PREVENTIVE MEASURES FOR INFLUENZA A(H7N9) IN VIET NAM

The risk of influenza A (H7N9) introduction to Viet Nam has increased since new highly pathogenic strains were detected in China in late 2016. Since then, the Food and Agriculture Organization (FAO) of the United Nations in Viet Nam has been in collaboration with key agencies of Government of Viet Nam to undertake swift actions to prevent the H7N9 virus from entering the country. Although this relatively new strain of avian influenza of Chinese origin has not yet entered in Viet Nam, it is crucial to strengthen preventive measures as H7N9 could pose a substantial threat to public health and to the poultry production of the country.

During the official visit to Viet Nam, a meeting was convened between Vice Minister Vu Van Tam of the Ministry of Agriculture and Rural Development (MARD) and Dr. Nguyen Thu Thuy, Deputy Director General of the Department of Animal Health (DAH) and FAO's global and regional representatives (Dominque Burgeon - Director of FAO's Emergency and Rehabilitation Division, Juan Lubroth – FAO's Chief Veterinary Officer and Wantanee Kalpravidh, FAO Regional Manager for the Emergency Centre for Transboundary Animal Diseases - ECTAD). The focus of the meeting was on emergency preparedness and response activities in Viet Nam as well as additional assistance for keeping the country safe from potential incursions of H7N9 and from the impact of climate change.

Also during this trip, the FAO mission visited the United States Agency for International Development (USAID), the main financial supporter for FAO's avian influenza prevention program and for WHO, which is FAO's key

Figure 9. The meeting between Vice Minister Vu Van Tam of MARD and FAO's global and regional representatives (Source: FAO ECTAD)

One Health implementation partner. The visit was to review preparedness and response actions including rapid detection using handheld mobile PCR[1] and RNA[2] extraction (Pockit/iiPCR), and mechanisms for rapid and seamless response (contingency culling with compensation for all poultry at markets, access to stockpiles, and mobilization of human resources).

As a follow up to this mission, an FAO Crisis Management Centre (CMC) preparedness mission to Viet Nam is scheduled to review and validate Viet Nam's H7N9-related contingency plan, including the development of modalities for culling and compensation payments. Additionally, a report on the impact of disasters on agriculture and food security was prepared for the Regional Conference on Disaster Risk Reduction held in Ha Noi on 15 and 16 March 2018 ■

(Source: http://www.fao.org/vietnam/news/)

RELATED LEGAL DOCUMENTS

DOCUMENTS ISSUED BY THE GOVERNMENT OFFICE
Decree No. 15/2018/ND-CP dated 2 February 2018 by the Government promulgating the regulations on detailing some articles in the Food Safety Law.
DOCUMENTS ISSUED BY MARD
Urgent Official Telegraph No. 1263/CD-BNN-TY dated 5 February 2018 by the Minister of Agriculture and Rural Development on enhancing measures to prevent avian influenza A/H7N9 and other dangerous virus strains from entering Viet Nam.
Official Letter No. 1907/BNN-TY dated 8 March 2018 by the Minister of Agriculture and Rural Development on developing the Plan for active prevention and control of poultry and livestock diseases using local budgets.
DOCUMENTS ISSUED BY MOH
Official Letter No. 774/BYT-DP dated 2 February 2018 by the Minister of Health to Directors of Provincial Health Departments on enhancing influenza prevention activities.

ONE HEALTH EVENTS

April 2018
International Conference on Intensifying Food Systems and Health: Emphasis on Antimicrobial use in Agricultural Systems ILRI in South Asia 4-6 April 2018; Jaipur, India

[1]*PCR: Polymerase Chain Reaction*
[2]*RNA: Ribonucleic acid*

7th Food Safety Working Group (FSWG) meeting
FAO; FSWG members
11 April 2018; Ha Noi

One Health Communication Network Quarterly Meeting - Quarter 1/2018
OHCN members
17 April 2018; Hoa Binh province

H7N9 Prevention Workshop
GDPM, DAH and P&R
26-27 April 2018, Quang Ninh

Consultation Workshop for the OHSP Implementation Plan
OHP
April 2018 (tentatively)

VOHUN year 5 planning activities workshop
VOHUN
20-21 April 2018; Da Nang

Workshop on evaluating of course materials that will be taught in the master program in Veterinary Public Health at HCMNLU
VOHUN
27-28 April 2018; Hue

May 2018

Annual One Health Forum
OHP members and partners
May 2018; Ha Noi (tentatively)

GHSA Steering Group Meeting: "United towards Global Health Security: challenges and strategies"
19 May 2018; WHO Headquarter, Geneva, Switzerland

Workshop between government agencies, universities, and stakeholders to develop a national roadmap for OH education and training programs
VOHUN
10-11 May 2018; Ha Noi

One Health SMART training workshop
VOHUN
12-14 May 2018; Ha Noi

Lab-Epinet workshop
FAO
15-17 May 2018; Nha Trang

June 2018

The 5th International One Health Congress
22-25 June 2018; Saskatoon, Canada

ONE HEALTH PUBLICATIONS

Brucellosis remains a neglected disease in the developing world: a call for interdisciplinary action
Franc et al. BMC Public Health (2018) 18:125 DOI 10.1186/s12889-017-5016-y.

Geographical and temporal patterns of rabies post exposure prophylaxis (PEP) incidence in humans in the Mekong River Delta and Southeast Central Coast regions in Vietnam from 2005 to 2015
Hu Suk Lee, Vu Dinh Thiem, Dang Duc Anh, Tran Nhu Duong, Mihye Lee, Delia Grace, Hung Nguyen-Viet. PlOS ONE. https://doi.org/10.1371/journal.pone.0194943.

Household exposure to livestock and health in the CHILILAB HDSS Cohort, Vietnam.
Dang-Xuan, S., MacDonald, L.E., Schurer, J.M., Nguyen-Viet, H. and Pham-Duc, P. 2017. Asia Pacific Journal of Public Health 29(5S): 72S–83S.

Microbiological risk infection assessment using QMRA in agriculture systems in Côte d'Ivoire, West Africa.
Kouamé, P.K., Nguyen-Viet, H., Dongo, K., Zurbrügg, C., Biémi, J. and Bonfoh, B. 2017. Environmental Monitoring and Assessment 189: 587

Quantitative value chain approaches for animal health and food safety.
Rich, K.M., Dizyee, K., Huyen N.T.T., Ha D.N., Hung P.V., Nga N.T.D., Unger, F. and Lapar, M.L. 2017. Food Microbiology.

Exposure assessment of Salmonella related to pork handling and consumption at households in Hung Yen and Nghe An provinces.
Ngan T.T., Dang-Xuan, S., Unger, F., Barot, M., Nguyen-Viet, H., Hung P.V., Grace, D. and Pham-Duc, P. 2017. Vietnam Journal of Public Health 4(2): 26–33.

Microsatellite based genetic diversity and mitochondrial DNA D-Loopvariation in economically important goat breeds of Pakistan.
Naqvi, A.N., Bukhari, J.F., Vahidi, S.M.F., Utsunomiya, Y.T., Garcia, J.F., Babar, M.E., Han, J.L., Pichler, R. and Periasamy, K. 2017. Small Ruminant Research 148: 62–71.

Evaluation of an ecohealth approach approach to public health intervention in Ha Nam, Vietnam.
Pham, G., Lam, S., Dinh-Xuan, T. and Nguyen-Viet, H. 2018. Journal of Public Health Management & Practice 24 (2): Supp. 36–43.

Mapping molecular diversity of indigenous goat genetic resources of Asia.
Periasamy, K., Vahidi, S.M.F., Silva, P., Faruque, M.O., Naqvi, A.N., Basar, M., Cao, J. H., Zhao, S. H., Thuy, L.T., Pichler, R., Podesta, M.G., Shamsuddin, M., Boettcher, P., Garcia, J.F., Han, J.L., Marsan, P.A., Diallo, A. and Viljoen, G.J. 2017. Small Ruminant Research 148: 2–10.

Evaluation of genetic diversity and structure of Vietnamese goat populations using multi locus microsatellite markers.
Thuy, L.T., Binh, D.V., Binh, N.T., Minh, L.Q., Thuy, T.T., Ton, N.D., Ba, N.V., Han, J.L., and Periasamy, K. 2017. Small Ruminant Research 148: 43–50.

Seasonality of viral encephalitis and associated environmental risk factors in Son La and Thai Binh provinces in Vietnam from 2004 to 2013.
Lee, H. S., Nguyen-Viet, H., Lee, M., Duc, P. P. and Grace, D. 2017. The American Journal of Tropical Medicine and Hygiene 96(1): 110–117.

An investigation into aflatoxin M 1 in slaughtered fattening pigs and awareness of aflatoxins in Vietnam.
Lee, H. S., Lindahl, J., Nguyen-Viet, H., Khong, N.V., Nghia, V.B., Xuan, H.N. and Grace, D. 2017. BMC Veterinary Research 13(1): 363.

Health and health care transitions in Vietnam: Evidence from the CHILILAB Health and Demographic Surveillance System (CHILILAB HDSS).
Minh, H. V., Dung, D. V., Nguyen-Viet, H and Sankoh, O. 2017. Asia Pacific Journal of Public Health Vol. 29 (5S): 6S –8S.

Genetic diversity analysis of major Sri Lankan goat populations using microsatellite and mitochondrial DNA D-loop variations.
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Luu, Q. T., Nguyen, M. H., Nguyen-Viet, H., Pham, G., Dinh-Xuan, T., MacDonald, L.E. and Pham-Duc, P. 2018. Journal of Public Health Management & Practice 24 (2): 28–35.

High occurrence of length heteroplasmy in domestic Bactrian camel (Camelus bactrianus).
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Genomic reconstruction of the history of native sheep reveals the peopling patterns of nomads and the expansion of early pastoralism in East Asia.
Zhao, Y.X., Yang J., Lv, F.H., Hu, X.J., Xie, X.L., Zhang, M., Li, W. R., Liu, M. J., Wang, Y.T., Li, J. Q., Liu, Y.G., Ren, Y.L., Wang, F., Hehua, E., Kantanen, J., Lenstra, J. A., Han, J.L. and Li, M.H. 2017. Mol Biol Evol. 34(9): 2380–2395.

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