PREVENT

Emerging Pandemic Threats

Quarterly Report
January 1– March 31, 2013

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Table of Contents

Annexes

A. PREVENT Fact Sheets

B. State of the Project: presentation to USAID, March 7, 2013

C. PMAC News Release

I. Introduction and Highlights

This document describes PREVENT's activities during the period from January 1, 2013 through March 31, 2013. The contents are organized to reflect PREVENT's systematic investigation of the *human-animal interface* using a framework for emergence that examines three drivers:

1. Social customs/preferences, norms ("Culture");
2. Market system and trade ("Commerce"); and
3. Land-use change.

During the January 1 – March 31, 2013 time period, PREVENT:

- Launched the human-animal exposure survey in Laos after training both Lao and Hmong researchers and collaborated with PREDICT to implement quantitative follow-up surveys in Mondulkiri and in Banteay Meanchey provinces in Cambodia.
- Prepared a group of protocols for submission to Institutional Review Boards, including: developing a protocol on the cross-border rat trade between Cambodia and Vietnam for submission to the FHI 360, Vietnam, and Cambodia IRBs; finalizing a protocol on a Participatory Rapid Appraisal study on human interaction with peridomestic rodents in Thailand for submission to the FHI 360 and Thailand IRBs; and finalizing research protocols for human-animal exposure studies in the PREDICT Deep Forest study areas, where PREDICT partners are currently sampling wildlife for viruses.
- In Burma/Myanmar (funded entirely by the AusAID cooperative agreement), held consultative meetings and a workshop with Government agencies and FAO, and conducted field visits to the Yangon poultry production zone (PPZ) and selected townships to observe poultry production activities and hold discussions with stakeholders, including: poultry producers, township vets, community animal health workers, Women's Affairs Committee members, and members of the Myanmar Livestock Federation.
- Hired a country coordinator in Indonesia to kick off research activities in the country, including market-scoping research in Sulawesi.
- Responded to continued outbreaks of avian influenza in Cambodia by training provincial/district and community health and agriculture frontline workers and community leaders, including clinicians, pharmacists and pharmacy clerks, to help improve early detection and response in poultry as well as getting more village-level involvement of people in preventing the consumption of sick and dead poultry.
- Continued to test a risk avoidance approach to prevent transmission of Nipah virus in Bangladesh. With local partner icddr,b, PREVENT tested interventions in 306 villages during the recent date palm sap harvest. Inventions included two TV public service announcements (PSA), a poster and a calendar discouraging consumption of raw sap because it may have been contaminated by fruit bats, the pathogen's natural host. To amplify the impact of the behavior change messages on the ground and monitor the intervention's progress, PREVENT worked with icddr,b and a local NGO's staff to reinforce the desired behavior in the target villages.
- Co-organized with the Vietnam Administration of Forestry an expert consultation meeting on "Strengthening Wildlife Farm Biosecurity and Supporting the Development of Good Wildlife Farm Production Practices." The meeting convened key stakeholders to discuss the current conditions of wildlife farming in Vietnam and the way forward. PREVENT presented plans for conducting a wildlife farm biosecurity assessment and gathered feedback from stakeholders on an assessment tool.

- Attended the Mining Indaba meeting in Cape Town, South Africa, the premier annual gathering of mining industry experts and stakeholders, to pursue discussions with participants on best practices for preventing zoonotic disease emergence and improving worker and community health. PREVENT also solicited feedback from the industry on two tools -- *Audit Checklist for an Operating Facility,* and *Proposed Supplemental Guidance to the IFC's Introduction to Health Impact Assessments* – and assessed and validated them via interviews in Uganda. In addition, PREVENT prepared subcontracts to work with Chatham House and ISOS on extractive industry issues.
- Attended the 2013 Prince Mahidol Award Conference in Bangkok, Thailand, where project staff led two sessions, served as rapporteurs, and funded tens of attendees. The conference also served as an opportunity to launch new fact sheets on PREVENT that reflected the addition of AusAID as a funder as well as PREVENT's focus on three key drivers of human behavior—culture, commerce, and land use changes—that increase the risk of exposure to emerging zoonotic diseases. PREVENT also drafted a branding implementation and marking plan (BMP) for AusAID's review and approval.

II. Major Programmatic Activities and Results

A. Social Customs/Preferences, Norms ("Culture")

Culture, as a key driver of conditions that favor the emergence and spread of infectious disease, include the learned attitudes and behaviors that affect how people, pets, livestock and wildlife interact. Work by PREVENT during the past quarter to identify and distinguish high-risk behavior and practices that most commonly result in risky contact between humans and animals include the following activities:

1. Research

a. Formative research

i. General Human-Animal Exposure(Uganda and Malaysia)

Research protocols for the human-animal exposure studies in Uganda and Malaysia studies were refined during the quarter. The studies will be conducted in collaboration with PREDICT partners who are currently sampling wildlife for viruses in the selected locations. Experiences from past human-animal exposure studies, conducted in Laos and Thailand, were used to inform the protocol and instruments. The protocols, which include both formative and survey components, will be submitted for scientific review and IRB approval (both international and local) in early April.

ii. Peridomestic Rodents (Thailand)

To date, much of the focus on rodent control and risks posed by rodents in Southeast Asia has been on economic losses and food insecurity as a result of crop destruction. However, rodents are carriers and reservoirs of many bacterial and viral pathogens (e.g., leptospirosis, plague, typhus, hantavirus and Lassa fever virus. Along with bats and non-human primates, rodents are one of the three types of animals that have been most frequently implicated in the transmissions of infectious diseases that have had severe impact on humans. Not well documented are risk behaviors surrounding rodent-human interaction, as well as community perspectives and strategies to mitigate these risks. To be successful, any intervention strategy must be informed by the perspective, knowledge, skills and resources of a given community.

A series of Participatory Rapid Appraisals involving select communities will be conducted in several countries in Southeast Asia, beginning with Thailand. These studies will utilize community knowledge to identify feasible, acceptable strategies to mitigate these risks in each particular country. The relevance, acceptability, and feasibility of risk mitigation strategies identified through the studies will then be tested in behavioral trials.

The protocol to support the first Participatory Rapid Appraisal in Thailand was finalized for submission to FHI 360 and Thailand IRBs. It will be conducted with men, women, and children in the Muang District, and either the Ban Had or Mancha Khiri Districts of Khon Kaen Province. Current plans are to conduct the research from May through July 2013.

b. Surveys

i. Lao PDR

Work in Lao PDR to quantify human exposure to wildlife and domestic animals likely to carry infectious disease viruses gained momentum this quarter. First, the survey instruments were refined and finalized using information obtained from the cognitive pretest conducted in November 2012.

Principal Investigator Dr. Zo Rambeloson arrived in Laos at the end of January to prepare and launch a survey to be conducted in 29 villages (15 Lao communities and 14 Hmong communities) in the Kamkheut District of Bolikhamsay Province. The Lao country team helped to finalize recruitment of

field interviewers, supervisors, and data encoders. During February, these 22 individuals were trained on the content and use of the research tools. The field interviewers were trained in two teams—the Hmong Team (12 participants) and the Lao Team (10 participants). A separate Hmong language training was also conducted to ensure the accuracy of the reading and writing skills of the Hmong team, as Hmong is not a commonly written language, even among native speakers.

Research participants during their training in Vientiane from February 6 to March 8.

Data collection in the field was conducted from March 10 to April 1. Dr. Rambeloson was joined by FHI 360 training consultant Ms. Khounkham Xaymounvoung, and the following representatives from the government: Dr. Phonesavay Khanthaseng from the Communicable Diseases Control Department of MOH and Mr. Vangsoua Vangkao, Deputy Director of Propaganda and Training of the Lao Front. Dr. Dalone Khampanisung from the Provincial Health Office of Bolikhamsay and Dr. Khampheng Onlixay from the Infectious Disease Prevention Unit, District Health Office of Khamkeut, met the research teams in the field. In total, the research teams completed 977 interviews (481 Lao; 496 Hmong).

From left to right: Crossing the river to reach the villages. Typical houses in a village. A mix of Lao and Hmong households, which posed a challenge in sampling.

From left to right: Getting approval from local authorities. Mapping sample households in consultation with village representatives. Data encoding after daily interviews.

A USAID Mission team from RDMA Bangkok—Dr. Dan Schar and Dr. Sudarat Damrongwatanapokin, joined by Dr. Ratsamy VongKhamsao of the Department of Communicable Diseases Control of MOH, visited the site during data collection, interacted with the research team, and observed conditions of the field activities.

Photo: Dr. Sudarat's team speaking with the interviewers

ii. Cambodia

During this quarter, PREVENT collaborated with PREDICT/Wildlife Conservation Society (WCS) to implement the third and last trimester quantitative follow-up human-animal exposure study in Mondulkiri and in Banteay Meanchey Provinces in Cambodia.

The first trimester study was launched in May and June 2012, when PREVENT collaborated with PREDICT/WSC in Mondulkiri and in Banteay Meanchey Provinces in Cambodia. In each province, the qualitative research team conducted six focus group discussions among adult men and women, three key informant interviews, and 10 individual interviews in three forest villages. This qualitative research focused on learning which wild animals people could identify, which they were most exposed to, sensitivities about talking about animals, and hunting practices. For the quantitative research, the team interviewed senior women in all households in three other villages about animals raised and consumed, as well as about some hunting-related activities. The results of quantitative survey data collected through a brief household questionnaire served as the baseline. They were used to identify two groups of households from among those who agreed to be contacted during the follow up surveys: the 10 households who consumed the greatest number of animals in the previous month, and 10 randomly selected from the remainder of the sample. These 20 households were invited to participate in PREDICT's animal sampling study and a quarterly follow-up survey about their domestic animals and consumption of meat. In December 2012, PREDICT, in collaboration with PREVENT, implemented the baseline quantitative survey in Preah Vihear Province.

2. Interventions

a. Individual/community

i. Bangladesh Nipah Intervention

At the request of IEDCR (Institute of Epidemiology, Disease Control and Research) in Bangladesh, PREVENT and local partner icddr,b tested a multi-component intervention in 306 villages to try to pre-empt transmission of Nipah virus (NiV) infection during the recent date palm sap harvest in Bangladesh. Fruit bats, the natural hosts for the virus, roost in date palm trees and, while trying to drink the sap, foul the collected juice with their saliva or urine. Drinking the raw sap, the most common source of the pathogen, is common during the winter season, especially in rural areas. Changing an aspect of this behavior was identified as key to reducing exposure to the virus. Behavior change communication strategies were implemented to discourage people from drinking raw date palm sap.

PREVENT's Communication Advisor, Fernando Garcia, travelled to Bangladesh to work with icddr,b and the Voluntary Paribar Kalyan Association (VPKA), a local NGO, on the intervention.

The intervention was conducted in the district of Rajbari during January and February 2013. VPKA held meetings with 281 opinion leaders and convened 302 community meetings, covering a total of 306 rural villages. Media conveying core messages developed by our team included two TV public service announcements (PSA), a poster and a calendar. To amplify the impact of the behavior change messages on the ground and also monitor the intervention's progress, PREVENT worked with icddr,b who trained 60 meeting coordinators and facilitators from VPKA to work in the target villages to reinforce the behavior required to consume sap safely. According to the initial intervention report, more than 52,000 people attended the community meetings.

Clockwise from upper left: A community meeting in front of a Hindu temple in Maliat, Rajbari. (The shirts on the tree in the background were thrown there by young children dancing during the Durga Puja celebration.) Village women attending a meeting in Laribari, Rajbari. A gachhi (sap collector) and his family prepare molasses early in the morning. A mid-term debriefing with the facilitators to discuss lessons learned and ways to improve the intervention.

More than 5,600 opinion leaders were part of the audience that learned about and became part of the intervention.

At a mid-term debriefing in Pangsha, Rajbari, the facilitators discussed lessons learned and ways to improve the intervention. Because the intervention recommends that people avoid drinking raw date palm sap, gachhis (sap harvesters) are being advised to use it to produce more molasses. Because the virus is killed during production by boiling, molasses does not transmit Nipah.

In activities not related to Nipah, but rather to preventing and controlling outbreaks of avian influenza, Mr. Garcia also met with the United Nations Food and Agriculture Organization (FAO) and UNICEF to discuss collaborating on improving practices at a slaughtering facility in Khulna. The proposal has been presented to USAID for implementation in 2013. PREVENT and FAO are also working on developing proposals for BCC activities among vendors and consumers for a live bird markets program that FAO will be implementing in 18 markets throughout Bangladesh.

b. Training

i. Avian Influenza Outbreak Response Cambodia

From January through March 2013, Cambodia recorded nine human cases and eight deaths from avian influenza infection. To help respond to the government's concerns over these deaths, the USAID Mission in Cambodia requested that PREVENT provide technical assistance related to avian influenza outbreak prevention and risk communication.

Dr. Cecile Lantican, Country Coordinator for Laos, and Dr. Berengere De Negri, Senior Behavior Change Communication Advisor, arrived in Cambodia at the end of February 2013 to initiate planning with USAID, the Ministry of Agriculture, Ministry of Forestry and Fisheries (MAFF), and Ministry of Health (MOH). Dr. Lantican met with Dr. Sotheara Nop of USAID Cambodia to gather some insights on the country's outbreak situation and other partners' responses to date, particularly by FAO and WHO. She presented a draft plan to continue training provincial/district and community frontline workers, which was started by PREVENT in 2012.

PREVENT's Cecile Lantican welcomes provincial trainers from Kandal Province. Mr. Hang Chan Sana form the Cambodian Red Cross was the facilitator/translator.

Drs. Lantican and De Negri met with officers of the MAFF and FAO and attended a debriefing by an FAO-commissioned team (comprised of an epidemiologist, economist/value chain expert, and communications expert) to look at improving early detection and response to outbreaks in poultry as well as getting more village-level involvement of people in preventing the consumption of sick and dead poultry.

PREVENT's draft training plan was accepted by the two ministries. The plan included ten districts in Takeo, eight districts in Kampot Province, nine districts in Kandal Province, and eight districts in Kampong Speu Province. In every province, PREVENT will support and train 10 provincial trainers and train and mobilize 100 district/community frontline agricultural and health workers. PREVENT also agreed to orient at least 30 private clinicians and pharmacists or pharmacy clerks.

In collaboration with the MoH, MAFF and the Cambodian Red Cross, PREVENT managed the provincial training, which was geared to improve the interpersonal communication skills of frontline workers to encourage the community to report sick and dying poultry and to bring sick family members directly to the hospital if they had recent contact with sick or dead poultry. PREVENT conducted refresher training courses with five master trainers who were trained in 2012. These master trainers were then dispatched to the previously mentioned four high-risk provinces and trained a total of 44 provincial trainers.

Ultimately, this training benefited a total of 412 frontline workers, who are mostly district and community veterinarians, district and community health care workers, community leaders, and volunteers. In addition, across all four provinces, a total of 105 private clinicians, pharmacists/pharmacy owners and clerks were also trained on the messages.

Photos from left to right: Provincial district trainings were held both indoors and outdoors, depending on available space. Participants were divided into working groups. Exercises on how to deliver and remember key messages were conducted.

During all of the trainings, PREVENT strengthened the training and interpersonal communication skills of the trainers to deliver and reinforce to deliver two key messages: (1) report to authorities all sick or dead poultry; (2) if a family member has been in contact with poultry, get this person immediately to a hospital or health center to seek treatment.

Three training teams were created for simultaneously deployment in three provinces. Each team, along with a PREVENT master trainer, went to different provinces (Takeo, Kampot, and Kampong Speu) from March 18-22, 2013 to conduct two-day training-of-trainers sessions on interpersonal communication skills related to avian influenza; a training for volunteer "frontline agents" at district levels; and an orientation for private clinicians, pharmacists, and pharmacy clerks. The last set of training was held at the border of Vietnam and Kandal Province from March 25-29.

ii. Burma/Myanmar Activities

PREVENT activities in Burma/Myanmar, funded entirely by the AusAID cooperative agreement, are initially focused on the provision of technical support to the USAID-funded avian influenza activities of FAO. Following the joint USAID/AusAID/FAO/PREVENT mission to the country in December 2012, PREVENT sent a technical consultant, Dr. Nora De Guzman, to Burma/Myanmar to initiate this work with the Livestock Breeding and Veterinary Department (LBVD) of the Ministry of Livestock and Fisheries. The mission took place from 25 March through 3 April 2013. The objectives of this mission were:

- To organize and facilitate a FAO-PREVENT Consultative Workshop with the LBVD in Nay Pyi Taw (NPT) on March 28, 2013; and
- To conduct a field visit to the Yangon poultry production zone (PPZ) and selected townships to observe poultry production activities and hold discussions with stakeholders, including: poultry producers, township vets, community animal health workers, Women's Affairs Committee members, and members of the Myanmar Livestock Federation.

The workshop, opened by the Minister of Livestock and Fisheries, was intended to achieve the following objectives:

- Arrive at a common understanding of the highly pathogenic avian influenza (HPAI) situation and program in Myanmar;
- Understand the types of assistance that FAO-PREVENT can provide;
- Understand risk communication and the key target audiences in the Myanmar HPAI environment;
- Identify needs to mobilize target audiences for risk reduction in the HPAI program; and
- Identify and agree on general activities to be undertaken with FAO-PREVENT support.

The workshop featured both technical presentations and breakout work sessions. The breakout work reached the following recommendations:

Target Group	Desired Behavior	Activity
Backyard Poultry Farmers 1,2	Report abnormal poultry deaths	Training; IEC information; peer education
Poultry Collectors and Dealers 1,2,3	Not to sell or buy dead or sick birds; report to LBVD	Awareness campaign
Consumers, Housewives 1,2	Do not buy chickens with abnormal skin color; improved cooking practices	Awareness campaign; entertainment education
Local Authorities – expanded to Township Admin Committee - 1	Mobilize all stakeholders	Orientations
Small, medium commercial poultry farmers + labor 2,3	Early reporting, movement control, disinfection, sanitation, personal hygiene (improved biosecurity)	Peer education, involvement of cooperatives or trade organizations
CAHW 3	Report dead/sick birds to LBVD	Incentives, monthly meetings, sharing of reports
Private sector, gov't vets 3	Share information on HPAI	Monthly meetings
Suppliers of farmers	Observe biosecurity when entering farms	Orientations
Media	Share information	Orientations

The consultative workshop also established the priorities for a Plan of Action, including a primary focus on the Mandalay and Sagaing Regions. The key activities that are to be featured include:

- Training of vets and community animal health workers;
- Orientations for poultry producers;
- Orientations for local authorities (Township Administrative Committee);
- Awareness-raising campaign on food hygiene and HPAI for housewives and consumers; and
- Media orientations.

A more detailed plan of action will be developed for consideration in the coming quarter. There were 28 participants at the workshop: officials from LBVD in NPT (17), Yangon (4), Sagaing (1), and Mandalay (1); and five representatives from FAO, including from the regional office.

The field visit to the Yangon poultry production zones included group discussions with township veterinary officers and community animal health workers in Teikkyi and Hlegu townships of Yangon. These townships included 462 and 167 villages, respectively. Following the group discussions, visits to both medium-sized commercial poultry farms in Teikkyi, and two other poultry farms in Hlegu were conducted. Additional meetings were held with key para-statal NGOs, particularly with the Myanmar Women's Federation and the Myanmar Livestock Association. These local organizations have both structure and extensive membership to provide crucial partnerships for effective interventions. The detailed report of the findings will contribute to the plan of action under development.

B. Market Systems and Trade ("Commerce")

Commerce, as the key driver of conditions that favor potential spillover and spread of wildlife or livestock pathogens, include both local and international market systems for key priority wildlife species – bats, rodents, and non-human primates – and domestic animals – including poultry, pigs, and other livestock. Work by PREVENT during the past quarter to identify and distinguish risky contact, such as in markets and supply chains where large numbers of people and domestic animals come in contact with potentially infectious wild animals, includes:

1. Vietnam Wildlife farms Biosecurity Assessment and Meeting

The Vietnam Administration of Forestry (VNFOREST) and PREVENT co-organized an expert consultation meeting, held January 25, 2013, in Ho Chi Minh City (HCMC), on "Strengthening Wildlife Farm Biosecurity and Supporting the Development of Good Wildlife Farm Production Practices."

The purpose of the workshop was to convene key stakeholders to discuss the current conditions of wildlife farming in Vietnam and the way forward. Specific objectives of the meeting were to:

- Introduce the Government of Vietnam's new policy direction on wildlife management;
- Present PREVENT's plans for a wildlife farm biosecurity assessment (a first step in developing policies and regulations to improve biosecurity); and
- Gather feedback from key stakeholders to improve the biosecurity assessment approach and tools.

The meeting began with a global overview on wildlife farming and included presentations on the current activities of the key government departments and non-governmental stakeholders. Plans for PREVENT's wildlife farm biosecurity assessment in southern Vietnam were presented, and participants broke into groups to review and provide comments on the draft biosecurity assessment tool.

The meeting provided a platform for the Government of Vietnam to announce plans to review policies relating to wildlife farm management. It also provided an opportunity for the 60 stakeholders attending – from Government agencies, international and local NGOs, universities and institutions – to improve awareness of wildlife farming issues, including risks from zoonotic diseases, conservation issues, and challenges and constraints facing wildlife farms and regulators in Vietnam.

Strengthening Wildlife Farm Biosecurity and Supporting the Development of Good Wildlife Farm Production Practices Meeting Participants

One outcome of the meeting: PREVENT and VNFOREST were able to obtain updated data on the location and species of registered wildlife farms at village level in eight provinces in the Mekong Delta Region of Vietnam, including: An Giang, Bac Lieu, Binh Duong, Binh Phuoc, Ca Mau, Dong Nai, Tay Ninh and HCMC. This data will guide the sampling framework for the biosecurity assessment, which is planned for later in 2013.

PREVENT revised the biosecurity assessment tool based on the feedback provided by meeting participants. On March 6, 2013, PREVENT convened a small group of experts identified at the January 25 meeting to review the tool and provide advice to further improve the tool. The assessment tool will be pretested and further revisions will be made as needed. After the tool is finalized it will be implemented at farms that raise wildlife mammals, particularly those with a minimum number of at least one of the key

species: primates, rodents, bats, and civets. The results of the study will provide input for developing regulations and identify areas that may benefit from capacity building. In addition, the tool can provide a template for biosecurity assessments of other types of farmed wildlife.

During the next quarter, PREVENT plans to submit the wildlife farm biosecurity assessment research protocol to the FHI 360 and Vietnam IRBs.

2. Cross-Border Rat Trade Research

PREVENT continued to work on a protocol for submission to FHI 360, Vietnam, and Cambodia IRBs for a cross-border rat trade study. The goal of this study is to produce a descriptive analysis of the cross-border rat trade in the Mekong Delta region of Vietnam and adjacent provinces of Cambodia to identify potentially risky practices and situations the rat trade may pose to animal and human health. The specific study objectives include to:

1. Document the scope and structure of the rat trade between Southern Vietnam and Cambodia;
2. Identify the various types of rats and rat products in the market chain (local names, descriptions, and biological identification, if possible); and
3. Document specific practices and situations that could potentially result in risky exposure to rats.

C. Land-Use Change

PREVENT has identified land-use change, especially large-scale activities such as extractive industry activities in previously pristine areas, as the third key driver of conditions that favor emergence of infectious disease. Unintended consequences of the resulting influx of people and infrastructure development include disruptions to the ecosystem and an increase in interaction between wild animals and people and their livestock and pets. Work by PREVENT during the past quarter to better understand both behavior and practices that might increase the potential that dangerous pathogens will jump from animals to humans in such settings include the following:

1. Extractive Industry Working Group (EIWG)

PREVENT continues to host regular meetings of the EIWG. This quarter, the Group reviewed a White Paper written by RESPOND and discussed revising and submitting it for publication under the Group's authorship. Several members of the EIWG are collaborating on a revised outline and on identifying publication opportunities.

Mining Indaba, Cape Town, South Africa. In February, PREVENT and RESPOND representatives attended Mining Indaba, the premier annual gathering of industry experts, stakeholders, financiers, and decision-makers. PREVENT issued purchase orders to support the participation of Chatham House and ISOS in the conference and a concomitant Australian-Africa Mining Industry Group (AAMIG) meeting on EID issues.

In general, sessions focused on industry-wide challenges and opportunities were not germane to EPT. However, one keynote speech by AngloGold Ashanti Ltd Chief Executive Mark Cutifani acknowledged the importance of social capital and urged the industry to invest in the communities where they work. Also noteworthy were industry discussions about coordinating activities to ensure that infrastructure hubs support links to main corridors to stem duplication.

At a February 6, 2013 meeting organized with the help of AAMIG head Bill Turner, 38 members of the AAMIG joined representatives from USAID and PREVENT to explore best practices for preventing zoonotic disease emergence and improving worker and community health. In his presentation, Steven

Phillips of Chatham House outlined key EID issues and plans for a USAID-supported pilot project in the Katanga Province, DRC. Several attendees expressed interest in participating. EI tools and brochures were disseminated to meeting attendees.

Among the wide range of conference exhibitors, most salient for EPT were service companies—those that manage worker camps, provide food services, deliver medical services (for example, International SOS), or conduct environmental impact assessments. Many of them were quite interested in EIWG materials; some suggested that protecting against EIDs could be a competitive advantage in proposals/bids. Many of these companies were attentive to EPT issues and positively disposed to the brochures and tools, even though they were already implementing a range of suggested EID mitigations.

2. Tool Development and Testing

In January, to coincide with Mining Indaba, the tools – *Audit Checklist for an Operating Facility,* and *Proposed Supplemental Guidance to the IFC's Introduction to Health Impact Assessments* – were also posted on the home page of **www.PREVENTproject.org** to facilitate feedback by industry representatives and consultants.

In the coming quarter, the Audit and Planning tools will be tested with four mining companies in the Katanga region of the Democratic Republic of Congo (DRC). In addition, PREVENT and RESPOND project officers will present the tools at the International Association of Impact Assessments annual conference in May 2013 in Calgary, Canada.

a. Uganda

In February, to follow-up on initial meetings in Uganda last quarter, Renuka Bery (PREVENT) and Louise Flynn (RESPOND) returned to the country to assess and validate the draft Planning and Audit tools by conducting in-person interviews to obtain more robust feedback about specific mitigation efforts. The interviews were structured using feedback forms jointly developed by PREVENT and RESPOND.

Ms. Bery and Ms. Flynn, accompanied by a colleague from PREDICT and an in-country RESPOND officer, visited a timber company and a mine site to meet with relevant staff to evaluate the strengths, weaknesses, and feasibility of using the tools, and to identify entry points to integrate these tools into existing systems. In addition, they met with members of the Ugandan Environmental Practitioners Association and the Uganda Wildlife Authority to present the tools and gather feedback.

The team reached the following conclusions following the assessments at the two EI sites and discussions with other groups:

1. **The audit tool is useful** for identifying vulnerabilities to zoonotic disease transmission at operating facilities. The testing team identified vulnerabilities and helped respondents think about strengthening areas that could be problematic if an outbreak occurred.
2. **Companies that have functional environmental, health, and safety management systems would be able to adopt relevant portions of the audit tool more easily than those that do not.**
3. **Companies working in areas where outbreaks occur are interested in using the tools.**
4. **The test identified some new mitigation approaches that could be incorporated into both the audit and planning tool.** The timber company mentioned bat mitigation measures such as translucent roofing panels that discourage bats from roosting indoors. This mitigation approach was new to us.
5. **The Uganda Association of Impact Assessment suggested additional sections to include in the tools** and offered to help compile some of the information.

6. **Integrating the planning tools into Environmental and Social Impact Assessments would be very useful.** The Association would like to see elements of these tools incorporated into existing guidelines.

b. Democratic Republic of Congo (Katanga)

KDRC project planning, initiated during the Mining Indaba conference, benefitted from the presence of principle stakeholders: Steven Philips and Gemma Buckland-Merritt of Chatham House; Myles Neri and Francesca Viliani from ISOS; and Kama Garrison of USAID, PREVENT and RESPOND.

In meetings conducted over two half-days and chaired by Mr. Phillips, participants got to know each other better and coalesce into a team. Ms. Garrison described USAID's goals and objectives, as well as funding restrictions and project implementation guidelines. Her participation was critical to achieving a shared vision of the activities and the intended results. The participants also defined roles and responsibilities for the Katanga DRC project.

At the Mining Indaba meeting, the team discussed the project's anticipated three phases:

- Phase 1 is planning.
- Phase 2 has three parts:
  - Testing and adapting the tools;
  - Identifying the possibility for an alert system built into the existing government system;
  - Mining company client survey.
- Phase 3 is reporting the results and planning whether and how the Chatham House Infectious Disease Risk Assessment and Management (IDRAM) initiative continues.

In March, at a follow-up meeting, representatives from USAID, ISOS and Chatham House further refined the KDRC project plan: dropping Phase 2b (alert system) and substituting an exercise to map the resources for responding to a disease outbreak of unknown origin was inserted.

Additional activities mentioned and under consideration include a vulnerabilities workshop with stakeholders in Katanga province and an exercise using a viral hemorrhagic outbreak incident case study.

PREVENT has reviewed the project proposals from Chatham House and ISOS, provided comments to USAID and expects to issue subcontracts to both organizations to proceed with identified activities in April 2013.

III. Knowledge Generation and Information Sharing

A. Meetings

1. Prince Mahidol Award Conference (PMAC)

Several PREVENT staff members attended this year's Prince Mahidol Award Conference (PMAC) in Bangkok Activities included moderating and/or participating in panels; serving as rapporteurs; developing a news release and informational materials for the USAID exhibit booth; setting up and manning the booth, and disassembling the displays; and promoting sessions in which USAID/EPT staff were involved, either as speakers, moderators or planners. Outreach was targeted to both mainstream international newswires and a pre-established media contacts list and social media outlets. See Annex C for copy of press release.

PMAC is an annual international conference focusing on policy-related health issues of global significance. The conference is hosted by the Prince Mahidol Award Foundation, the Thai Ministry of Public Health, Mahidol University and other global partners, including USAID, the Rockefeller Foundation, World Health Organization, and the Japan International Cooperation Agency. This year's conference, held 31 January to 2 February 2013 at the Centara Grand & Bangkok Convention Center, focused on "A World United Against Disease: Cross-Sectoral Solutions."

PREVENT Technical Director Susan Zimicki, PhD, organized and with Dr. Steve Luby (icddr,b), moderated a panel entitled *"Enhancing One Health: To Cultures, Add Culture."* PREVENT staff also played a major role in planning and implementing the session entitled *"Going Viral: #Strategic Public Communication to Affect Practices and Livelihood."* and served as rapporteurs for several other PMAC panels.

PREVENT staff supported several of the PMAC sessions in which EPT staff were involved, and promoted the speakers via Twitter and other social media channels. These included the closing session that featured USAID Assistant Administrator for Global Health Ariel Pablos-Mendez, MD, as well as sessions led by:

- Dennis Carroll, PhD, EPT Program Executive Director;
- Kama Garrison, MPH, USAID Senior Public Health Advisor, EPT;
- Susan Zimicki, PhD, PREVENT Technical Director;
- Stephen Morse, PhD, Columbia University, co-director of EPT's PREDICT project;
- Billy Karesh, DVM, Executive Vice President for Health and Policy, EcoHealth Alliance and EPT's PREDICT project;
- Jonna Mazet, DVM, PhD, Executive Director, One Health Institute, UC Davis and the PREDICT project;
- Tracey Goldstein, PhD, University of California at Davis and the PREDICT project; and
- Marguerite Pappaioanou, DVM, PhD, Technical Advisor, EPT RESPOND project.

Several knowledge products incorporating learning from the PMAC sessions are currently under development.

2. Vietnam One Health Conference

Ministry of Agriculture and Rural Development (MARD), in cooperation with Ministry of Health and other national and international agencies, is organizing a Vietnam National One Health conference in early April 2013. The conference objectives are: (i) to promote the application of a One Health approach to address zoonotic diseases and non-zoonotic diseases impacting food security, food safety and livelihoods with national leaders, senior officials and experts; (ii) to consider how the ongoing national One Health programs and activities in Vietnam fit into the larger context of the global movement towards a One Health approach; and (iii) to identify a key set of next steps and a timeline to support the Government of Vietnam in establishing a One Health road map and action plan including discussion of resourcing requirements.

Starting in January 2013, the PAHI Secretariat under MARD established an informal working group to prepare for the conference. PREVENT is a contributing member of the working group, and Mr. Le Thanh Hai, Vietnam Program Coordinator, participated in several activities in support of the conference. This included providing input on the meeting concept note and agenda, organizing potential meeting chair/co-chairs, and identifying key agencies/personnel to participate. Additionally, PREVENT contributed to development of a One Health stakeholder mapping exercise, under the guidance of PAHI, which will be presented at the conference.

3. Lao PDR Coordination Meetings

PREVENT participated in the EPT quarterly meeting held on 22 January at the National Center and Laboratory Epidemiology (NCLE) of the Ministry of Health.

PREVENT Laos hosted the EPT technical working group meeting on 18 Jan. In attendance were Dr. Tom D'Agnes of USAID Laos, Dr. Zoe Gatorex of WCS, Dr. Chintana Chantavisouk of FAO, and Cecile Lantican of PREVENT. The group discussed operational issues that concern collaboration from each

organization. The main agenda during this meeting was the planned field visit to project sites by Dr. Sudarat and Dr. Dan Schar.

B. Knowledge Products

As PREVENT's work evolves, an ongoing task is to raise its profile among key audiences. Our communication strategy dictates that every "place" we communicate – whether in print, at trainings or events or online – should inform, educate and reinforce the project's contributions to tackling emerging infectious disease threats. The following highlights this quarter's efforts to do this.

1. Global One Health Core Competencies

In February 2013, the Global One Health Core Competencies (OHCC) Working Group coordinated by the RESPOND Project completed their guidance document on One Health Core Competencies Domains. PREVENT staff member Ricardo Echalar was an active member of the OHCC Working Group that spent nearly two years in the conceptualization, testing, and production of this document. This guidance document can be used and adapted globally based on local context to help train future One Health professionals.

2. Social Science and Medicine special issue

Two abstracts that PREVENT submitted for inclusion in a special issue of *Social Science and Medicine* on "One World-One Health" were accepted. The project has been asked to prepare and submit two papers for peer review:

- Integrating Social Science and One Health to Inform a Study of the Human-Animal Interface (Sara Woldehanna and Susan Zimicki)
- Using a One Health Approach to Identify and Address Risk and Implement Feasible Interventions to Control Avian Influenza in Lao PDR (Tula Michaelides, Cecile Lantican and Anton Schneider)

3. Project Identity/Branding

PREVENT revised its brand on a range of materials – from fact sheets and banners to the website www.PREVENTproject.org – in time for the 2013 Prince Mahidol Award Conference in Bangkok, Thailand. The crisp, more consistent graphic identity incorporates new funder AusAID along with USAID. *(See report cover.)*

For AusAID's review and approval, this quarter we also drafted a branding implementation and marking plan (BMP) that complements our USAID BMP and incorporates PREVENT's refreshed identity elements.

4. Traditional Communication

We developed a series of fact sheets to reinforce PREVENT's focus on three key drivers of human behavior – culture, commerce, and land use changes – that increase the risk of exposure to emerging zoonotic diseases. The fact sheets disseminated at the Prince Mahidol Conference and Mining Indaba and posted on www.PREVENTproject.org included: 1) *About Us*; 2) *Culture and Emerging Infectious Disease*; 3) *Commerce and Emerging Infectious Diseases*; 4) *Land Use Change and Emerging Infectious Diseases;* and 5) *Using Emerging Technologies to Fight Infectious Diseases*. (See Annex A.)

In addition, PREVENT Technical Director Susan Zimicki developed a *"State of the Project"* presentation for a USAID meeting in March (See Annex B).

5. Online and Social Media Development

The project's website was revised to reflect changes made to other new materials (such as the fact sheets): the revised www.PREVENTproject.org aims to:

- acknowledge and promote AusAID as a funder, in addition to USAID
- enhance partners' and other stakeholders' access to PREVENT research, tools, and other materials,
- serve as "the" go-to resource for timely, useful information, and best practices related to PREVENT's work, and
- provide public visibility for PREVENT, the EPT project and its donors.

We also enhanced the website's functionality by adding:

- multimedia capability (e.g., audio, video, etc.),
- social media (Twitter),
- preview and printer-friendly page/download versions,
- metadata (Google organic search) to enhance ranking in organic Web searches,
- Google Analytics to measure traffic, usage, etc., and
- design and navigation to comply with Section 508 requirements for USG-funded websites

As noted elsewhere, the site offers access to fact sheets, reports, tools, and a range of resources used in trainings.

Because of its ability to spread news quickly and build likeminded communities, PREVENT staff Tweeted from the Prince Mahidol conference and continues to re-Tweet relevant EPT-related information as appropriate.

IV. Program Expansion

A. Additional Countries

1. Burma

The initial activities of PREVENT in Burma/Myanmar have been conducted under the auspices of FAO and in collaboration with the Ministry of Livestock and Fisheries. It is the intention of FHI 360 to pursue a Letter of Agreement (LOA) / Memorandum of Understanding (MOU) with the Government of Myanmar so that PREVENT may conduct additional work under its own clearances. During the joint USAID / AusAID / PREVENT mission to the country in December 2012, it was suggested that PREVENT pursue such an arrangement with the Ministry of Health, as the primary focus of PREVENT work concerns human health and behavior. A draft LOA is under preparation.

2. Indonesia

After an extended period of recruitment, the PREVENT Project has recruited Mr. Jusuf Kalengkongan as the PREVENT country project coordinator to be based in Manado, Sulawesi. The administrative procedures to bring Mr. Kalengkongan onboard were just being finalized as the quarter drew to a close. PREVENT Technical Director, Dr. Susan Zimicki, and Jenny Barker, technical backstop for Indonesia, will travel to Jakarta and Manado in April to develop a detailed work plan together with Mr. Kalenkongan. Initial work in Sulawesi will focus on market scoping, as reports indicate significant amounts of pertinent wildlife are routinely sold in local markets for consumption in this part of the country.