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TROPICAL VETERINARY MEDICINE IN CHALLENGING TIMES: how should academic and research programs adapt?'



One Health in practice: SEAdogSEA!

A socio-ecological approach for the study and management of zoonotic diseases associated with free-roaming domestic dogs in South-East Asia

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Laos

Thailand



Context

Dog was the first domesticated species by humans, interacting as commensal in human societies for more than 30,000 years. Domestic dogs provide multiple (socio-economic, cultural, recreational...) benefits, while also negatively impacting on the health of Humans (zoonosis, NTD), of other domestic animals, and of the wildlife). (including environment Widespread free-roaming dog populations in SE Asia call for integrated innovative One Health research-action and management.

Map of study sites

Five rural and semi-urban sites in Cambodia, Indonesia and Thailand





Participatory and Al-assisted

Social-ecological analysis of dog

Prevalence of parasites in dog

monitoring of dog populations



20/09/2019 17:31:52 0400 078 DOG 1 INTERACTED WITH DOG 2 ON CAMERA 4 THE 20/09/2019, 17:31:50

Detection, identification, and reidentification of free-roaming dogs using AI to analyse images captured in uncontrolled field conditions by participatory camera trap protocols in rural and semi-urban areas



movements and owner activities

65 GPS tracking of dogs for 1 month over 6 recording sessions spanning a 4-year period, with mapped explanatory comments from owners about their activities and movements. Identification of 3 profiles of canine movements determined by ecological and social factors.



owners and their dogs 100% DENV-2 JEV 80% 60% 40% 20% Dog_Kandal (n=20) Owner_Kandal Owner_Stung Dog_Stung Treng Treng (n=23) (n=20)

Blood samples were collected from dog owners and their dogs in two villages from Kandal and Stung Treng provinces (Cambodia).



A quantitative highthroughput Foci Reduction Neutralization Test (FRNT), requiring at least reduction viral **O**T infection tor positive result, was conducted using dengue virus





Affiliations and Sponsors

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Way forward

The results, methods and tools developed in SEAdogSEA will contribute to assess the potential use of dogs as sentinels of owners's infectious risks, and improve fieldbased dog management by targeting dog individuals most likely to get infected and spread pathogens to humans and other animals, including wildlife.

