RESPOND
YEAR FIVE QUARTERLY REPORT

EMERGING PANDEMIC THREATS PROGRAM

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ACRONYMS

AFSCAN	African Small Companion Animal Network
ASEAN	Association of Southeast Asian Nations
BVSc	Bachelor of Veterinary Science
CDC	Centers for Disease Control and Prevention
DFID	U.K. Department for International Development
DRC	Democratic Republic of Congo
DSO	District Surveillance Officer
FAO	Food and Agriculture Organization of the United Nations
GiZ	Deutsche Gesellscaft für Internationale Zusammenarbeit
HPAI	Highly Pathogenic Avian Influenza
INDOHUN	Indonesia One Health University Network
MOA	Ministry of Agriculture
MOF	Ministry of Forestry
MOH	Ministry of Health
MOU	Memorandum of Understanding
MVSc	Masters of Veterinary Sciences
MYOHUN	Malaysia One Health University Network
NAC	Nabong Agricultural College
NUOL	National University of Lao
OHCEA	One Health Central and Eastern Africa Network
ORIP	One Health Research Innovations Project
PDR	People's Democratic Republic
PDSR	Participatory Disease Surveillance and Response
SEAOHUN	Southeast Asia One Health University Network
SIDA	Swedish International Development Cooperation Agency
UMN	University of Minnesota
USAID	U.S. Agency for International Development

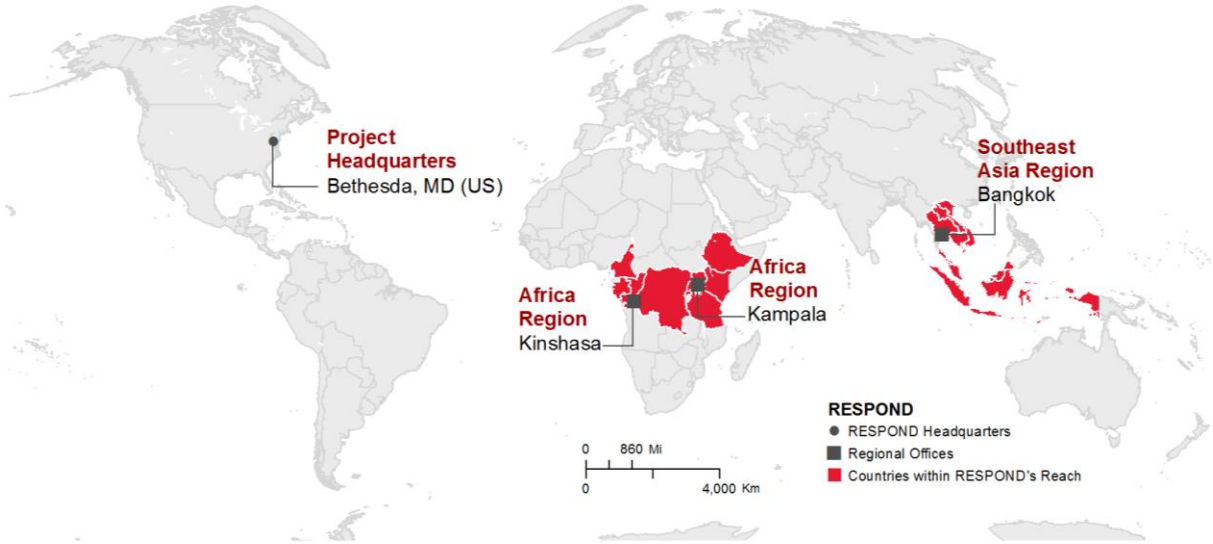
VMKKU/KKUVMS	KKU School of Veterinary Medicine
WHO	World Health Organization

EXECUTIVE SUMMARY

As RESPOND completed quarter three of year five (April 1 - June 30, 2014), support continued for One Health Central and Eastern Africa (OHCEA) and Southeast Asia One Health University Network (SEAOHUN) in their common missions to strengthen their networks and upgrade training for practitioners as well as students and faculties of member institutions, while preparing the networks for the closedown of RESPOND and the transition to EPT 2.

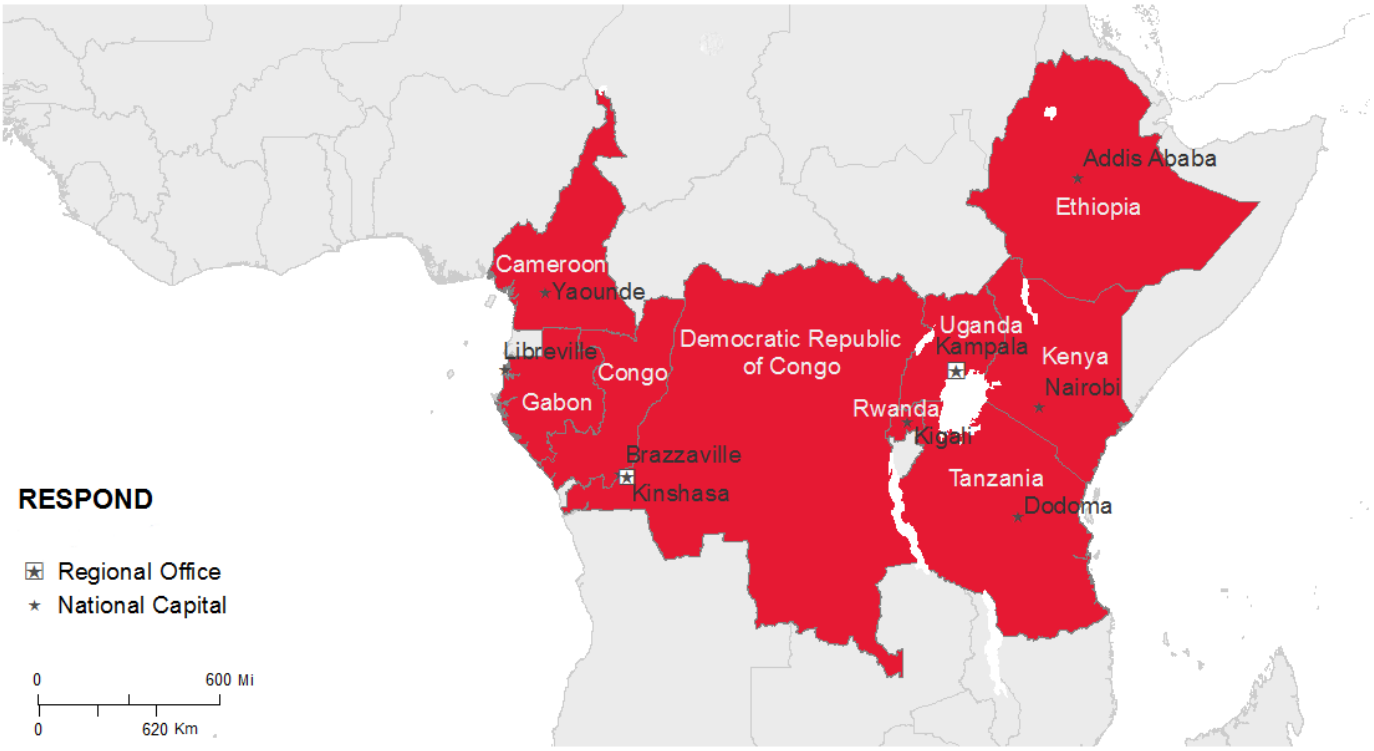
In Africa OHCEA looked toward the future, holding an important donors' conference and hosting a meeting with key regional government stakeholders exploring the issues surrounding building the One Health workforce to meet the challenges of the future. In Southeast Asia, 45 students of the Khon Kaen-Nabong Agricultural College partnership graduated, building animal health capacity in the region. In Indonesia, RESPOND supported district-level One Health training for surveillance officers at the district level.

Both the Kampala and Bangkok offices of RESPOND closed on schedule at the end of the reporting period.



The global map above displays where RESPOND has worked (in red). RESPOND Regional Hub Offices were located in Kampala (Uganda), Kinshasa (Democratic Republic of Congo), and Bangkok (Thailand), covering two regions considered hot-spot areas for the emergence and re-emergence of zoonotic pandemic threats

I. AFRICAN ACTIVITIES

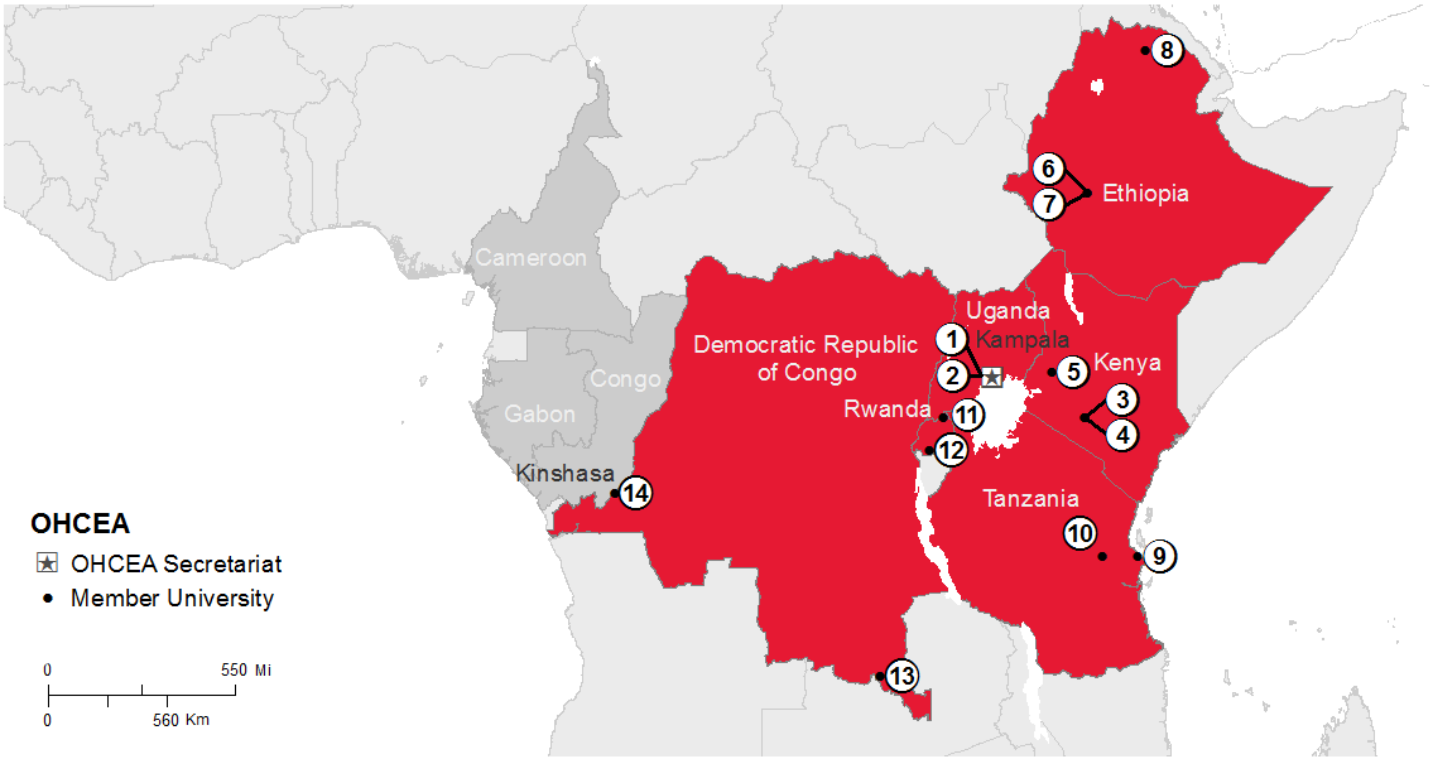


The map above of Africa displays where RESPOND has worked in the region (in red). The stars represent capital cities. The RESPOND West African Regional Hub Office was located in DRC's capital city, Kinshasa and closed on 25 March 2014. The East Africa Hub Office was located in Kampala Uganda and closed on 30 June 2014.

The RESPOND project operates in Eastern, Central, and West Africa primarily in the form of support to a network of universities that integrate schools of Public Health and Veterinary Medicine, using the One Health approach to address disease outbreaks in several countries.

OHCEA (One Health Central and Eastern Africa) is a higher education network that currently has 14 schools of Public Health and Veterinary Medicine as members in six countries – Uganda, Tanzania, Rwanda, Ethiopia, Kenya, and the Democratic Republic of Congo. Its Secretariat, located in Kampala Uganda, supports the implementation of activities.

During quarter three of year five (April - June, 2014), RESPOND/Kampala continued to support OHCEA as it promoted One Health throughout the region in collaboration with other key partners. On 30 June 2014, the DAI/RESPOND office in Kampala completed its work and closed on schedule. DAI continues to support OHCEA finances and compliance with a staff member embedded in OHCEA's office in Kampala and additional backstopping support from DAI's Bethesda office.



The map above represents the reach of the Kampala Regional Office through OHCEA (One Health Central and Eastern Africa university network).

MAJOR ACCOMPLISHMENTS

OHCEA TAKES STEPS TOWARD FUNDING DIVERSIFICATION

New Donors are Important Step Towards Supporting Network Sustainability - OHCEA is actively pursuing diversification of its funding sources, and this quarter that effort bore fruit. The organization hired a funds manager last year and hosted a funders meeting at the end of May. Now new proposals are under review by potential donors.

OHCEA has received its first funding from outside the RESPOND project in the form of the One Health Research Innovations Project (ORIP). Implemented in partnership with Tulane University and funded by USAID, ORIP's objectives are to build interdisciplinary and community-based research skills among faculty and students in the region and to increase participation of female students, faculty, and practitioners in leadership in One Health.

The funders conference on 28 May 2014 brought together current and potential partners from the Rockefeller Foundation, the Swedish International Development Agency (SIDA), the International Development Research Center, DFID, GiZ, the US Defense Threat Reduction Agency, Veterinarians without Borders, and USAID. The event featured key RESPOND partners from US Universities and OHCEA. It was moderated by Deans Deborah Kochevar (Tufts University), John Finnegan (University of Minnesota), and William Bazeyo (Makerere University). OHCEA provided a highly interactive forum with formal

presentations, beneficiary testimonies from OHCEA faculty and students, a question and answer session, and "speed dating" where OHCEA deans engaged directly with the funder representatives.

The donors provided positive feedback and the OHCEA Secretariat is working to leverage that feedback towards additional funding diversification. To do this, the OHCEA Secretariat has followed up with each of the partner representatives on the areas of collaboration that were identified during the "speed dating" session. OHCEA has also engaged in direct follow up with funders that were unable to attend the conference by sending them packets with information presented at the workshop and has requested follow-up conversations.

New Partner Engagement - On 20 June 2014, OHCEA's Fund Development Officer, Dean Charles Mulei, and OHCEA Kenya National Coordinator, Dr. Andrew Thaiyah, met with the African Small Companion Animal Network (AFSCAN) Board members at their annual board meeting. ASFCAN is an African program under the World Small Animal Veterinary Association. Both AFSCAN and OHCEA were pleased to learn about each other's work on One Health and agreed on areas of potential collaboration including: research, rabies awareness and prevention, and joint resource mobilization for projects of mutual interest. Expanding OHCEA's collaboration to this new area further develops capacity and reach for a One Health approach in Africa.

ADDRESSING WORKFORCE CHALLENGES IN AFRICA

One Health Workforce Workshop Sets Foundation for New One Health Work - A half-day One Health Workforce meeting was held on 27 May 2014 in Nairobi Kenya. The meeting was organized by OHCEA in partnership with the USAID EPT Program and included important stakeholders for advancing a One Health approach. Participants included university deans of OHCEA institutions, representatives from the East African Community, government officials from OHCEA countries, CDC Kenya, USAID, RESPOND, UMN, and Tufts University. Facilitated by USAID's Lisa Kramer, the meeting discussed the importance of the next phase of EPT programing, One Health Workforce, to African countries and gathered stakeholder insight on the challenges and opportunities for developing a workforce with One Health expertise.

Ms. Kramer gave the opening presentation which looked at the One Health implications resulting from population change, economic growth, globalization, and future food demand. She challenged participants to critically consider if the One Health workforce vision was aligned with future needs. Dr. Kariuki Njenga from CDC Kenya followed with a presentation on emerging zoonotic diseases in Africa. This presentation identified the emerging diseases in Sub-Saharan Africa over the last 10 years and the resulting economic impact of these and other infectious diseases, and therefore the cost and benefits of surveillance and early detection.

After the presentations framed the issues, participants were organized into working groups and given case studies to identify the actions needed and the key skills required in the case of a disease outbreak. It was determined that while One Health has gathered significant evidence and momentum, there is now a need to operationalize the engagement of One Health as advocates and stakeholders. The group determined that focus should be placed on disease prevention, control, and surveillance at national and regional levels in terms of policies and guiding frameworks. Additionally, the case studies revealed that while at international, regional, and national levels there have been significant steps in breaking down silos, at the implementation level where diseases occur, more interaction between human and animal diseases surveillance professionals and organizations is needed.

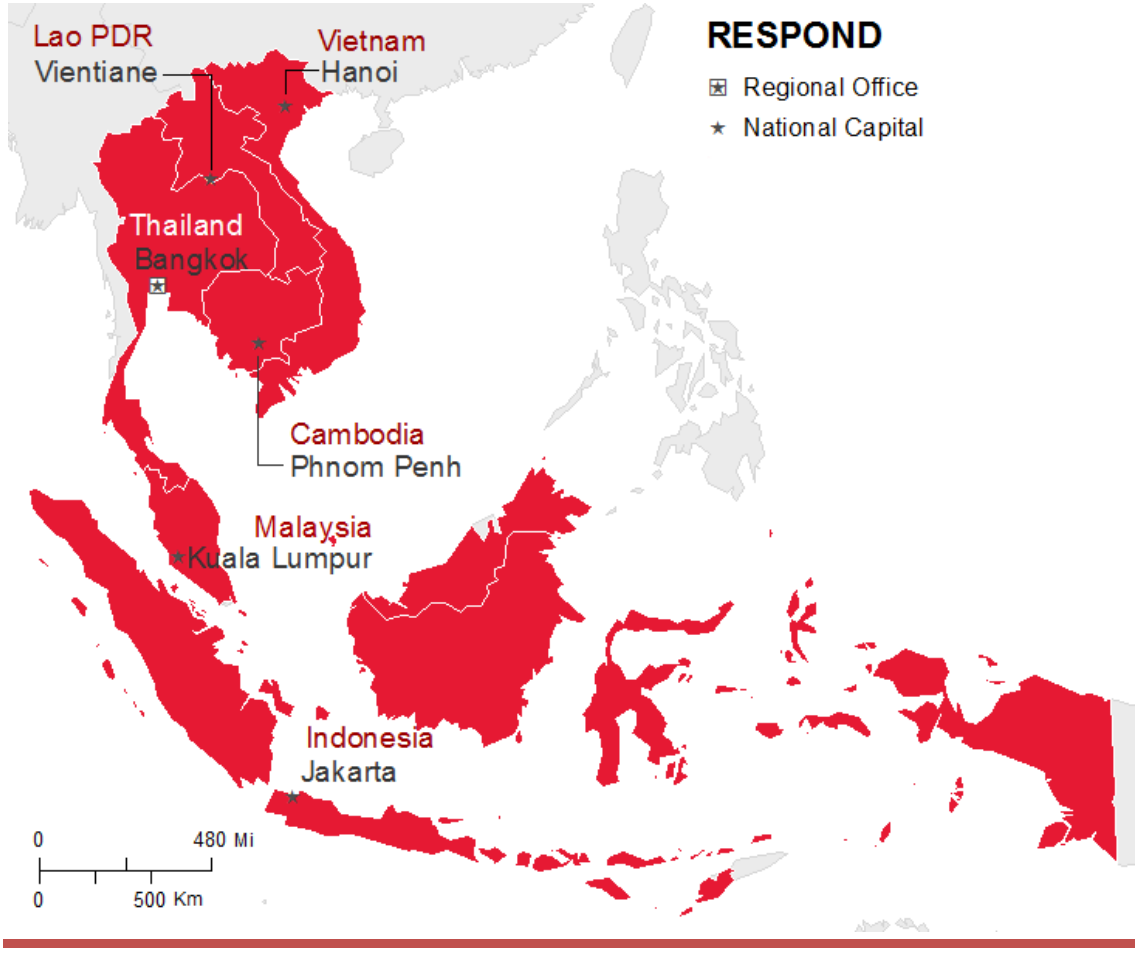
To actually increase activity of One Health teams at the local level, frameworks need to be developed that allow different disciplines to address together specific health challenges. Creating field simulations so that different disciplines' stakeholders realize that it is possible to work together was identified as a first step. This would provide a context wherein multidisciplinary teams could design and implement interventions that help mitigate the impact of diseases.

ONE HEALTH ADOPTED BY EAST AFRICAN COMMUNITY

EAC Member States Integrating a One Health Approach
• Kenya • Tanzania • Burundi • Rwanda • Uganda

One Health at the East African Community - The ninth ordinary meeting of the East African Community's (EAC) Sectoral Council of the Ministers of Health was held on 17 April 2014. The Council agreed to institutionalize One Health at the East African Community to prevent and control zoonotic diseases and other events of public health concern. The Council adopted a resolution that supports this at the EAC and national levels. The resolution was drawn from the concept note presented by the Rwanda Minister of Health, which was drafted with technical support from RESPOND. The resolution stipulated that member states should adopt the One Health approach in their national health policies and plans, direct the EAC Secretariat to include the One Health approach in the EAC Regional Health Strategic Plan, monitor progress of that implementation, and advise on the implementation of a One Health approach at regional and country levels. This important development demonstrates that the One Health approach is gaining traction as a vital framework to combat the costs and suffering of emerging pandemic threats.

II. SOUTHEAST ASIA ACTIVITIES



The map above of the Southeast Asia region displays where RESPOND has worked in the region (in red). The stars represent capital cities. The RESPOND Southeast Asia Regional Hub Office was located in Thailand's capital city, Bangkok and closed on 30 June 2014.

During quarter three of year five (April - June, 2014), RESPOND/Bangkok supported efforts to officially establish the SEAOHUN Foundation to support One Health throughout the region, and collaborated with other key partner universities in the One Health University Network. The DAI/RESPOND office completed its work and closed on schedule on 30 June 2014. DAI continues to support the Foundation and Network finances and compliance with a staff member remaining in the Foundation office, and additional backstopping support from DAI's Bethesda office.

MAJOR ACCOMPLISHMENTS

45 NEW GRADUATES OF VETERNARY SCIENCE PROGRAMS SUPPORT ONE HEALTH IN MEKONG REGION

Graduates Demonstrate Value of University Collaboration - During the reporting period, the animal sciences human capital capacity in Laos and surrounding countries continued to increase. Two Master of Veterinary Science (MVSc) students from Hanoi and Hue universities in Vietnam completed their degrees, and the second cohort of 43 students from the Nabong Agricultural College (NAC) at the National University of Laos (NUOL) completed their Bachelor of Veterinary Science (BVSc) programs. These important strides in increasing the human capital capacity of the region are due to a long-term commitment by local governments and universities to regional collaboration on a One Health approach.

This increase in skilled professionals combats a long term challenge for the Lao People's Democratic Republic (PDR). Between 2003 and 2007, Laos' response to animal-borne diseases was characterized by the lack of veterinary services capacity. The country's animal health infrastructure struggled to provide adequate surveillance during the multiple waves of Highly Pathogenic Avian Influenza (HPAI) H5N1 outbreaks several years ago. Given the number of veterinarians currently in public service who are near retirement age, the country's need for trained animal health professionals is acute. While a number of international agencies support short-term in-service trainings for Ministry of Agriculture and Forestry staff, NAC is the country's only college that trains animal health science graduates.

Recognizing the need to train veterinarians, the government requested scholarships and longer term academic support from countries and institutions with veterinary training capacity. In 2007 NAC executed a memorandum of understanding for academic support and student/faculty exchanges with Thailand's Faculty of Veterinary Medicine of Khon Kaen University (VMKKU). VMKKU is a leading veterinary school in Southeast Asia with active collaboration among other academic institutions and veterinary services in Asia. Since 2011, the faculties have hosted an annual international conference on the One Health approach and practices with participants from ten Association of Southeast Asian Nations (ASEAN) countries. Additional collaboration with VMKKU allowed NAC to upgrade its four-year Bachelor of Animal Health Science degree to become a five-year Bachelor of Veterinary Science (BVSc) degree and has added pre-clinical and clinical subjects to its curriculum.

While this collaboration improved veterinary capacity in Laos considerably, there have been significant obstacles. In 2010, a shortage of qualified staff and adequate teaching facilities jeopardized efforts to improve teaching and training quality. To address this critical need, NAC and VMKKU requested technical and financial support from RESPOND. VMKKU and NAC then provided teaching assistance for the pre-clinical and clinical subjects at the NAC campus and provided support for students to visit the VMKKU campus for laboratory, surgery, and field practice sessions between 2011 and 2014. Masters and Graduate Diploma scholarships were also provided for staff of universities within the SEAOHUN/VOHUN network from Vietnam. This expanded the impact of VMKKU and NAC's collaboration on One Health capacity beyond Laos. With the recent graduates this quarter, these two universities have continued to build upon the capacity they have created to respond to disease outbreaks in the vital Mekong region.

INDONESIA EXECUTES ONE HEALTH TRAINING AT LOCAL LEVEL

The Success of Local Level Training of *Human and Animal Health Professionals is Built on Multi-Sector Collaboration* - Indonesia has been at the forefront of successful efforts to control HPAI during the last decade by undergoing significant changes to the organization of its veterinary and public health services. While a One Health approach to disease investigation and response has been discussed for many years, the persistence and significance of the HPAI threat has demonstrated the need to extend a One Health

approach to lower jurisdictional levels than the national level where it has already become a cornerstone of the campaign to control this disease.

As the work to control HPAI continues, the Government of Indonesia has discussed expanding the role of the Participatory Disease Surveillance and Response (PDSR) teams to support activities beyond Avian Influenza to include other diseases, including a number of zoonoses. In order to promote One Health and strengthen links between animal health focused PDSR teams and the human health focused District Surveillance Officers (DSO), both groups participated in co-trainings in relevant subjects, with the aim of developing a rapid, coordinated, One Health approach for response to future diseases that impact both humans and animals.

These efforts help respond to Recommendation Seven from the report of a national coordination meeting held in 2011 (see text box). To implement that commitment, a pilot program model and strategy was proposed, following government priorities, to implement joint in-service training of PDSR and DSO staff responsible for outbreak confirmation and response at the provincial and district levels. This was designed to strengthen their existing relationship and build joint Ministry of Health (MOH) and Ministry of Agriculture (MOA) capacity.

National Coordination Meeting on Zoonoses Control – Recommendation 7

"To activate the "One Health" concept, considering the potential for zoonoses transmission between areas, and that such problems cannot be solved by a single sector approach, harmonization and synergy of inter-sectoral zoonoses control is needed."

The objective of the training program is to increase, expand, and strengthen delivery of in-service One Health training in order to build outbreak response capacity of provincial and district MOH and MOA staff. To do this, the training was designed to build on current PDSR and DSO capacity and to expand practical, applied epidemiology, outbreak, and surveillance training to include Emerging Zoonotic Diseases other than HPAI. Critically, the training broadens and integrates activities to include combined training of animal and human health professionals. This was planned in close partnership with the technical expertise at the World Health Organization (WHO), Food and Agriculture Organization of the United Nations (FAO), the Centers for Disease Control (CDC), and other relevant partners in order to maximize the quality of training and minimize unnecessary duplication. It was then endorsed by the Ministries of Agriculture and Health.

Training Goals of MOH/MOA Pilot Program

- Early outbreak identification and response
- Actionable zoonotic disease reporting
- Proper sample collection and transportation
- Proper use of personal protective equipment
- Sharing surveillance information for zoonotic disease

A series of meetings were held to determine the location for the pilot training. It was decided to focus the initial training on South Sulawesi since both PDSR and DSO personnel are located there and a number of zoonotic diseases have been reported in the province. Additionally, the local university (UNHAS) has a medical school and a newly established veterinary department. Once the location was selected, a locally-based team of animal and human health professionals were engaged to identify priority zoonoses in the

Key Zoonoses Selected for Training Modules

- avian influenza
- anthrax
- rabies

province for use in the training package. The Governor of South Sulawesi supported the initiative by issuing a decree that established the Provincial Commission for Control of Zoonotic Diseases that will oversee the training going forward. It is the first provincial center for Zoonosis investigation, control, and joint training in

Indonesia. The decree also formalized a multi-agency training team and defined roles for development and implementation of the training modules. Over a period of three months the team drafted a set of training materials and identified the Maros and North Toraja districts as two locations for the pilot program. A multi-sector group representing multiple agencies reviewed and approved the training materials, the draft work plan, and the modules before they were finalized.

The training package was designed to be competency-based, with assignments, simulations, field work, and integrated report writing. 50 animal and human health staff from Maros and North Toraja were trained in two one-week sessions in April 2014. Participants worked together on topics associated with surveillance and understanding the three key zoonoses in the province. Teams from animal and human health sectors were formed during the training and shared experiences and information freely and enthusiastically.

This was the first One Health training of Indonesian human and animal health district surveillance officers on a broad group of zoonoses. It illustrated the importance of the One Health approach in combating emerging diseases of animal origin and of sharing surveillance information to efficiently respond to outbreaks. The trainings were attended by senior staff from both sectors as well as a representative from the national Komnas (Commission) Zoonosis in Jakarta. The relationships, official recognition at the local level, and enthusiasm of participants demonstrate the potential that a One Health approach can be developed and sustained between human and animal health professionals at the local level in Indonesia.

Sustainability is supported by an accreditation from the MOH Training Centre in Makassar, which accredited the training modules, resources, and training guides. This training centre is responsible for the eastern Indonesia region and has the authority to accredit MOH training for the region. The accreditation allows certification of the training course and thus trainees can use attendance for promotion and career development, which incentivizes its use. A senior trainer from the MOH Regional Training Centre was involved in the training, ensuring that future training programs will be held at the Centre allowing for continuity of the collaboratively defined course.

Expanding beyond this region is also a potential path for impact. There was significant interest from the national-level zoonosis agency in adapting the training package for other provinces and districts in Indonesia. The Komnas representative who attended pledged to support the implementation of the training package in the future budget year. This is supported by the MOH Regional Training Center's endorsement. Any future expansion can take advantage of the early participants who have already participated in the regional program who have formed into a highly motivated training team.

III. APPENDICES: