



## VIET NAM UPDATE

### October 2015 - March 2016

**PREDICT-1** collected nearly 7,000 samples from over 2,000 wild animals. Over 16,300 consensus PCR assays were implemented in national and international laboratories to screen for viruses from 13 viral families/ genus (Arena, Flavi, Paramyxo, Hanta, Bunya, Corona, Henipa, Filo, Herpes, Alpha, Seadorna, Influenza and Rhabdoviruses). The positive suspect samples were confirmed by cloning and sequencing to identify the viruses.

In Viet Nam, during 5 years of the project, 24 novel viruses (2 Corona, 2 Herpes, 5 Paramyxo and 15 Rhabdoviruses) and 3 known viruses (1 Corona, 1 Paramyxo and 1 Influenza) were detected (Table 1).

#### **PREDICT-2 : Expanding partnerships in Viet Nam**

Senior representatives from Viet Nam Government partner agencies, including the National Institute of Hygiene and Epidemiology (NIHE); the Department of Animal Health (DAH); Viet Nam National University of Agriculture (VNUA); and the Regional Animal Health Office No. 6 (RAHO6), showed their support for PREDICT-2 by attending and actively contributing to working sessions at the PREDICT All-Country Meeting in Dubai, UAE, February 2016.

Viral Family/ Genus	Known/Novel	Animal	Interface
<b>Herpes viruses</b>	<b>2 novel</b>	Common Palm Civet and Asiatic Black Bear	Civet in restaurant; bear rescued from trade in wildlife rescue center
<b>Influenza A</b>	<b>1 known</b>	Rhizomyinae subfamily of bamboo rats	For sale in restaurant
<b>Paramyxo viruses</b>	<b>1 known &amp; 5 novel</b>	Rats,bats	For sale in restaurant, for sale in the large market or near human dwellings
<b>Rhabdo viruses</b>	<b>15 novel</b>	Rhizomyinae subfamily of bamboo rats, rats, bats and non-human Primate	For sale in restaurant, in or near human dwellings and Wildlife farms
<b>Corona viruses</b>	<b>2 novel</b>	Bats	Contact during religious activities, in or near human dwellings

Table 1: Viruses detected during PREDICT-1 in Viet Nam

\* Cover photo: Wildlife meat sold and consumed in restaurants represents a pathway for zoonotic disease transmission. From left to right: wild boar, tree shrew, porcupine and bamboo rat confiscated from the illegal wildlife trade in Viet Nam. Photo credit: WCS Viet Nam



## Surveillance and Field Activities

- The PREDICT-2 qualitative research package received local IRB approval from the ethics committee at the Ha Noi School of Public Health on 24th March 2016, opening the door to PREDICT to begin human behavioral surveillance operations in Viet Nam in the coming months.
- PREDICT-2 collected 28 samples from 7 pangolins at Carnivore & Pangolin Conservation Program (CPCP) in Cuc Phuong National Park, and 93 samples from 41 animals (3 birds, 4 carnivores, 3 wild boar, 29 rodents, 1 rabbit, and 1 tree shrew) confiscated from the illegal wildlife trade in Dak Nong Province.
- PREDICT-2 conducted surveillance site assessments in two northern provinces (Ha Noi and Lang Son) of Viet Nam in collaboration with NIHE, PREDICT's human health sector partner agency.



The field site assessment team prepared and wearing Personal Protection Equipment (PPE) before entering a bat guano cave in Lang Son Province. The field team participants included representatives of NIHE, WCS and Bac Giang Provincial Preventive Medicine Center. October 19, 2015. Photo credit: Tran Vu Phong.



WCS/Viet Nam signed the Viet Nam One Health Partnership for Zoonoses Framework. March 1, 2016. Photo credit: One Health Partnership Secretariat.

## Capacity Building

A total of 34 individuals, including 25 men and 9 women, have been trained in the One Health approach and Infectious Disease Surveillance at high risk interfaces between humans and wildlife in Viet Nam since the start of PREDICT-2 activities in 2014.

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### PREDICT partners in Viet Nam:

- Department of Animal Health, Ministry of Agriculture and Rural Development (MARD)
- National Institute of Hygiene and Epidemiology (NIHE), Ministry of Health (MoH)
- Viet Nam National University of Agriculture (VNUA)
- Regional Animal Health Office No. 6 (RAHO6)



Meeting with the Medical Entomology and Zoology Department to introduce PREDICT project activities and discuss the cooperation between PREDICT and the National Institute of Hygiene and Epidemiology. April 21, 2015. Photo credit: Tran Vu Phong.

## Laboratory Development/Testing

- PREDICT-2 engaged in further characterization of viruses identified during PREDICT-1 and prepared for PREDICT-2 testing.
- A detailed laboratory assessment at NIHE, the designated PREDICT human health laboratory in Viet Nam, was completed to determine the institution's capacity and readiness to implement PREDICT protocols.

## Stakeholder Engagement and Partner Coordination

- WCS signed a Memorandum of Understanding with NIHE to support "Collaborative Investigation and Response to Infectious Diseases of Pandemic Potential at High Risk Wildlife/Human Interfaces in Viet Nam, as part of the USAID Emerging Pandemic Threats Program – PREDICT-2 Project, Viet Nam" thereby formalizing the project's engagement with a Ministry of Health (MoH) partner in Viet Nam.

- WCS signed an Agreement of Collaboration with the Viet Nam National University of Agriculture on "Investigating wildlife diseases at the human/livestock/wildlife interface" continuing collaboration under PREDICT-1, to carry out PREDICT-2 activities Viet Nam.

- PREDICT-2 participated in a multi-stakeholder workshop on developing the Longitudinal Influenza Surveillance Network (LISN) in Viet Nam, contributing to plans to implement concurrent surveillance in human, wildlife and livestock populations for influenza and respiratory pathogens. LISN partners include USAID, WHO, FAO, NIHE, PI-HCM, DAH, US CDC, GDPM, and other agencies and research institutions.

- PREDICT staff participated in the Viet Nam One Health Partnership for Zoonoses (OHP) launch in Viet Nam with the signing of the OHP Framework. PREDICT provided input into the development of the Viet Nam Integrated National One Health Plan for the period 2016-2020 through interviews and participation in the formal consultation meeting for the five-year plan held in Ha Noi, March 24th 2016

