



Preventing zoonotic
disease emergence

PREACTS - AfriCam Cambodia

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Support national strategies and policies to prevent the emergence and spread of zoonotic diseases while ensuring food security and community livelihoods

Definition and implementation of **activities to meet the needs identified in each country in line with the PREZODE initiative**

3 phases :

-> 1st phase in 2023-2025, involving 5 countries:

Cambodia, Cameroon, Guinea, Madagascar, Senegal



PREACTS - AfriCam Cambodia

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National Focal Point: Dr Ly Sowath, IPC

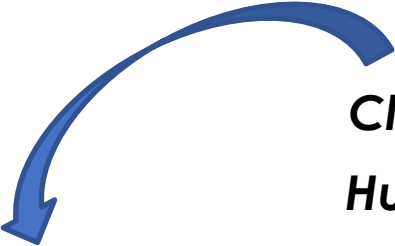
IRD Focal Point: Dr Vincent Herbreteau

CIRAD Focal Point: Dr Hélène Guis

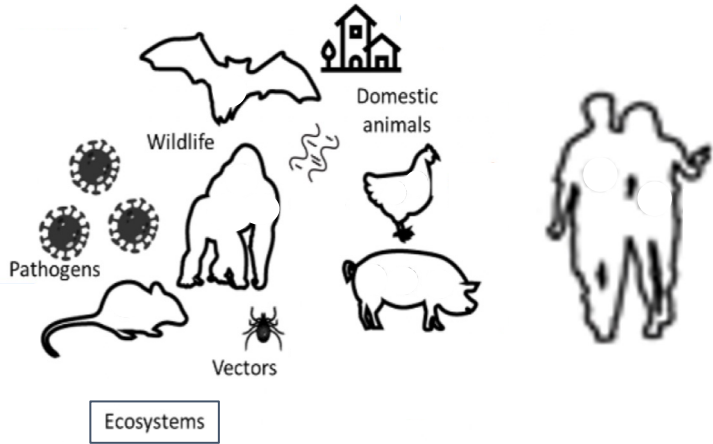
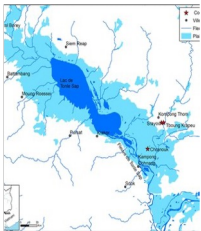


PREZODE in action
in the global South

“Water” a key element



Climate change
Human activities



Objectives:

- Study the risks of emergence of zoonotic diseases impacted by the hydrological dynamics, climate and environment in diversified ecosystems representing key animal /human /environment interfaces.
- Implement activities to reduce the emergence of zoonotic risks and reinforce, in coordination with local and national partners, the existing surveillance systems towards integrated OH surveillance.

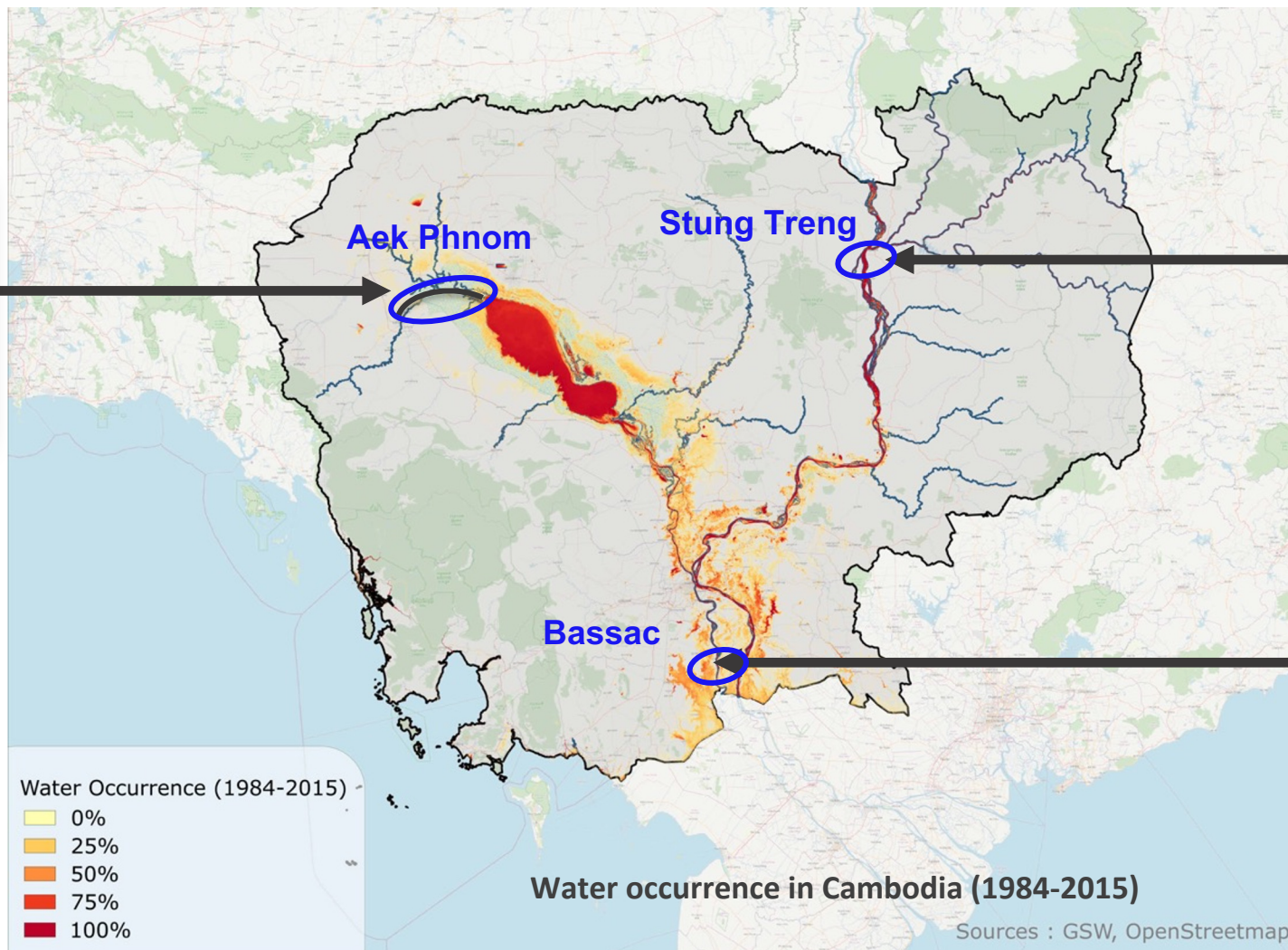


PREZODE in action
in the global South

AfriCam Cambodia: 3 sentinel sites representing different interfaces

Battambang – Tonle Sap:
gradient from agricultural areas (rice and livestock) to natural humid ecosystems (biosphere reserve of Prek Toal)

-  ZooCov/CIRAD
-  Wat-Health/IRD
-  Bcoming/CIRAD
-  AGROW/AVSF
-  ARCAHE/IRD



Stung Treng:
Forested ecosystem

Koh Thum:
Agricultural flood plain

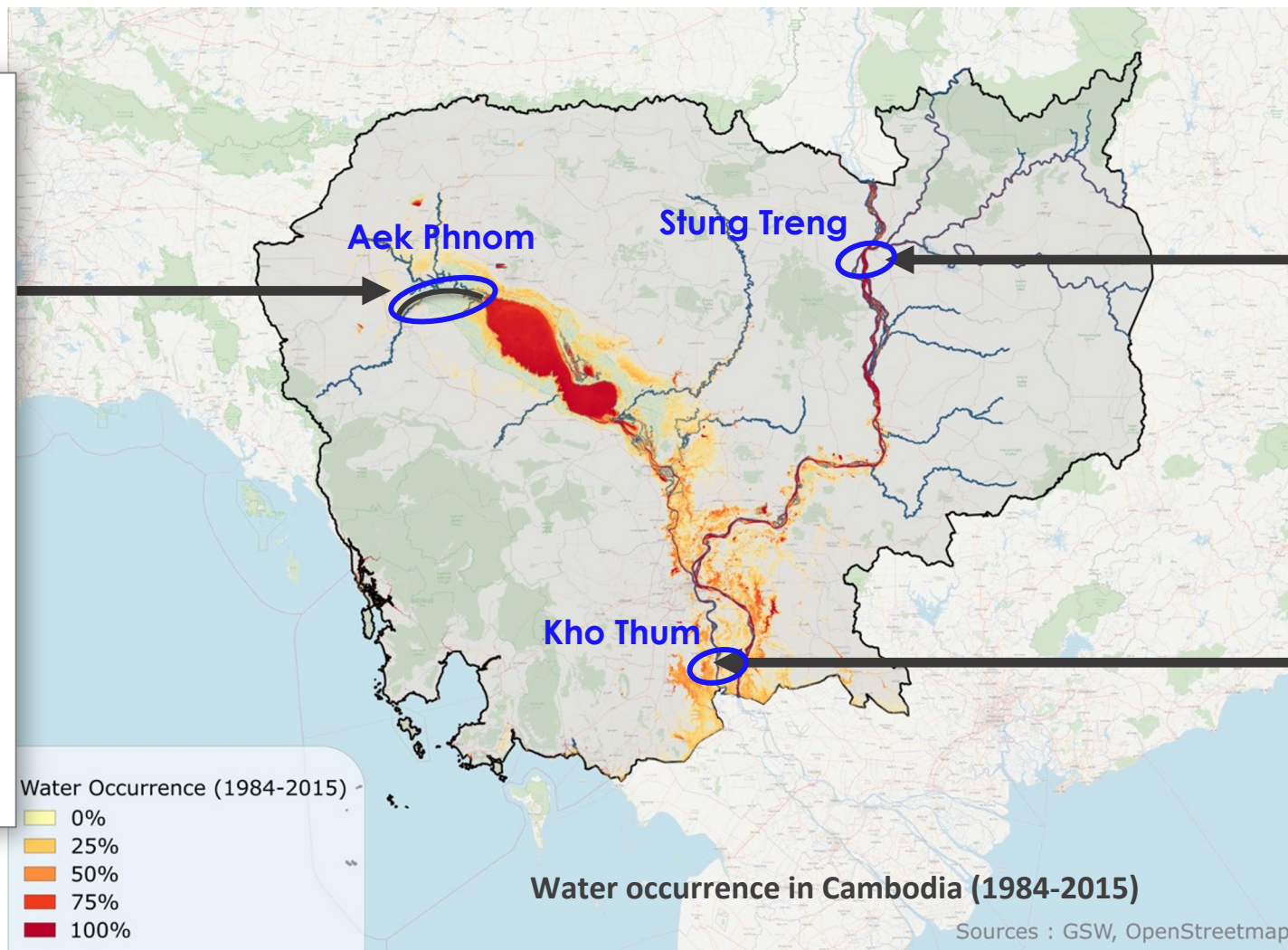
AfriCam Cambodia: 3 sentinel sites relevant for surveying zoonotic pathogen transmission

Battambang – Tonle Sap:
gradient from agricultural areas to natural humid ecosystems

Component 1:
Understand the zoonotic risk and risk activities

Component 2:
Co-design solutions to reduce the zoonotic risk

Component 3:
Strengthen early warning systems to detect zoonotic risks



Stung Treng:
Forested ecosystem

Component 3:
Strengthen early warning systems to detect zoonotic risks

Kho Thum:
Agricultural flood plain
Component 1:
Understand the zoonotic risk and risk activities

Sentinel site 1: Aek Phnom district, Battambang province



Component 1: Understand the zoonotic risk and risk activities

- Circulation of pathogens at the humans/environment/animals interfaces : sampling, microbiological and serological analyses, climatic/environmental/hydrological analyses
- Zoonotic risk factors related to human activities : **Participatory studies** (KAP): characterisation of practices and risks, gender and climate; anthropological studies to determine the anthropic activities at zoonotic risk
- Study of zoonoses in Battambang hospital (epidemiology, etiology, microbiology): inventory of zoonotic cases and of unexplained syndromes.
- Ecological modeling for risk factors identification
- Capacity building

Pathogens (Diseases)

8 Bacteria

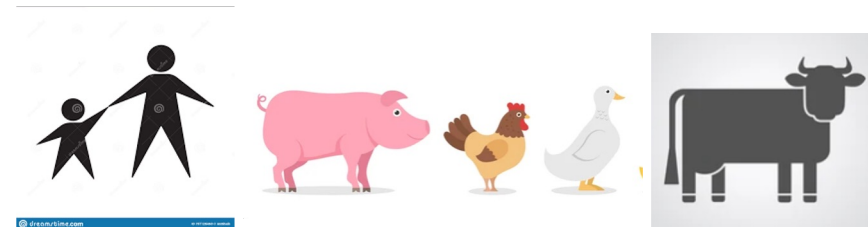
- *Leptospira* (Leptospirosis)
- *Burkholderia pseudomallei* (Meloidosis)
- Rickettsiae:
 - *Orientia tsutsugamushi* (Scrub typhus)
 - *Rickettsia typhi* (Murine typhus)
- *Coxiella burnetii* (Q fever)
- *Borrelia burgdorferi* (Lyme disease)
- Enterobacteria (Salmonellosis, shigellosis)

3 Viruses

- Arbovirus (mainly JEV-WNV)
- Hantavirus
- Avian flu

5 Parasites

- *Toxoplasma gondii* (Toxoplasmosis)
- *Entamoeba histolytica* (Amoeba)
- *Clonorchis sinensis* (Chinese liver fluke disease)
- *Opisthorchis viverrini* (Southeast Asian liver fluke)
- *Schistosomia mekongi* (Schistosomiasis)



Mosquito

Sentinel site 1 : Aek Phnom district, Battambang province

Component 2: Co-design solutions to reduce the zoonotic risk

- **One Health (OH) awareness workshops** and training for local communities
- **Participatory workshops:** definition of risk reduction strategies based on the data of the Component 1
- **Co-construction and deployment of OH interventions** to reduce risks at local level



Sentinel site 3: Stung Treng



Component 3: Pilot study for the development of OH community-based early warning surveillance system (interface human/wildlife)

- Awareness to good practices and **involvement of local stakeholders in OH surveillance** : participatory sessions
- **Co-design of OH early warning surveillance system** for emerging zoonotic diseases
- Co-design of **performance indicators** of pilot surveillance system and impact evaluation
- Capacity building on surveillance practices and field/context-specific diagnostics

AfriCam Cambodia: Main Partners

French National Institute for Sustainable development (IRD)



French Agricultural Research Centre for International Development (Cirad)



Institut Pasteur du Cambodge (IPC)



Institut de Technologie du Cambodge (ITC)



Battambang Hospital



Agronomes et Vétérinaires Sans Frontières (AVSF)



Wildlife Conservation Society (WCS)



IDE

National level

Zoonotic Technical Working Group (ZTWG)
(CDC-MOH, GDAH-MAFF, FA-MAFF, FAO, WHO, IPC)

Provincial/district level

Provincial Health Department, Operational District, Referral Hospital, Health Centres, Provincial Dpt of Animal Health and Production

Community level

Village Animal Health Workers (VAHW)
Village health support group
Rangers
Communities

Universities

(CAMBOHUN/RUA/NUBB/UHS)

