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One health response on the Avian Influenza (AI) in CAMBODIA

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**Sub-Regional Workshop on Emergency Management
14 - 16 August 2024 Bangkok, Thailand**



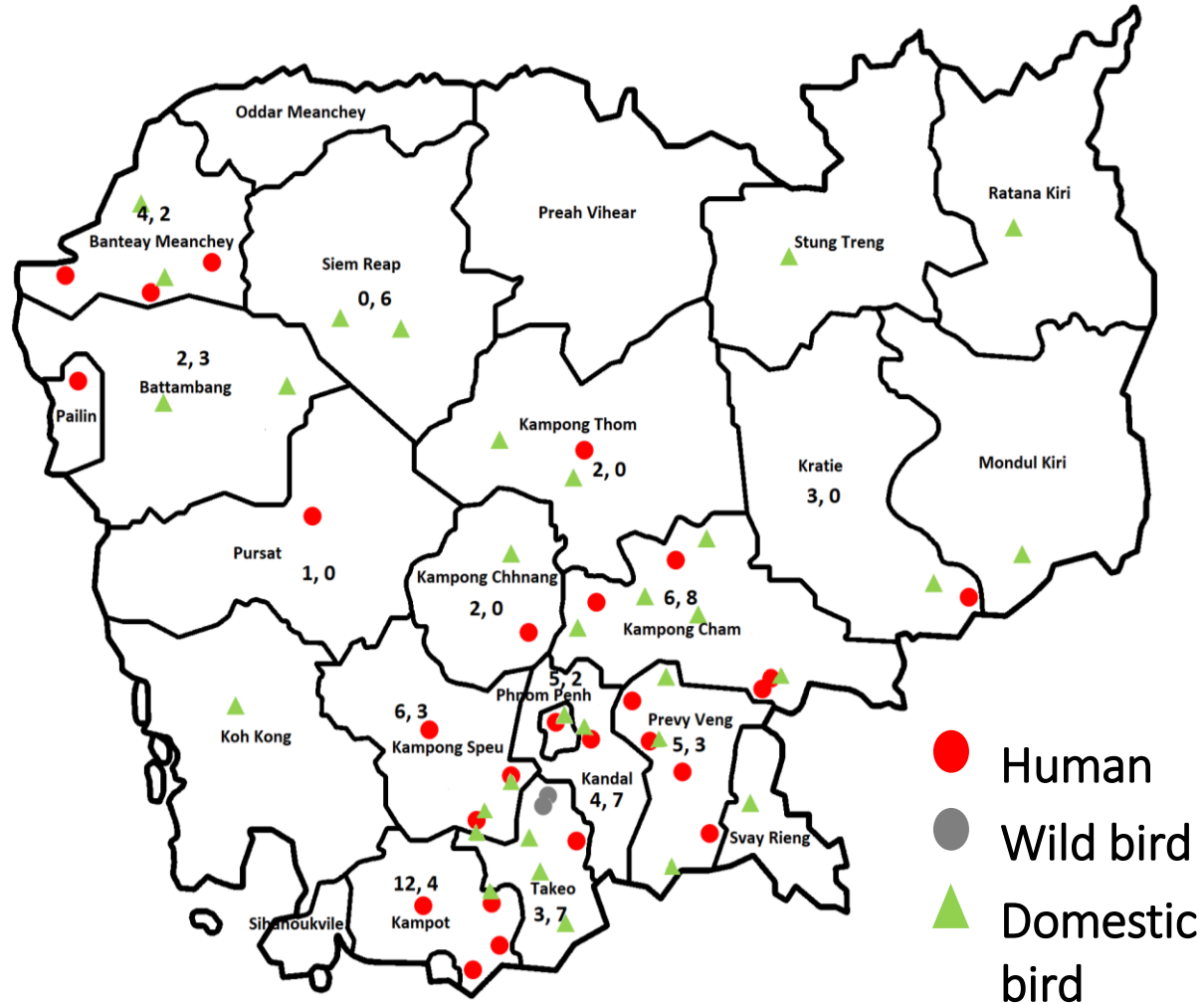
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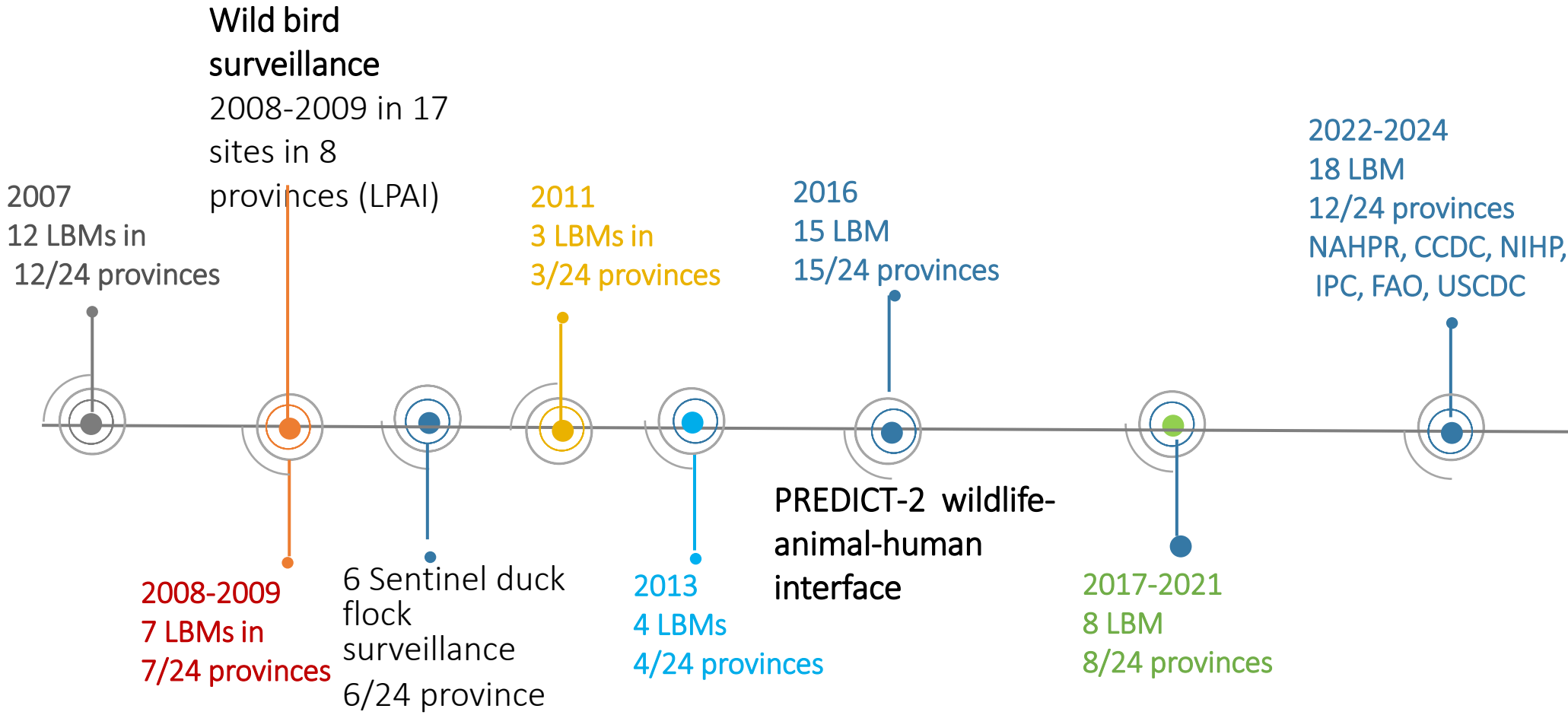
A/H5N1 outbreak detection in Cambodia from 2004 to July 2024

Human, domestic and wild bird



- ✓ **71** (confirmed and reported) HPAI/H5N1 outbreaks in birds, including four in wild birds.
- ✓ **69** human cases, of which **42** were fatal (~60% are kid<12Ys).
- ✓ A novel reassortment A/H5N1 detected in Cambodia, causing infections in both humans and poultry August 2024.
- ✓ ***This virus contains the surface proteins from clade 2.3.2.1c that has circulated locally, but internal genes from a (more recent) clade 2.3.4.4b virus.***

History of Avian and swine Influenza surveillance in Cambodia



Pig influenza surveillance

- 2015 EPT-2 (916 swabs and over 300 serum)
- 2018-2023 (swabs 4,063, environmental 263 and serum 1,104)





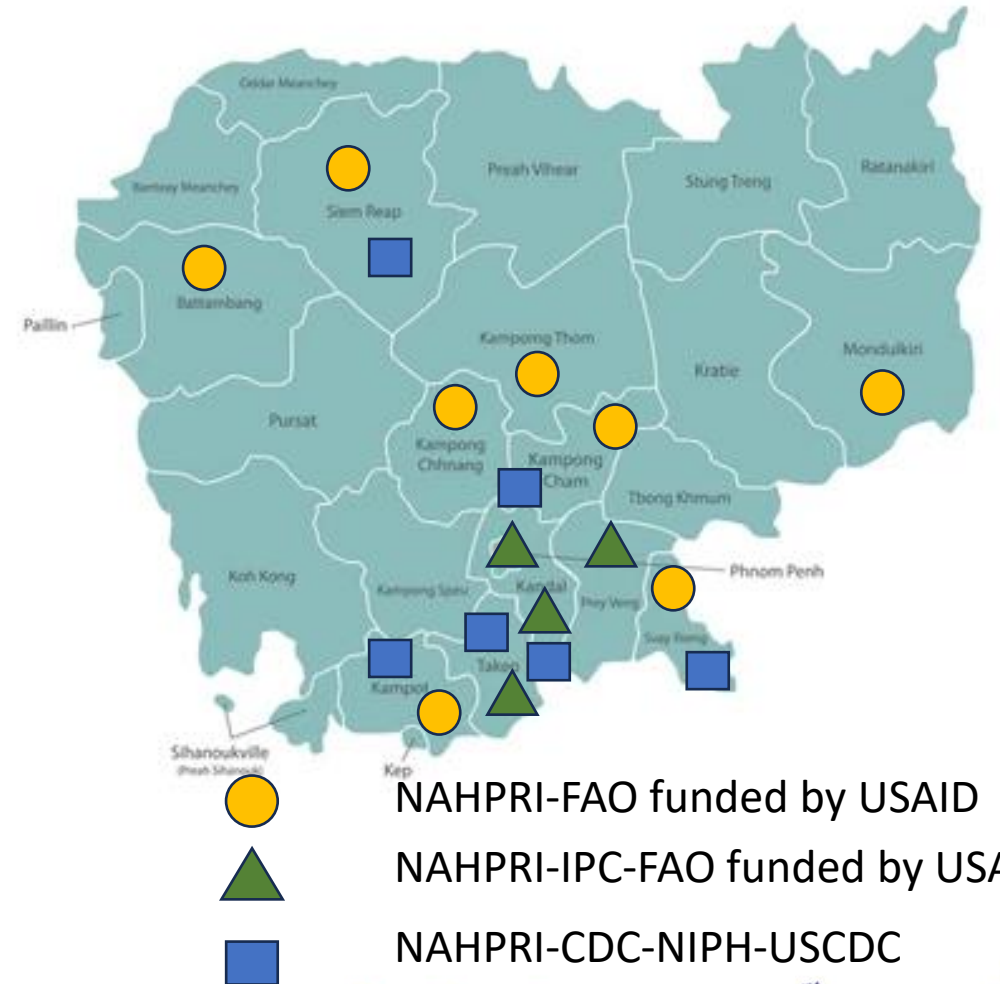
One Health on Avian Influenza Surveillance



Influenza LBM surveillance by Animal Health sector

❖ LBM surveillance conducted in the provinces where outbreaks of HPAI reported

- ✓ NAHPRI-FAO in Battambang, Kampong Cham, Kampong Chhnang, Kampong Thom, Kampot, Mondulkiri, Siem Reap, Svay Rieng
- ✓ NAHPRI-IPC-FAO in Kandal, Phnom Penh, Prey Veng, Takeo
- ✓ NAHPRI-NIPH in Kampong Cham, Kampot, Kandal, Siem Reap, Svay Rieng and Takeo





Map of Influenza surveillance by human health sector

Seven ILI(Influenza Like Illness) sentinel sites

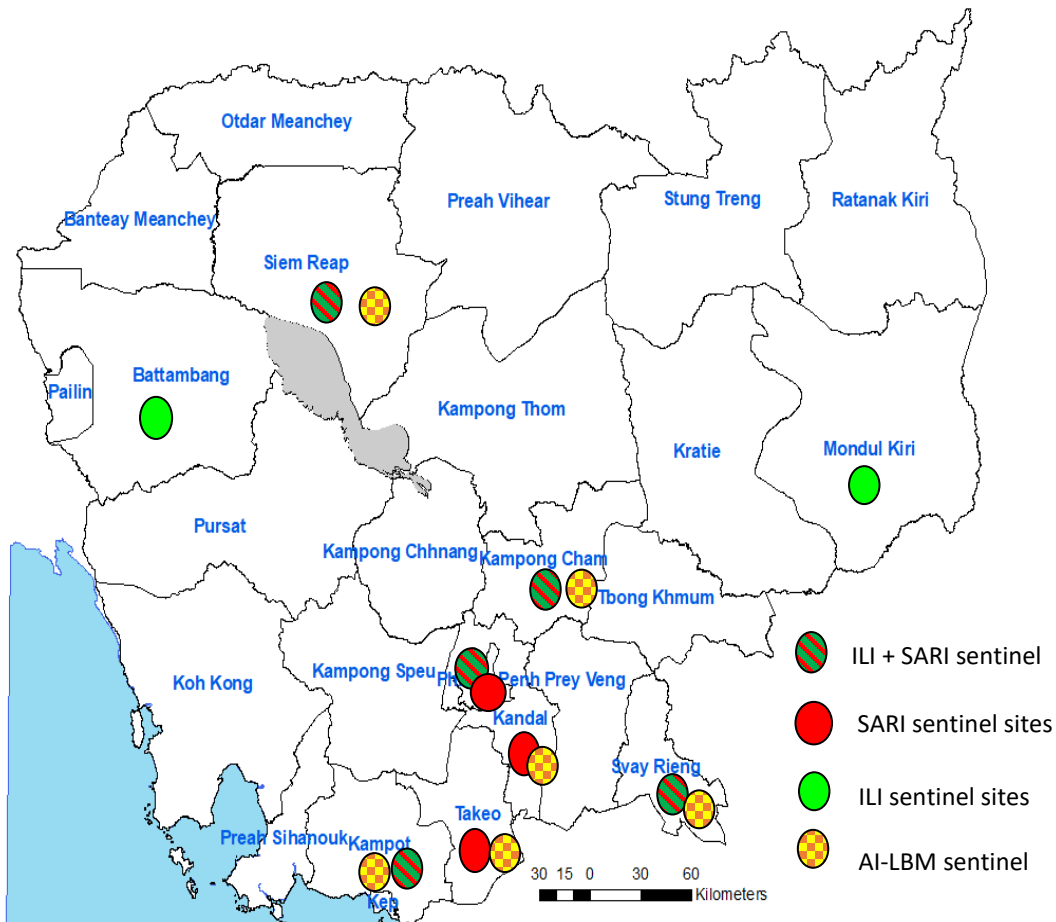
- National Pediatric Hospital (NPH), Angkor Hospital for Children (AHC), Svay Reing Health Center (SVR), Velvong Health Center (KCM), Trouy Khos Health Center (KPT), Svay Pol Health Center (BTB), Senmonorom Health Center (MDK)

Nine SARI (Severe Acute Respiratory Illness) sentinel sites

- Angkor Hospital for Children (Siem Reap), National Pediatric Hospital (Phnom Penh), Svay Reing Hospital (Svay Rieng), Kompot Hospital (Kompot), Chey Chumnas Hospital (Kandal), Kampong Cham Hospital (Kampong Cham), Khmer Soviet Hospital (Phnom Penh), Preah Kossamak Hospital, Phnom Penh, Kirivong Hospital (Takeo)

6 LBM sentinel sites

- Tany market of Angkor Chey District (Kampot province), Koh





One Health Outbreak Investigation and Control

Ministry of Health (Avian Influenza Outbreak)

- Establish Incident Management System
- Investigate (contact tracing)
- Collect, package, and transport sample for testing
- Manage case and quarantine contacts
- Risk communication and mobile and engage communities
- Active case finding
- Enhance surveillance
- Review medical logbooks at public and private sectors
- Develop situation report.





Animal Health Investigation and Control

Three Technical Task Forces

Task Force 1

- Led by NAHPRI
- Communicates to all levels in order to get timely information from the field
- Records information from the field
- Produces daily report about disease situation at the field
- Disseminates the information of disease situation from the investigation to Ministry of Agriculture, Forestry and Fisheries, GDAH team
- Designs materials for public awareness such as leaflet, booklet, poster, radio broadcast, TV production
- Manages the planning meetings at district level





Task Force 2

- Visits and interviews all households in the infected zone
- Mounts regular and frequent patrol in the control zone to identify new cases arising
- Investigates the disease background and trends
- Performs/organizes the backward and forward tracing
- Collects the poultry samples to be sent to the laboratory for testing
- Follow up the laboratory results
- Records all data from the interviews into the database
- Analyzes data and interprets the results from the investigation
- Writes the complete report of the investigation





Task Force 3: Control Measures Task Force

- Conducts poultry Selective culling
- Disinfection in the infected places
- Disinfection of all the materials and equipment in the household or in the farm
- Disinfection of the transportation that goes in and goes out of the outbreak place

NAHPRI

- Prohibits all movement of poultry within, into and out of the control zone
- Controls movement of poultry along all possible thoroughfares around the outbreak are
- Restricts movement of other livestock
- Educate the poultry owner on how to destroy carcasses, how to bury, how to improve bio-security in the raising place to protect their poultry from diseases





Challenges

- Shortage of reagent from time to time
- Compensation policy is not in place
- Poultry sellers/middlemen are reluctant to collaborate with the sampling team due to the sampling frequencies.
- Poultry sellers/middlemen are afraid of AI virus detection in their place which they believed that their businesses are to be interrupted by the authority and the support from customers.
- Identifying the source of poultry is quite impossible while poultry is mixing and the seller and middlemen have little time to answer the questions.





Experience learned from HPAI outbreaks

- Difficult to identify the source of the outbreak
- Movement of people and poultry/poultry products is complex, particular in the villages with backyard system
- Frequent interaction with middlemen
- Roles of middlemen, poultry transporters/trucks, animal feed and vet drug companies)
- Low reporting of poultry mortality (obligation, to whom...)
- Collaboration between human and animal health sectors (information sharing 115 and hotline 012 214 970)
- Financial contribution to field officers to involve in outbreak investigation and response





Thank you



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