Wildlife Health surveillance in Cambodia

Dr Tum Sothyra
Director
National Animal Health and Production Research Institute

South-East Asia Wildlife Health Network Meeting

Nonthaburi, Thailand
5 September 2022

Status of wildlife disease surveillance

- *There is growing recognition of the critical role of wildlife as hosts for infectious (including zoonotic diseases), as sentinels for emerging infectious diseases and other environmental health threats, as well as their vulnerability to various health threats and the resulting consequences on biodiversity conservation.*
- *Wildlife health surveillance is a routine collection, collation and analysis of information related to wildlife health, and the timely dissemination of information to relevant partners in order to respond most appropriately to the findings.*
  - *Passive surveillance is based on notification of suspected wildlife cases from rangers and/or villagers, hunters.*
  - *Active surveillance is based on specific targeted investigation of at-risk populations for evidence of infection.*
- *Standard Operating Procedure (SOP) for Wildlife Health Surveillance in Cambodia has been developed*
- *Funds for conduct of wildlife disease surveillance are from development partners*

Status of wildlife disease surveillance

- *Wildlife disease surveillance has been conducted using both passive and active surveillance*
  - *Through the field morbidity and mortality monitoring, sick and dead wild animals have been collected including organs, swabs, carcasses (birds, turtle), bone, faeces, and others.*
- *The collected samples submitted to NAHPRI, and sometime to IPC (environmental samples)*
- *Currently wildlife disease data is stored and analysed in Excel. There is a plan to use the Wildlife Health Intelligent Platform (WHIP) as a wildlife disease database system*
- *The information generated has been reported in quarterly newsletters and/or published in scientific journal by the members of the working group*
- *Constraints/problems in implementing wildlife disease surveillance*
  - *Funding*
  - *Participation of partners*
  - *Chemical and biotoxin analysis*

Linking with global reporting system

- *Report to WAHIS by the wildlife focal person*
- *Information collected from different institutions involving in wildlife activities in the country*
- *Information on the incidence is poorly documented and sometime late/incomplete*

Wildlife Health Surveillance Network Working Group

- Objectives
  - Guide wildlife surveillance activities in Cambodia
  - Facilitate information sharing on wildlife surveillance and outbreak response
  - Coordinate capacity building opportunities
  - Finalize an SOP for wildlife surveillance in Cambodia
- Members
  - Department of Wildlife and Biodiversity, FA, MAFF
  - Wildlife Conservation Society (WCS)
  - General Directorate of Animal Health and Production (NAHPRI)
  - Phnom Tamao Wildlife Rescue Center, FA, MAFF
  - Department of Administration for Nature Conservation and Protection, MOE
  - Institut Pasteur du Cambodge (IPC)
- Priority especially dangerous pathogens
  - Avian Influenza
  - African Swine Fever
  - Nipah virus
  - Other pathogens as necessary (including but not limited to Coxiella burnetii, Rickettsia prowazekii, Yersinia pestis, Hendra virus, CSF, Newcastle, PPR, FMD, corona virus)
- Roles and responsibility
  - Convene meetings to guide the progress of the WHSN activities and SOP development/implementation
  - Review WHSN passive and active surveillance activities
  - Evaluate SOP implementation and activity progress
  - Develop and advise on technical, legislative, policy and strategy documents related to especially dangerous pathogens (EDPs) and ensure their implementation
  - Provide recommendations to policy makers
  - Facilitate information sharing on disease surveillance and outbreaks, including action to be taken for control and prevention
  - Coordinate a rapid response team to conduct outbreak investigations and/or response when necessary
  - Coordinate education campaigns to inform public about pertinent EDPs and risk reduction when necessary
  - Develop and coordinate capacity building opportunities, identifying gaps to long-term WHSN sustainability
  - Coordinate and collaborate with other government and nongovernment agencies on One Health and wildlife health matters.

Capacity Building

- *Training*
  - *Necropsy training*
  - *Wildlife disease data management system (WHIP)*
  - *Field morbidity and mortality monitoring (SMART for Health)*
- *Training needed*
  - *Toxicology*
  - *Risk assessment*
  - *Bioinformatic*

Future activities

- *Wildlife database*
- *Wildlife disease surveillance*
- *Risk assessment at wildlife-domestic animals interface*

Case Study: Multi-Sectoral Coordination

Lesson learned from disease outbreak in Boeung Sne, Tuol Poan Taley Multiple Use Area, Prey Veng province

(during COVID-19 locked down)

- *21 March 2021: After learning about openbills sick and died of the Department of Freshwater Wetlands Conservation (DFWC), MOE reported to WHSN-WG, while the Provincial Animal Health and Production Office collected and submitted samples to NAHPRI. Carcasses of dead and sick birds in the area were collected and incinerated in collaboration between PAHPO, DFWC, local authorities, and Tuol Porn Taley ecotourism community representatives;*
- *23 March 2021: WCS, NAHPRI, PAHPO, and DFWC visited the site to perform an investigation and collected more samples. NAHPRI team also visited nearby villages and duck farms in the area, and collected samples;*
- *27 March 2021: ZTWG organized a virtual meeting to assess the risk and found "Low Risk"*
- *30 March 2021: GDAHP sent a letter to WCS stated that 3 openbill swabs were positive A/H5N1. MAFF also sent a letter to inform MOE about the incidence and measures taken to mitigate the spread.*
- *2 April 2021: ZTWG organized second visual meeting to discuss the issue of wild bird sick and dead in the area, and the action follow up with the letter from MAFF*
- *12 April 2021: ZTWG organized third visual meeting to bring together stakeholders in the wildlife, environment, conservation, animal health, and public health sectors to discuss the investigations, current activities and response plans.*